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

May 21, 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: Request for No Further Action at Parcel 61

Fort Monmouth, New Jersey

Attachments:

- A. Figure 1.9 Layout of Parcel 61
- B. Underground Storage Tank Report Main Post (Former) Building 1076
- C. UST Closure Approval/NFA for Building 1076
- D. Figure 1 Fort Monmouth Patterson Army Health Clinic Public Sale/Lease Parcel and Intersecting ECP Parcel

Previous Correspondence and Reports (not attached):

- 1. NJDEP letter to the U.S. Army dated August 8, 2012, re: *Property Category Determination*
- 2. Calibre (BRAC Contract Support) letter to NJDEP dated July 23, 2012, re: *Parcel 61 Property Category Determination*.
- 3. NJDEP letter to the U.S. Army dated July 10, 2012, re: *March 2012 Army Response to NJDEP Correspondence Letter Dated October 28*, 2008.
- 4. U.S. Army letter to NJDEP dated March 16, 2012, re: Army's Response to NJDEP Correspondence (Dated October 28, 2008), Draft Site Investigation.
- 5. NJDEP letter to the U.S. Army dated October 28, 2008, re: *Draft Site Investigation Report*.
- 6. U.S. Army BRAC, July 2008, US ARMY BRAC 2005 Draft Site Investigation Report, Fort Monmouth

Dear Ms. Range:

In response to the New Jersey Department of Environmental Protection (NJDEP) letter to the U.S. Army (Army) dated July 10, 2012 (Correspondence 3) regarding the Parcel 61 results presented in the July 2008, US Army BRAC 2005, Draft Site Investigation Report (Correspondence 6), the U.S. Army Fort Monmouth (FTMM) and Parsons have reviewed existing information collected within Environmental Condition of Property (ECP) Parcel 61. The purpose of this letter is to provide support for a No Further Action (NFA) determination by

NJDEP for Parcel 61. This letter report serves as an addendum to the previously submitted 2008 Draft Site Investigation Report.

Parcel 61 is located in the south-central portion of the Main Post and encompasses Patterson Army Health Clinic (Building 1075) and the surrounding land (see **Attachment A**). Building 1075 was constructed in 1961 to house Patterson Army Hospital and was used continuously for that function until it was downgraded to a health clinic in 1995. In the 1960s, 1970s, and 1980s activities in the building included X-ray processing and laboratory operations. During a 2006 site inspection, numerous floor drains were observed in the basement that lead to the pneumatic sewage ejector and into the sanitary sewer (U.S. Army BRAC, 2008). Building 1075 has been unoccupied since BRAC closure in September 2011 according to the USACE.

The site investigation of Parcel 61 was conducted in December 2007. A total of four surface soil samples (one hand augered, three Geoprobe[®] locations) were collected and analyzed for Total Compound List (TCL) + Tentatively Identified Compounds (TICs) (without pesticides; and Total Analyte List (TAL) metals. Three polycyclic aromatic hydrocarbons (PAHs) were detected at concentrations exceeding the then-current NJDEP Non-Residential Direct Contact Soil Cleanup Criteria (NRDCSCC) in one surface soil sample, P61-SS1 (see **Attachment A**). The 2008 Draft Site Investigation report recommended further delineation of PAHs in shallow soil.

In the NJDEP letter to the Army dated October 28, 2008 (Correspondence 5), the NJDEP concurred with the recommendation to conduct additional soil sampling and also requested additional PCB analysis. However, in the Army letter to NJDEP dated March 16, 2012 (Correspondence 4), the Army concludes that Parcel 61 has extensive asphalt pavement, and that the PAHs detected in shallow soil can be attributed to anthropogenic sources that are not associated with historical activities at the site. The Army also stated that operations at Parcel 61 did not involve the storage or disposal of PCB- containing products. In Correspondence 3, the NJDEP agreed that PAHs were not indicative of a discharge or operations performed at the site, but rather representative of the paving formerly existing in the area, and that no additional action was necessary. NJDEP also stated that analyses for PCBs were not required. In Correspondence 3, the NJDEP requested additional information on UST 1076-209, which is provided below.

In the Calibre letter to the NJDEP dated July 23, 2012 (Correspondence 2), Calibre on behalf of the Army requested that the NJDEP recategorize the majority of Parcel 61 (excluding the area near Parcel 64) from a Category 7 ("areas that are not evaluated or require additional evaluation") to Category 1 ("areas where no release or disposal of hazardous substances or petroleum products has occurred, including no migration of such substances from adjacent areas)". In the NJDEP letter to the Army dated August 8, 2012 (Correspondence 1), the NJDEP concurred with the proposal to change the property classification for the majority of Parcel 61 from a Category 7 to a Category 1.

Correspondence 2 indicates that all but a small portion of Parcel 61 was subject to recategorization, as quoted below:

"The area not included for re-categorization is within the area currently undergoing remediation from former underground storage tanks at Building 812 (also known as FTMM-64)".

Correspondence 2 references a figure (provided as **Attachment D**) that shows the area not included for re-categorization, as a small portion of Parcel 61 land alongside Parcel 64 (which coincides with FTMM-64). We propose to incorporate this small area into Parcel 64 as shown on **Attachment D**.

Underground Storage Tank (UST) Information:

In the letter dated July 10, 2012 (Correspondence 3) the NJDEP provided the following comment:

UST 1076-209 - Although Appendix G indicated the enclosure report was being prepared, recent conversation indicates no submittal of the report is anticipated as the tank was a "clean closure". This would, of course, not allow for comment or designation of NFA for this tank. Additionally information previously submitted indicates this tank was installed at a location at which leaking UST was removed and remediated. It does not appear closure information for that UST was submitted.

The location of this tank is shown on **Attachment A**.

UST 1076-209 was removed in 2005 and documented in the 2007 Underground Storage Tank Closure Report, Main Post - (Former) Building 1076. A copy of the closure report is included as **Attachment B**. A total of nine samples were collected along the sidewalls and bottom of the excavation and the samples were analyzed for total petroleum hydrocarbons (TPH). The analytical results for the nine samples were below the method detection limit.

UST 1076-209 was a replacement for tanks 1076-160 and 1076-161 (see **Attachment A**) which were removed in 1993. The Underground Storage Tank Closure and Site Investigation Report for Building 1076 (Tanks 1076-160 and 1076-161) was submitted to the NJDEP on June 1, 2000 and a NFA approval letter for these tanks was received from the NJDEP dated August 29, 2000. A copy of the NJDEP NFA approval letter for the two tanks is provided as **Attachment C**.

In summary, the USTs have been properly closed and the Army requests an NFA designation for the entire Parcel 61, as currently defined as shown in **Attachment D**. Should you have any questions or require additional information, please contact me at (732) 383-5104 or by email at john.e.occhipinti.civ@mail.mil.

Sincerely,

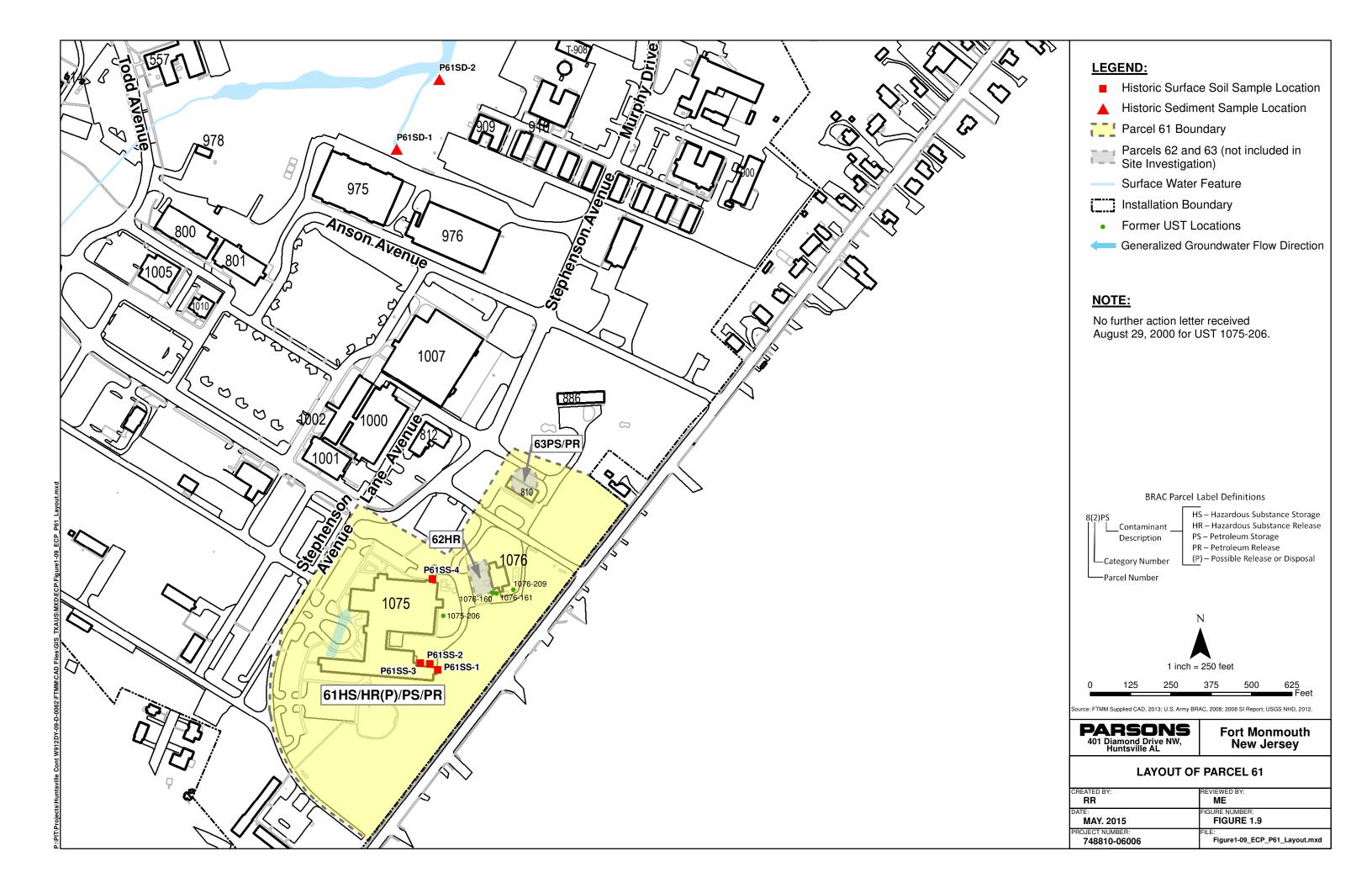
John E. Occhipin

Fort Monmouth Site Manager

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

ATTACHMENT A

Figure 1.9 Layout of Parcel 61



ATTACHMENT B

Underground Storage Tank Report Main Post - (Former) Building 1076 (Tank 1076-209)

U.S. Army Garrison Fort Monmouth, New Jersey

Underground Storage Tank Closure Report

Main Post – (former)Bldg.1076

NJDEP UST Registration No. 081533-209

January 2007



UNDERGROUND STORAGE TANK REPORT

MAIN POST –(FORMER) BUILDING 1076 NJDEP UST REGISTRATION NO. 081533-209

JANUARY 2007

PROJECT NO.: 05-41615,

PREPARED FOR:

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

PREPARED BY:

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



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EXECUTIVE SUMMARY

UST Closure

On January 12, 2005, a double wall fiberglass underground storage tank (UST) was closed by removal in accordance with the Directorate of Public Works (DPW) UST Management Plan for the US Army Garrison, Fort Monmouth, New Jersey The UST was located next to former Building 1076 in the Main Post area of Fort Monmouth UST No 81533-209 was a 20,000-gallon No 2 heating oil tank The fill port and associated double wall supply/return piping was present in the excavation and also removed 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 (August, 2005) Soils surrounding the tank were screened visually and with air monitoring instruments for evidence of contamination. Following removal, the UST was inspected for holes. No holes were found in the UST and no contaminated soils were observed surrounding the tank.

After removing the UST and piping, closure soil samples were collected Samples 1076A 1076B, 1076C, 1076D, 1076E, 1076F, 1076G, 1076H, 1076I and 1076J-Duplicate were collected from a total of nine (9) locations along the sidewalls bottom of the excavation All samples were analyzed for total petroleum hydrocarbons (TPH) Groundwater was encountered at approximately 5 5 feet below surface grade in the excavation

Findings

All the closure soil samples collected from the UST excavation associated with former UST No 81533-209 contained no TPH concentrations above the laboratory method detection limits. All samples were Not Detected.

Site Restoration

Following receipt of the closure soil sampling results, the excavation was backfilled to grade with a combination of excavated soil and clean fill. The excavation site was then restored to its original grade with four inches of topsoil and seeded

Conclusions and Recommendations

Based on the closure soil sampling results, soils with TPH concentrations exceeding the NJDEP health based criterion of 10,000 mg/kg for total organic contaminants are not present in the location of the former UST .

No Further Action is proposed in regard to the closure and site assessment of UST No 81533-209 at (former) Building 1076



1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 OVERVIEW

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No 081533-209, was closed at (former) Building 1076 of Main Post at U.S. Army Garrison, Fort Monmouth, New Jersey on January 12, 2005. 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 20,000-gallon, double-wall fiberglass tank containing No 2 heating oil for fuel supply to a boiler plant for the hospital

Decommissioning activities for UST No 81533-209 complied with all applicable federal, state and local laws and ordinances in effect at the date of decommissioning. These laws included but were not limited to NJAC 7 14B-1 et seq, NJAC 5 23-1 et seq, 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 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 of Underground Storage Tank Systems (NJAC 7 14B-9 et seq December, 1987 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 Report provides a summary of the UST decommissioning activities. Section 2 of this report describes the UST closure and 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 1076, was located in the eastern portion of the Main Post area of Fort Monmouth UST No 81533-209 was located on the east side of Building 1076. The fill port, double wall supply/return piping and vent were present in the excavation and also removed. A site map is provided in Figure 1.

1.2.1 Geological/Hydrogeological Setting

The following is a description of the geological/hydrogeological setting of the former Building 1076 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

Building 1076 was located approximately 1,650 feet south of Husky Brook, the nearest water body, which flows into Oceanport Creek and then into the Shrewsbury River Based on the Main Post topography, the groundwater flow in the area of Building 1076 is anticipated to be to the north

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 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 OVM 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

During decommissioning activities, surficial soil was removed to expose the UST. The tank was out-of-service due to the scheduled demolition of the building. It was previously emptied of all liquids prior to removal from the ground.

After the UST was removed from the excavation, it was staged on polyethylene sheeting, labeled and examined. No holes were observed in the tank during the inspection by the Subsurface Evaluator. Soils surrounding the UST were screened visually and with an OVA for evidence of contamination. No contamination was observed during the UST removal.

1.5 UNDERGROUND STORAGE TANK DECOMMISSIONING AND DISPOSAL

The UST was purged with air to remove vapors prior to cutting. A 4 foot by 3 foot access hole was made in the UST using a demolition saw. 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 B 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

FIGURES

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 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 (August, 2005). 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 Site Assessment Activities

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

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, of which none were found

2.3 SOIL SAMPLING

On January 12, 2005, closure soil samples 1076A, 1076B, 1076C, 1076D, 1076E, 1076F, 1076G, 1076H, 1076I and 1076J-Duplicate were collected from a total of nine (9) locations along the sidewalls of the UST excavation and along the piping Groundwater was encountered at approximately 5 5 feet in the excavation. 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 parameters analyzed is provided on Table I. The closure soil samples were collected using properly decontaminated 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 nine locations on January 12, 2005 to evaluate soil conditions following removal of the UST and piping. All samples were analyzed for TPH. The closure 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 C.

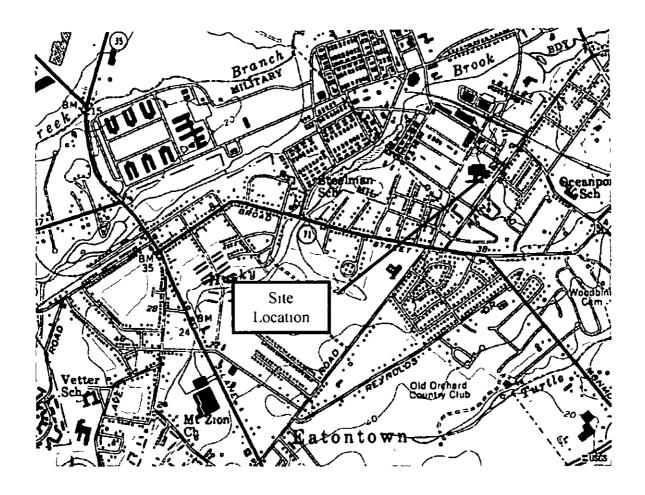
Closure soil samples collected on January 12, 2005 from the UST No 81533-209 excavation contained concentrations of TPH below the laboratory method detection limits. All soil samples were Not Detected.

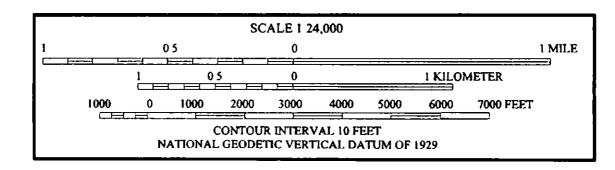
3.2 CONCLUSIONS AND RECOMMENDATIONS

The analytical results for all soil samples collected from the UST closure excavation at UST No 81533-209 were below the NJDEP soil cleanup criteria for total organic contaminants

Based on the closure soil sampling results, soils with TPH concentrations exceeding the NJDEP health based criterion for total organic contaminants of 10,000 mg/kg are not present at the location of former UST No. 81533-209

No Further Action is proposed in regard to the closure and site assessment of UST No 81533-209 at (former) Building 1076

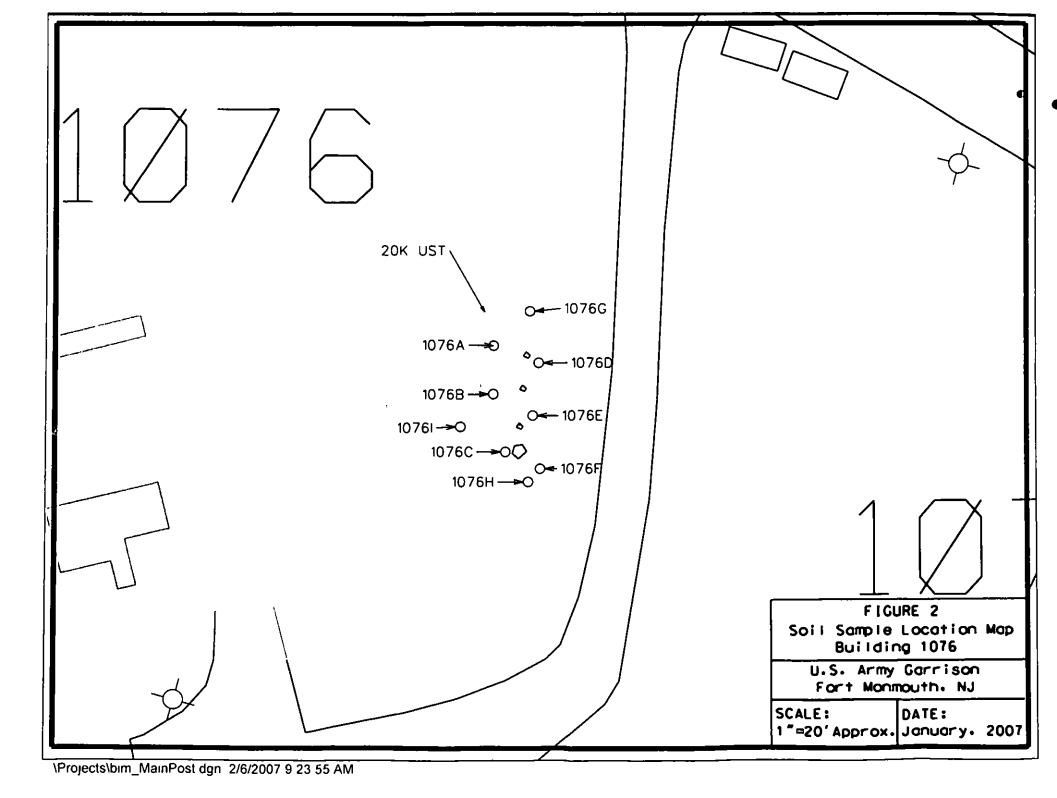




SOURCE USGS 7½-MINUTE SERIES (TOPOGRAPHIC) LONG BRANCH QUADRANGLE, NEW JERSEY, 1981

FIGURE 1

BUILDING 1076 UST NO 81533-209 FT MONMOUTH, NJ



TABLES

TABLE 1

SUMMARY OF LABORATORY ANALYSIS FT MONMOUTH, (FORMER) BUILDING 1076, UST No 81533-209 12 January 2005

SAMPLE ID	LABORATORY SAMPLE ID	SAMPLE DATE	SAMPLE MATRIX	ANALYTICAL PARAMETER	ANALYTICAL METHOD
1076A	5002001	12-January-05	SOIL	ТРН	OQA-QAM-25
1076B	5002002	12-January-05	SOIL	ТРН	OQA-QAM-25
1076C	5002003	12-January-05	SOIL	TPH	OQA-QAM-25
1076D	5002004	12-January-05	SOIL	TPH	OQA-QAM-25
1076E	5002005	12-January-05	SOIL	TPH	OQA-QAM-25
1076F	5002006	12-January-05	SOIL	TPH	OQA-QAM-25
1076G	5002007	12-January-05	SOIL	ТРН	OQA-QAM-25
1076H	5002008	12-January-05	SOIL	TPH	OQA-QAM-25
10761	5002009	12-January-05	SOIL	TPH	OQA-QAM-25
1076J	5002010	12-January-05	SOIL	TPH	OQA-QAM-25
(dupl B)					
TRIP	5002011	12-January-05	METHANOL	VOA	SW-846 8260
BLANK			<u> </u>		

ABBREVIATIONS

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

VOA = Volatile Organic Analysis EPA SW-846 Method 8260

TABLE 2

SUMMARY OF LABORATORY ANALYTICAL RESULTS FT MONMOUTH, (FORMER) BUILDING 1076, US F No. 81533-209 12 January 2005

TOTAL PETROLEUM HYDROCARBONS

SAMPLE ID	LABORATORY SAMPLE ID	SAMPLE LOCATION	SAMPLE DEPTH	MATRIX	TPH RESULTS
			(ın feet)		mg/kg
1076A	5002001	Northwest Wall UST 1	50-55	Soil	ND
1076B	5002002	Northwest Wall UST 2	50-55	Soil	ND
1076C	5002003	Northwest Wall UST 3	50-55	Soil	ND
1076D	5002004	Southeast Wall UST 1	50-55	Soil	ND
1076E	5002005	Southeast Wall UST 2	50-55	Soil	ND
1076F	5002006	Southeast Wall UST 3	50-55	Soil	ND
1076G	5002007	Northeast Wall UST 1	50-55	Soil	ND
1076H	5002008	Southwest Wall UST 1	50-55	Soil	ND
10761	5002009	Piping	20-25	Soil	ND
1076J	5002010	Duplicate (Northwest Wall	50-55	Soil	ND
(dupl B)		UST 2)		1	
Trip Blank	5002011			Methanol	

ABBREVIATIONS

mg/kg = Milligrams Per Kilogram = parts per million

ND = Compound Not Detected

NA = Compound Not Analyzed

*= Further Analyzed for Volatiles

<u>Notes</u>

Gray shading indicates exceedance of NJDEP

health based criterion of 10,000 ppm total organic contaminants

APPENDIX A CERTIFICATIONS

Site Remediation Program UST Site Remedial Investigation Report					
A. Facility Name (former) Building 1076, Boiler Plant					
Facility Street Address Guardrail Ave					
Municipality Oceanport County Monmouth					
Block NA Lot(s) NA Telephone Number 732-532-6223					
B. Owner (RP)'s Name U.S. Army Garrison-Directorate of Public Works					
Street Address 167 Riverside Ave City Ft Monmouth					
State NJ Zip 07703 Telephone Number 732-532-6223					
C. (Check as appropriate) D. (Complete all that apply) Assigned Case Manager Greg Zalaskus					
Site Investigation Report (SIR) \$500 Fee UST Registration Number 81533-209 (7 digits)					
Remedial Investigation Report (RIR) \$1000 Fee (10 or 12 digits)					
• Tank Closure Number C(N)9 C 9 C9 (7 characters)					
The attached report conforms to the specific reporting requirements of N J A C 7 26E 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 07703 Telephone Number 732-532-5241 (NOTE Certification numbers required only if work was conducted on USTs regulated per N J S A 5 8 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-17(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 hable for the penalties."					
Name (Print or Type) Title					
Company Name Date					

APPENDIX B UST DISPOSAL CERTIFICATE

Magga + Sons Co5-00673

BLDG. 1076, 20,000 GAL-OBL. WALL FIBERGLASS UST

Origin FORT MONMOUTH - MONMOUTH

DATE IN: 01/13/2005 TIME IN: 14 54 30

DATE OUT. 01/13/2005 TIME OUT. 15:11

INBOUND TICKET Number) 01-000556

SCALE 1 GROSS WT 35300 LB SCALE 1 TARE WT 22500 LB NET WEIGHT 12800 LB

Oty Description Amount 6.40 INCOMING BULKY WAST 550 40

NET CHARGE AMOUNT:

550 40

· Frank anoisi

APR 14 7005

APPENDIX C 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 BLDG 1076

Bldg. 1076³

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
1076A-NW Wall 1	5002001	Soil	12-Jan-05 13 55	01/13/05
1076B-NW Wall 2	5002002	Soil	12-Jan-05 14 10	01/13/05
1076C-NW Wall 3	5002003	Soil	12-Jan-05 14 30	01/13/05
1076D-SE Wall 1	5002004	Soil	12-Jan-05 13:00	01/13/05
1076E-SE Wall 2	5002005	Soil	12-Jan-05 13 13	01/13/05
1076F-SE Wall 3	5002006	Soil	12-Jan-05 13 30	01/13/05
1076G-NE Wall	5002007	Soil	12-Jan-05 13 42	01/13/05
1076H-SW Wall	5002008	Soil	12-Jan-05 14 44	01/13/05
10761-Piping	5002009	Soil	12-Jan-05 15 10	01/13/05
1076J-Duplicate	5002010	Z Soil	12-Jan-05 14 10	01/13/05
Trip Blank	5002011	Methanol	12-Jan-05	01/13/05

/ANALYSIS:

FORT MONMOUTH ENVIRONMENTAL LAB TPHC, % SOLIDS

ENCLOSURE CHAIN OF CUSTODY RESULTS

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: 1004		Project	No 05-	7161	5			Anal	ysis P	arame				Comments:
Phone # X 20986		Locatio	on B L O G.	1076			*			<u> </u>	~	\widehat{H}	VoA #	
()DERA ()OMA ()O	ther	_][15,		1		9) H	#	
Samplers Name / Compa	IN FRANK ACC	<i>OR5 </i> [1	VS	Sampl	e #	TPH	10 +15				101	10	4	
LIMS/Work Order#	Sample Location	Date	e Tune	Type	bottles	7	7				0	106	3	Remarks / Preservation Method
5QQXO 0/101	EA-NW WALLI	1-12-	05 1355	SOIL	2	X	x				0	5-55'	4141	1CE
QJ 1071	6B-NW WALL 2		1410		2	X	X]			0	5-5.5	4142	
03,107	6C-NW WALL 3		1430		2	ャ	X	<u> </u>			0	5-55	4143	
Q4 1076	10-56 WALL 1		1300		2	X	>				0	5-55	4114	
US 1071	GE-SE WALL 2		1313		2	X	Y				0	5-5.5	+145	
	F-SE WALL 3		1370		2	Χ	X				0	5-55	4146	
	GG-NE WALL		1342		2	Χ	×				O	5-55	1147	
1 (2)8 1076	H- SW WALL		i 444		2	X	χ				0	5-55	4148	
[X1 1076	I. PIPING		1510		2	X	Υ				0	2.35	1199	
	J- DUPLICATE		1410	A	2	X	X				01	5:5	4150	
1 1-11	2 BLANK	4		AQ.	1		X				-	1	4151	D VI
					<u> </u>									\
Relinquished by (sign jure)	Date/Time /	Received	d by (signature)	B	Reline	quished	by (sig	nature)	•	Date/I	îme	Recei	ved by ((signature)
Relinquished by (signature)	Date/Time	Received	d by (signature)		Relin	quished		•	-	Date/T			·	(signature)
Report Type ()Full (\)Reduci			-			Rema	rks #	V0 1 1+16H	+15 + 57	ON MI	25	70 ME	> 1,0	new PAM TPH, ON

US ARMY - FT. MONMOUTH, NJ

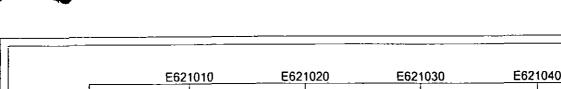
BUILDING 1076 - UST #81533-209 SOIL SAMPLE GPS POSITIONS & COORDINATES

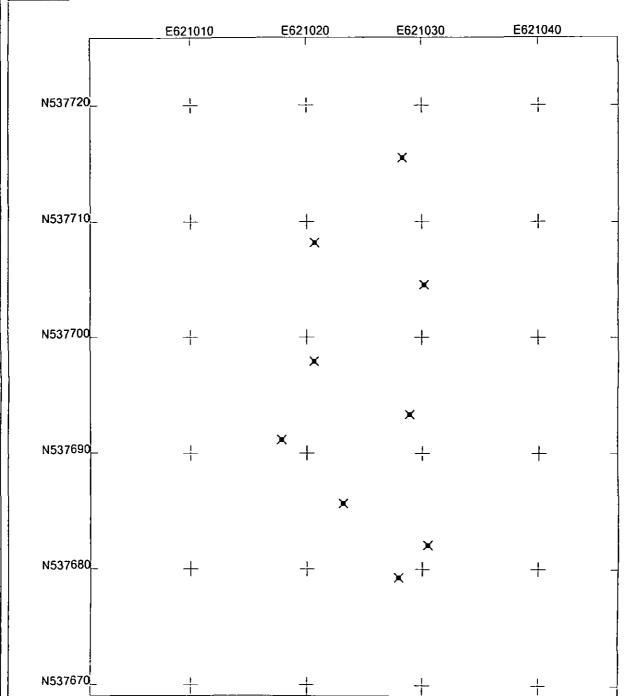
US STATE PLANE 1983, NJ (NY EAST) 2900, NAD 1983 (CONUS)

(IN US SURVEY FEET)

SAMPLE POINTS

1076A NW WALL1	537708 23	621020 637
1076B NW WALL 2	537697 966	621020 565
1076C NW WALL 3	537685 682	621023 09
1076D SE WALL 1	537704 588	621030 137
1076E SE WALL 2	537693 397	621028 868
1076F SE WALL 3	537682 113	621030 422
1076G NORTH WALL	537715 536	621028 295
1076H SOUTH WALL	537679 308	621027 897
1076I PIPING	537691 193	621017 779





U.S. Army - Ft. Monmouth Bldg 1076 UST # 81533-209 Soil Sample GPS Map

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

Scale 1 100 0 0 002 Miles B1076 cor 2/28/2005 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 auto-sampler vial.

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

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 50020 Site: Bldg 1076

	Date	Hold Time
Date Sampled	01/12/05	NA
Receipt/Refrigeration	01/13/05	NA
Extractions		
I TPHC	01/14/05	14 days
Analyses		
1 TPHC	01/19/05	40 days

CONFORMANCE/ NONCONFORMANCE SUMMARY

TPHC CONFORMANCE/NON-CONFORMANCE SUMMARY REPORT

		Yes, No, N/A
1	Method Detection Limits Provided	<u> 425</u>
2	Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank	120
3	Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which fails outside the acceptable range)	<u>485</u> -
4	Duplicate Results Summary Meet Criteria	<u>yes</u>
5	IR Spectra submitted for standards blanks and samples	_٥۵_
6	Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted	_4es_
7	Analysis holding time met (If not met, list number of days exceeded for each sample)	<u> Ges</u>
Addıt	ional comments	
Labor	atory Manager Date 3-4-0	<u> </u>

TPHC

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

Client US Amy Project #

50020

DPW SELFM-PW EV

Location

Bldg 1076

Bldg 173

UST Reg #

Ft Monmouth, NJ 07703

Analysis

OQA-QAM-025

Date Received

13-Jan-05

Matrix

Sod

Date Extracted

14-Jan-05

Inst ID

GC TPHC INST #1

Extraction Method

Shake

Column Type

RTX-5, 0 32mm ID 30M

Analysis Complete Analyst

19-Jan-05 B Patel

Injection Volume

1uL

Dilution TPHC Result Weight MDL % Solid Field 1D RL Lab ID Factor (मद/दि) (mg/kg) (g) 1076A NW 1 00 15 07 85 23 107 389 ND 5002001 1076B-NW 1 00 15 02 82 20 111 405 ND 5002002 1076C-NW 1 00 15 03 82 16 111 405 ND 5002003 1076D-SE 1.00 15 01 82 35 111 404 ND 5002004 1076E-SE 15 05 5002005 1 00 81 23 112 409 ND 1076F-SE 15 03 1 00 81 17 113 410 5002006 ND 1076G-NE 15 08 421 1 00 78 69 116 ND 5002007 1076H-SW 1 00 15 03 79 04 116 421 5002008 ND 5002009 1076I-Piping 1 00 15 00 89 37 103 373 ND 1076J-Duplicate 15 07 1 00 80 61 5002010 113 412 ND

15 00

100 00

92

ND = Not Detected

METHOD BLANK

MDL = Method Detection Limit

MB 011405-01

RL = Reporting Limits

Note The TPHC result between the MDL and RL are considered an estimated value

1 00

333

ND

Method C \hPCHEM\1\METHODS\TPHC002 M (Chemstation Integrator)

Title GC TPH Method

Last Update Wed Dec 15 12 51 02 2004

Calipr	ation Files				
5	=T017596 D	10	=T017598 D	20	=T017599 D
50	=T017597 D	100	=T017595 D		

		Compound	į	5	:	LO	2	20		50		100	1	Avg		8)	RSD
1)	T	C8	2	385	2	323	2	254	2	409	2	449	2	364	E4	3	24
2)	T	C10	2	291	2	339	2	364	2	510	2	578	2	416	E4	5	04
3)	T	C12	2	221	2	291	2	328	2	496	2	590	2	385	E4	6	41
4)	T	C14	2	262	2	338	2	372	2	558	2	658	2	438	E4	6	74
5)	T	C16	2	330	2	412	2	448	2	633	2	744	2	514	E4	6	77
6)	T	C18	2	229	2	312	2	350	2	544	2	671	2	421	E4	7	48
	T	C20	2	301	2	390	2	423	2	614	2	731	2	492	E4	7	06
8)	T	C22	2	375	2	459	2	489	2	686	2	804	2	562	E4	6	90
9)	Т	C24	2	408	2	485	2	519	2	716	2	832	2	592	E4	6	79
10)	T	C26	2	547	2	573	2	561	2	757	2	866	2	661	E4	5	39
11)	T	C28	2	460	2	536	2	565	2	771	2	890	2	644	E4		77
12)	T	C30	2	460		535	2	587	_	815	2	947		669	E4		65
13)	Т	C32	2	419	2	507	2	552	2	787	2	927	2	638	E4	8	01
14)	\mathbf{T}	C34	2	609	2	582	2	564	2	792	2	916	2	693	E4	5	74
15)	\mathbf{T}	C36	2	535	2	672	2	633	2	837	2	977	2	731	E4		43
16)	T	C38	2	432	2		2	555	2	785	2	883	2	641	E4		05
17)	T	C40	2		2	466	2	528	2	757	2	823	2	589	E4		47
18)	T	C42		223	2	306	2	385	2	614	2	598	2	425	E4		22
19)	T	Pristane				428	2	445	2	618	2	708	2	512	E4		73
20)	T	Phytane		387		462	2	502	2	684	2	778	2	563	E4		34
,	Т	TPHC (Manual Integrat	3	351	3	072		895	3	018	3	078	3	083	E4		41
22)	Н	TPHC (Total)	2	572		546	2	520	2	707	2	796	2	628	E4	4	50
23)	S	Chlorobenzene (SURR)				657	1	695	1	849	1	897	1	735	E4	7	73
24)	S	O-Terphenyl (SURR)	2	610	2	701	2	729	2	941	3	068	2	810	E4	6	71

Evaluate Continuing Calibration Report

Vial 76 Data File C \HPCHEM\1\DATA\050118\T017679 D Acq On 18 Jan 2005 7 58 am Sample Tstd050 Operator PSkelton Inst GC/MS Ins Multiplr 1 00 TP011805 01 Misc EVENTSBP E IntFile

C \HPCHEM\1\METHODS\TPHC002 M (Chemstation Integrator) GC TPH Method Method

Title Wed Dec 15 12 51 02 2004

Last Update Response via Multiple Level Calibration

Min RPF 0 000 Min Rel Area 50% Max RT Dev 0 50min Max RRF Dev 25% Max Rel Area 150%

		Compound	AvgRF	CCRF	&Dev	Area% Dev(min)
1		 C8	23 639	22 373 E3	5 4	93 -0 01
	T	C10	24 161	23 083 E3	45	92 0 00
	$ar{ extbf{T}}$	C12	23 852	22 704 E3	4 8	91 0 00
	T	C14	24 378	23 048 E3	5 5	90 0 00
	T	C16	25 135	23 553 E3	6 3	89 0 00
6	T	C18	24 211	22 772 E3	59	90 0 00
	T	C20	24 918	23 349 E3	6 3	89 0 00
8	T	C22	25 625	23 821 E3	7 0	89 0 00
9	Τ	C24	25 921	24 069 E3	7 1	89 0 00
10	Т	C26	26 608	24 257 E3	88	88 0 00
11	Т	C28	26 443	24 257 E3	8 3	88 0 00
12	T	C30	26 688	24 762 E3	7 2	88 -0 01
13	\mathbf{T}	C32	26 384	24 286 E3	8 0	87 -0 01
14	T	C34	26 926	23 912 E3	11 2	86 -0 02
15	T	C36	27 308	24 254 E3	11 2	85 -0 02
16	\mathbf{T}	C38	26 411	23 644 E3	10 5	85 -0 03
17	T	C40	25 890	23 253 E3	10 2	84 -0 04
18	T	C42	24 252	22 252 E3	8 2	85 -0 06
19	\mathbf{T}	Pristane	25 124	23 541 E3	6 3	90 0 00
20	\mathbf{T}	Phytane	25 625	24 024 E3	6 2	90 0 00
21	Ţ	TPHC (Manual Integration)	30 828	26 695 E3	13 4	88 0 96#
22	Н	TPHC (Total)	26 281	23 860 E3	9 2	88 0 00
23	S	Chlorobenzene (SURR)	17 349	17 227 E3	0 7	93 -0 01
24	S	O-Terphenyl (SURR)	28 097	26 220 E3	6 7	89 0 00

Data File C \HPCHEM\1\DATA\050118\T017679 D Acq On 18 Jan 2005 7 58 am 76 Vıal Acd Ou Operator PSkelton GC/MS Ins Inst Tstd050 Sample Multiplr 1 00 TP011805 01 Misc

IntFile EVENTSBP E

Quant Time Jan 18 8 38 2005 Quant Results File TPHC002 RES

Ouant Method C \HPCHEM\1\METHODS\TPHC002 M (Chemstation Integrator) GC TPH Method Title

Title GC TPH Method
Last Update Wed Dec 15 12 51 02 2004
Resporse via Initial Calibration

DataAcq Meth TPHC002 M

Compound	R	T	Response	Co	onc Units	
System Monitoring Compounds 23) S Chlorobenzene (SURR) Spiked Amount 10 000 24) S O-Terphenyl (SURR) Spiked Amount 10 000	5		861350 ery = 1311019 ery =	463	902 mg/L	
Target Compounds 1) T C8 2) T C10 3) T C12 4) T C14 5) T C16 6) T C18 7) T C20 8) T C22	4 7 9 10 11 12 12	76 74 36 54 54 00 44 25	1118657 1154133 1135215 1152392 1177672 1138604 1167431 1191036	47 47 47 46 47 46 46	323 mg/L 768 mg/L 595 mg/L 271 mg/L 854 mg/L 028 mg/L 851 mg/L 480 mg/L	
9) T C24 10) T C26 11) T C28 12) T C30 13) T C32 14) T C34 15) T C36 16) T C38		00 68 31 94 67 57 79	1203437 1212838 1212825 1238112 1214276 1195615 1212694 1182216	46 45 46 46 44 44	427 mg/L 582 mg/L 866 mg/L 392 mg/L 023 mg/L 404 mg/L 408 mg/L 762 mg/L	
17) T C40 18) T C42 19) T Pristane 20) T Phytane 21) T TPHC (Manual Integration) 22) H TPHC (Total)	22 26 12 12 13	86 27 03	1162662 1112620 1177068 1201199 26695107 23859561	44 45 46	908 mg/L 877 mg/L 851 mg/L 876 mg/L 926 mg/L 857 mg/L	, , , m

Quantitation Report (OT Reviewed) Data File C \HPCHEM\1\DATA\050118\T017679 D Vial 76 Acq On 18 Jan 2005 7 58 am Operator PSkelton Sample Tstd050 GC/MS Ins Inst Misc TP011805 01 Multiplr 1 00 EVENTSBP E IntFile Quant Time Jan 18 8 38 2005 Quant Results File TPHC002 RES Ouant Method C \HPCHEM\1\METHODS\TPHC002 M (Chemstation Integrator) Title GC TPH Method Last Update Wed Dec 15 12 51 02 2004 Response via Multiple Level Calibration DataAcq Meth TPHC002 M Volume Inj Signal Phase Signal Info T017679 D\FID1B 160000 150000 140000 130000 120000 110000 100000 90000

Evaluate Continuing Calibration Report

C \HPCHEM\1\DATA\050118\T017690 D Vial 11 Data File

Operator PSkelton 18 Jan 2005 2 34 pm Acq On GC/MS Ins Inst Sample Tstd050

Multiplr 1 00 Misc TP011805 01 EVENTSBP E IntFile

C \HPCHEM\1\METHODS\TPHC002 M (Chemstation Integrator) Metnod

GC TPH Hechod Title

Wed Dec 15 12 51 02 2004 Multiple Level Calibration Last Update Response via

0 000 Min Rel Area 50% Max RT Dev 0 50min Min RRF

Max RRF Dev 25% Max Rel Area 150%

		Compound	/A	gRF	CC	CRF		&De		Area	Dev	/(min)
1	 Т	C8	23	639	26	342	E3	-11	4	109	-0	01
2	T	C10	24	161	27	708	E3	-14	7	110	0	00
3	$\hat{f T}$	C12	23	852	27	568	E3	-15		110	0	00
4	$\hat{\mathbf{T}}$	C14	24	378	28	034	E3	-15		110	0	00
5	Ť	C16	25	135	28	720	E3	-14		109	0	00
6	Ť	C18	24	211	27	775	E3	-14		109	0	00
7	$ar{ extbf{T}}$	C20	24	918	28	504	E3	-14	4	109	0	00
8	T	C22	25	625	29	290	E3	-14	3	109	0	00
9	T	C24	25	921	29	690	E3	-14	5	109	0	00
10	\mathbf{T}	C26	26	608	29	993	E3	-12	7	109	0	00
11	\mathbf{T}	C28	26	443	29	950	E3	-13	3	108	0	00
12	Т	C30	26	688	30	407	E3	-13	9	108	0	00
13	T	C32	26	384	30	039	E3	-13	9	108	0	00
14	T	C34	26	926	29	829	E3	-10	8	107	-0	01
15	T	C36	27	308	30	417	E3	-11	4	107	-0	01
16	\mathbf{T}	C38	26	411	29	864	E3	-13	1	107	-0	02
17	\mathbf{T}	C40	25	890	29	597	E3	-14	3	107	-0	02
18	T	C42	24	252	27	757	E3	-14	5	106	-0	03
19	T	Pristane	25	124	28	576	E3	-13	7	109	0	00
20	\mathbf{T}	Phytane	25	625	29	240	E3	-14	1	109	0	00
21	T	TPHC (Manual Integration)	30	828	32	578	E3	-5	7	108	0	00
22	Н	TPHC (Total)	26	281	29	322	E3	-11	6	108	0	00
23	S	Chlorobenzene (SURR)	17	349	20	502	E3	-18	2	111	0	00
24	S	O-Terphenyl (SURR)	28	097	32	117	E3	-14	3	109	0	00

Data File C \HPCHEM\1\DATA\050118\T017690 D
Acg Or 18 Jan 2005 2 34 pm
Sample Tstd050 Vıal 11 Operator PSkelton Inst GC/MS Ins Multiplr 1 00 TP011805 01 Misc IntFile EVENTSBP E Quant Time Jan 18 15 04 2005 Quant Results File TPHC002 RES Quant Method C \HPCHEM\1\METHODS\TPHC002 M (Chemstation Integrator) Title GC TPH Method Last Update Wed Dec 15 12 51 02 2004 Response via Initial Calibration

DataAcq Meth TPHC002 M

Volume Inj Signal Phase Signal Info

Compound	R	Т	Response	Co	onc U	nits	
System Monitoring Compounds 23) S Chlorobenzene (SURR) Spiked Amount 10 000 24) S O-Terphenyl (SURR)		72 Recove	1025092 ery = 1605841	549	900 00% 409	_	
Spiked Amount 10 000		Recove	ery =	534	09%		
Target Compounds 1) T C8 2) T C10 3) T C12 4) T C14 5) T C16 6) T C18 7) T C20 8) T C22 9) T C24 10) T C26 11) T C28 12) T C30 13) T C32 14) T C34 15) T C36	7 9 10 11 12 12 13 14 15 15 16 17 18	76 74 36 54 55 01 44 26 00 68 32 95 67 58	1317121 1385398 1378391 1401705 1435987 1388752 1425198 1464520 1484503 1499657 1497506 1520337 1501929 1491449 1520836	55 57 57 57 57 57 57 56 56 56 56 55	719 340 790 498 131 360 196 153 270 361 632 967 926 391 692	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	
16) T C38 17) T C40	20 22		1493223 1479828	56 57	538 159		
18) T C42	26		1387865	57	226	mg/L	
19) T Pristane	12	04	1428824	56		mg/L	
20) T Phytane 21) T TPHC (Manual Integration)	12 12	_	1462020 32578410	57 1056	054	mg/L mg/L m	
22) = TPFC (Mandal Integration)		00		1115	721	mg/L	

316000

Data File C \HPCHEM\1\DATA\050118\T017690 D Vial 11 18 Jan 2005 2 34 pm Operator PSkelton Acq On GC/MS Ins Sample Tstd050 Inst TP011805 01 Multiplr 1 00 Misc IntFile EVENTSBP E Quant Time Jan 18 15 04 2005 Quant Results File TPHC002 RES Quant Method C \HPCHEM\1\METHODS\TPHC002 M (Chemstation Integrator) Title GC TPH Method Last Update Wed Dec 15 12 51 02 2004 Multiple Level Calibration Response via TPHC002 M DataAcq Meth Volume Inj Signal Phase _Signal Info T017690 D\FID1B 180000 N 51 160000 140000 120000 100000 80000 60000 40000 20000

400 500 600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700

PUUULE

Evaluate Continuing Calibration Report

Vial 16 Data File C \HPCHEM\1\DATA\050118\T017695 D Operator PSkelton Acq On 18 Jan 2005 5 35 pm GC/MS Ins Tstd050 Inst Sample Multiplr 1 00 TP011805 01 Misc

C \HPCHEM\1\METHODS\TPHC002 M (Chemstation Integrator) GC TPH Method Method

Title

IntFile

EVENTSBP E

Wed Dec 15 12 51 02 2004 Last Update Multiple Level Calibration Response via

50% Max RT Dev 0 50min Min RRF 0 000 Min Rel Area Max RRF Dev 150% 25% Max Rel Area

		Compound	AvgRF	CCRF	%Dev	Area% Dev(min)
1	т	 	23 639	23 166 E3	2 0	96 0 00
2	T	C10	24 161	24 102 E3	0 2	96 0 00
3	Т	C12	23 852	23 860 E3	-0 0	96 0 00
4	T	C14	24 378	24 208 E3	0 7	95 0 00
5	Т	C16	25 135	24 783 E3	14	94 0 00
6	T	C18	24 211	23 950 E3	1 1	94 0 00
7	T	C20	24 918	24 593 E3	1 3	94 0 00
8	T	C22	25 625	25 259 E3	1 4	94 0 00
9	Т	C24	25 921	25 566 E3	1 4	94 0 00
10	\mathbf{T}	C26	26 608	25 772 E3	3 1	93 0 00
11	T	C28	26 443	25 697 E3	28	93 0 00
12	T	C30	26 688	26 055 E3	24	93 -0 01
13	T	C32	26 384	25 704 E3	26	92 -0 01
14	T	C34	26 926	25 465 E3	54	91 -0 02
15	\mathbf{T}	C36	27 308	25 906 E3	5 1	91 -0 02
16	T	C38	26 411	25 449 E3	3 6	91 -0 03
17	\mathbf{T}	C40	25 890	25 296 E3	2 3	92 -0 04
18	T	C42	24 252	23 832 E3	1 7	91 -0 07
19	T	Pristane	25 124	24 677 E3	18	94 0 00
20	T	Phytane	25 625	25 235 E3	15	94 0 00
21	T	TPHC (Manual Integration)	30 828	28 337 E3	8 1	94 0 96#
22	Н	TPHC (Total)	26 281	25 235 E3	4 0	93 0 00
23	S	Chlorobenzene (SURR)	17 349	17 796 E3	-2 6	96 0 00
24	S	O-Terphenyl (SURR)	28 097	27 613 E3	1 7	94 0 00

Vial 16 Data File C \HPCHEM\1\DATA\050118\T017695 D Operator PSkelton Acq Or. 18 Jan 2005 5 35 pm Sample Tstd050 GC/MS Ins Inst Multiplr 1 00 TP011805 01 Misc

IntFile EVENTSBP E

Quant Time Jan 19 8 26 2005 Quant Results File TPHC002 RES

C \HPCHEM\1\METHODS\TPHC002 M (Chemstation Integrator) GC TPH Method Quant Method

Title

Wed Dec 15 12 51 02 2004 Last Update

Resporse via Initial Calibration

DataAcq Meth TPHC002 M

Compound	R	Т	Response	Co	onc U	nits
System Monitoring Compounds 23) S Chlorobenzene (SURR) Spiked Amount 10 000 24) S O-Terphenyl (SURR) Spiked Amount 10 000	_	00	covery =	478 46	861 1 61% 147 1 47%	_
Target Compounds 1) T C8 2) T C10	7	76 74	1158292 1205125	49 49	879	mg/L
3) T C12 4) T C14 5) T C16 6) T C18	9 10 11 12	36 54 54 00	1192982 1210395 1239138 1197521	50 49 49 49	017 ± 651 ± 299 ± 462 ±	mg/L mg/L
7) T C20 8) T C22 9) T C24 10) T C26	13 14	44 25 00 68	1229643 1262974 1278303 1288588	49 49 49	348 ± 287 ± 315 ± 429 ±	mg/L mg/L mg/L
11) T C28 12) T C30 13) T C32	15 15 16	31 94 67	1284826 1302738 1285195	48 48 48	589 r 813 r 711 r	mg/L mg/L mg/L
14) T C34 15) T C36 16) T C38 17) T C40	17 18 20 22	79	1273270 1295314 1272436 1264801	47 47 48 48	288 r 434 r 178 r 854 r	mg/L mg/L
18) T C42 19) T Pristane 20) T Phytane	26 12 12	26 03 49	1191623 1233857 1261757	49 49 49	135 r 112 r 239 r	mg/L mg/L mg/L
21) T TPHC (Manual Integration) 22) H TPHC (Total)	13 12		28337386 25235057	919 960	197 r 194 r	mg/L m mg/L

Data File C \HPCHEM\1\DATA\050118\T017695 D Acq On 18 Jan 2005 5 35 pm Sample Tstd050 Misc TP011805 01 EVENTSBP F IntFile

Vial 16 Operator PSkelton Inst GC/MS Ins Multiplr 1 00

Quant Time Jan 19 8 26 2005 Quant Results File TPHC002 RES

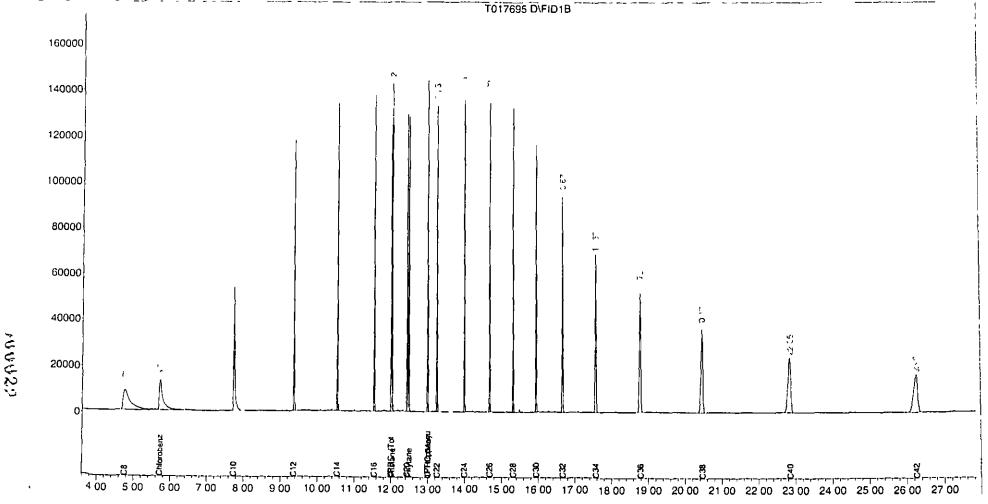
Quant Method

C \HPCHEM\1\METHODS\TPHC002 M (Chemstation Integrator)

Title GC TPH Method

Wed Dec 15 12 51 02 2004 Last Update Response via Multiple Level Calibration

TPHC002 M DataAcq Meth



Surrogate Recovery Report U S Army, Fort Monmouth Environmental Laboratory NJDEP Certification # 13461

Cllent

US Army

Project #

50020

DPW SELFM-PW-EV

Location

Bldg 1076

Bldg 173

UST Reg #

Ft Monmouth, NJ 07703

Analysis

OQA-QAM-025

Date Received

13-Jan-05

Matrix

Soil

Date Extracted Extraction Method 14-Jan-05 Shake

Inst ID Column Type GC TPHC INST #1 RTX-5, 0 32mm ID, 30M

Analysis Complete

19-Jan 05

Injection Volume

1uL

Analyst

B Patel

Lab ID	Surrogate Added (ppm)	Chlorobenzene Recovered (ppm)	Chlorobenzene % Recovery	O Terphonyl Recovered (ppm)	O-Terphenyl % Recovery
5002001	10	10 59	105 9	11 35	113 5
5002002	10	11 17	1117	11 68	1168
5002003	10	11 49	1149	11 65	116 5
5002004	10	10 94	109 4	11 34	113 4
5002005	10	10 94	109.4	11 69	1169
5002006	10	10 93	109.3	11 73	117.3
5002007	10	10 35	103.5	11 15	111.5
5002008	10	9 35	93 5	10 16	101 6
5002009	10	9 62	96 2	9 97	99 7
5002010	10	9 83	98 3	10 39	103 9
METHOD BLANK	10	10 90	109 0	10 89	108 9

SURROGATE STANDARDS		Lower Control Limits	Upper Control Limits		
Chlorobenzene	QC Limits	60	130		
O-Terphenyl	QC Limits	62	133		

Matrix Spike/ Duplicate Recovery Report U.S.Army, Fort Monmouth Environmental Laboratory NJDEP Certification # 13461

Client	U S Army	Project #	50020
	DPW SELFM PW-EV	Location	Bldg 1076
	Bidg 173	UST Reg #	
	Ft Monmouth, NJ 07703		
Analysis	OQA-QAM-025	Date Received	13 Jan-05
Matrix	Soil	Date Extracted	14 Jan-05
Inst ID	GC TPHC INST #1	Extraction Method	Shake
Column Type	RTX-5, 0 32mm ID, 30M	Analysis Complete	19-Jan-05
Injection Volume	1uL	Analyst	B Patel

Sample	Spike Amount Added (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
5002001MS	1000	5 42	883 43	87 80	55 - 129
5002001MSD	1000	5 42	1037 10	103 17	55 - 129

RPD	16 09	20 00

NC = Not Calculated due to values are over the calibration range

Quality Control Check Standard Summary U S Army, Fort Monmouth Environmental Laboratory NJDEP Certification # 13461

Client	US Army	Project #	50020
	DPW SELFM-PW EV	Location	Bldg 1076
	Bldg 173	UST Reg #	
	Ft Monmouth, NJ 07703		
Analysis	OQA-QAM-025	Date Received	13-Jan-05
Matrix	Soil	Date Extracted	14-Jan-05
Inst ID	GC TPHC INST #1	Extraction Method	Shake
Column Type	RTX-5, 0 32mm ID, 30M	Analysis Complete	19-Jan-05
Injection Volume	1uL	Analyst	B Patel

Sample	Date Extracted		Matrix Spike Amount (ppm)	Percent Recovery	QC Limits %
LCS-011405-01	14 Jan-05	1000	1037 25	103 73	55 - 129

Vial 2 Data File C \HPCHEM\1\DATA\050118\T017681 D Operator PSkelton Acq On 18 Jan 2005 9 10 am Sample 11B-011405-01 GC/MS Ins Inst Multiplr 1 00 Soll Misc EVENTSBP E IntFile Quant Time Jan 18 9 43 2005 Quant Results File TPHC002 RES

Quant Method C \HPCHEM\1\METHODS\TPHC002 M (Chemstation Integrator)

GC TPH Method Title

Last Update Wed Dec 15 12 51 02 2004 Response via Initial Calibration

DataAcq Meth TPHC002 M

Compound	R	T Re	esponse	Cor	nc Units
System Monitoring Compounds 23) S Cnlorobenzene (SURR) Spiked Amount 10 000 24) S O-Terphenyl (SURR) Spiked Amount 10 000	5 12	72 Recovery 99 Recovery	287292	108 9	391 mg/L
Target Compounds 1) T C8 2) T C10 3) T C12 4) T C14	0 7 9 10	00 69 50 38	0 3803 661 160	0 0	0 mg/L 157 mg/L 028 mg/L 007 mg/L
5) T C16 6) T C18 7) T C20 8) T C22 9) T C24	14	59 81 51 13 22	398 4018 3182 2866 2553	0 1 0 1 0 0	016 mg/L 166 mg/L 128 mg/L 112 mg/L 098 mg/L
10) T C26 11) T C28 12) T C30 13) T C32 14) T C34	15 15 16 17	69 33 98 45 58	2130 712 4148 3712 3531	0 (0 1 0 1 0 3	080 mg/L 027 mg/L 155 mg/L 141 mg/L 131 mg/L
15) T C36 16) T C38 17) T C40 18) T C42 19) T Pristane 20) T Phytane	18 20 22 0 11 12	51	13945 2771 11438 0 4018 3182	0 1 0 4 N I 0 3 0 1	160 mg/L 124 mg/L
21) T TPHC (Manual Integration) 22) H TPhC (Total)		00 00	0 183775	N E) mg/L đ 993 mg/L

GC/MS Ins

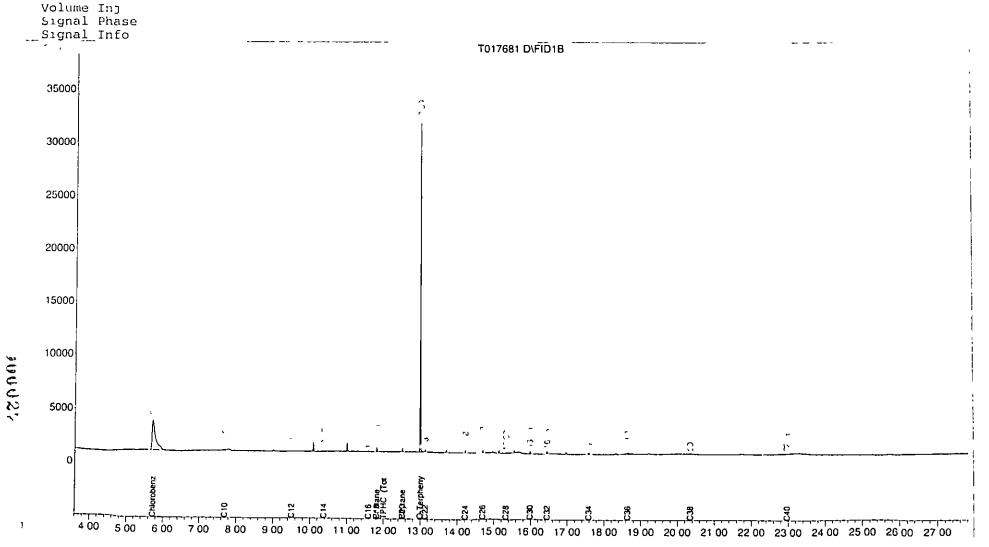
Data File C \HPCHEM\1\DATA\050118\T017681 D Vial 2 Acq On 18 Jan 2005 9 10 am Operator PSkelton Sample MB-011405-01 Inst M1 5C Soil Multiplr 1 00 IntFile EVENTSBP E

Quant Time Jan 18 9 43 2005 Quant Results File TPHC002 RES

Ouant Method C \HPCHEM\1\METHODS\TPHC002 M (Chemstation Integrator) Title GC TPH Method

Wed Dec 15 12 51 02 2004 Last Update Response via Multiple Level Calibration

DataAcq Meth TPHC002 M



Data File C \HPCHEM\1\DATA\050118\T017682 D 3 Vıal Operator PSkelton Acq On 18 Jan 2005 9 46 am GC/MS Ins Inst 5002001s Sample Multiplr 1 00

Misc IntFile EVENTSBP E

Quant Time Jan 18 13 17 2005 Quant Results File TPHC002 RES

C \HPCHEM\1\METHODS\TPHC002 M (Chemstation Integrator) Quant Method

GC TPH Method Title

Last Update Wed Dec 15 12 51 02 2004

Response via Initial Calibration

TPHC002 M DataAcq Meth

Compound	R	T Re	esponse	Co	onc U	Jnits	
System Monitoring Compounds	_	7.0	177700	1.0	E O E	mer / †	
23) S Chlorobenzene (SURR)	5	72_	173302			mg / L	
Spiked Amount 10 000		Recovery				/T	
24) S O-Terphenyl (SURR)	12		301515			mg/L	
Spiked Amount 10 000		Recovery	=	113	20 £		
Target Compounds							
1) T C8	0	00	0	N	D	mg/L	
2) T C10	7	69	3636	0	150	mg/L	
3) T C12	9	39	506	0	021	mg/L	
4) T C14	0	00	0	N	D	mg/L	
5) T C16	11	59	416	0	017	mg/L	
6) T C18	11	81	4433	0	183	mg/L	
7) T C20	12	51	3342	0		mg/L	
8) T C22	13	13	3002	0	117	mg/L	
9) T C24	14	21	2913	0	112	mg/L	
10) T C25	14	69	3975	0	149	mg/L	
11) T C28	15	33	329	0	012	mg/L	
12) T C30	15	98	4929	0	185	mg/L	
13) T C32	16	45	4901	0		mg/L	
14) T C34	17	58	4405	0	164	mg/L	
15) T C36	18	90	200	0	007	mg/L	
16) T C38	20	34	3554	0	135	mg/L	
17) T C40	22	92	7609	0		mg/L	
18) T C42		00	0	N	D	mg/L	
19) T Pristane	11	81	4433	0	176	mg/L	
20) T Phytane		51	3342	0		mg/L	
21) T TPHC (Manual Integration)		00	0		D	mg/L d	
22) H TPHC (Total)		00	142424	5	419	mg/L	

Quantitation Report (QT Reviewed)

Data File C \HPCHEM\1\DATA\050118\T017682 D 18 Jan 2005 Acq On 9 46 am Sample

5002001s

Vial 3 Operator PSkelton GC/MS Ins Inst Multiplr 1 00

Misc IntFile

EVENTSBP E

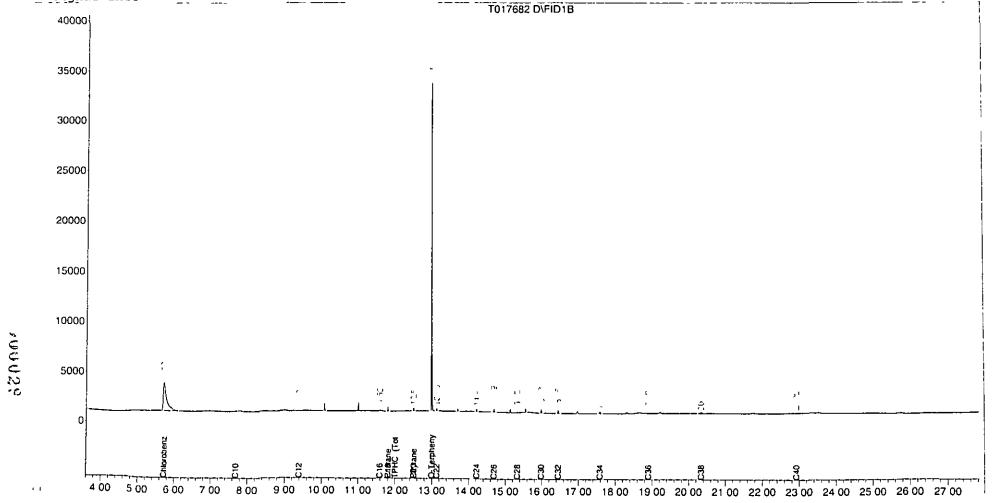
Quant Time Jan 18 13 17 2005 Quant Results File TPHC002 RES

C \HPCHEM\1\METHODS\TPHC002 M (Chemstation Integrator) Ouant Method

Title GC TPH Method

Wed Dec 15 12 51 02 2004 Last Update Multiple Level Calibration Response via

DataAcq Meth TPHC002 M



Vial 6 Operator PSkelton Data File C \HPCHEM\1\DATA\050118\T017685 D Acq On 18 Jan 2005 11 34 am Sample 5002002e GC/MS Ins Inst 5002002s Sample Multiplr 1 00 Misc

EVENTSBP E IntFile

Quant Time Jan 18 13 19 2005 Quant Results File TPHC002 RES

Quant Method C \HPCHEM\1\METHODS\TPHC002 M (Chemstation Integrator)

GC TPH Method Title

Wed Dec 15 12 51 02 2004 Last Update

Response via Initial Calibration

DataAcq Meth TPFC002 M

	Compound	R	T Re	sponse	Co	onc (Jnits
23) S Spiked A 24) S	em Monitoring Compounds Chlorobenzene (SURR) Amount 10 000 O-Terphenyl (SURR) Amount 10 000	5 13	72 Recovery 00 Recovery	311638	111	71% 676	mg/L m
1) T	et Compounds C8 C10	0 7		0 2873	0		mg/L mg/L
4) T 5) T	C12 C14 C16		38 00 81f	716 0 1796		D 071	mg/L mg/L mg/L
7) T 8) T	C18 C20 C22 C24	11 12 13 14	81 51 13 22	1796 1327 1324 1187	0 0 0	053 052	mg/L mg/L mg/L mg/L
10) T 11) T	C26 C28 C30	14 15 15		1388 1612 1952	0	052 061	mg/L mg/L mg/L
14) T 15) T	C32 C34 C36	16 17 18	59 67	1859 1614 5779	0 0 0	070 060 212	mg/L mg/L mg/L
17) T 18) T	C38 C40 C42 Pristane		35 34f 00	1405 5137 0 1796	0 0 N 0	198 D	mg/L
20) T 21) T	Phytane Phytane TPHC (Manual Integration) TPHC (Total)	12 0 12	51 00	1327 0 85375	0 N 3	052 D	mg/L mg/L mg/L d mg/L

900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700

400 500

600 700

8 00

Data File

Acq On Sample

IntFile

Quant Method

Last Update

Volume Inj Signal Phase Signal Info

Response via

DataAcq Meth

Misc

Title

40000

35000

30000

25000

20000

15000

10000

5000

£0003

Vial 7 Data File C \HPCHEM\1\DATA\050118\T017686 D Operator PSkelton Acq On 18 Jan 2005 12 10 pm Sample 5002003s GC/MS Ins Inst Sample 5002003s Multiplr 1 00 Misc

IntFile EVENTSBP E

Quant Time Jan 18 13 19 2005 Quant Results File TPHC002 RES

Quant Method C \HPCHEM\1\METHODS\TPHC002 M (Chemstation Integrator)

Title GC TPH Method
Last Update Wed Dec 15 12 51 02 2004
Response via Initial Calibration
DataAcq Meth TPhC002 M

Compound	R	T Re	sponse	Co	onc (Jnits	
System Monitoring Compounds 23) S Chlorobenzene (SURR) Spiked Amount 10 000		72 Recovery	=	114	92%	mg/L	
24) S O-Terphenyl (SURR) Spiked Amount 10 000	13	00 Recovery	310953		548	mg/L	
Target Compounds 1) T C8	4	85	398			mg/L	
2) T C10	7		2962			mg/L	
3) T C12	0	00	0		D	mg/L	
4) T C14	0	00	0	N	D	mg/L	
5) T C16	11	81f	1382	0	055	mg/L	
6) T C18	11	81	1382	0	057	mg/L	
7) T C20	12	51	1021	0		mg/L	
8) T C22	13	13	979	0		mg/L	
9) T C24	14	22	852	0		mg/L	
10) T C26	14	69	1041	0		mg/L	
11) T C28	15	13	1035	0		mg/L	
12) T C30	15	98	1255	0		mg/L	
13) T C32	16		1349	0	051	mg/L	
14) T C34	17	59	1119	0		mg/L	
15) T C36		79	353	0	013	mg/L	
16) T C38	_	00	0	N	D	mg/L	
17) T C40	23	30f	2441	0	094	mg/L	
18) T C42	0	00	0	N	D	mg/L	
19) T Pristane	11	81	1382	0	055	mg/L	
20) T Phytane	12	51	1021	0	040	mg/L	
21) T TPFC (Manual Integration)	0	00	0	N	D	mg/L d	
22) if TPFC (Total)	12	00	41017	1	561	mg/L	

Data File C \HPCHEM\1\DATA\050118\T017686 D Acq On

18 Jan 2005 12 10 pm 5002003ន

Vial 7 Operator PSkelton Inst GC/MS Ins Multiplr 1 00

Misc Intlile

Sample

EVENTSBP E

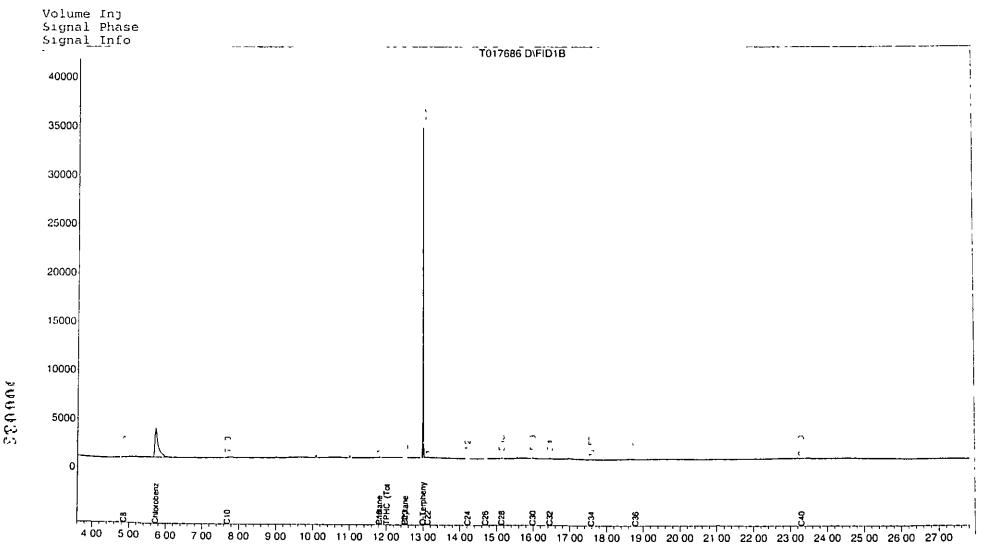
Quant Time Jan 18 13 19 2005 Quant Results File TPHC002 RES

C \HPCHEM\1\METHODS\TPHC002 M (Chemstation Integrator) Quant Method

Title GC TPH Method

Last Update Wed Dec 15 12 51 02 2004 Multiple Level Calibration Response via

DataAcq Meth TPHC002 M



Vıal 8 Data File C \HPCHEM\1\DATA\050118\T017687 D Operator PSkelton 18 Jan 2005 12 46 pm Acq On Inst GC/MS Ins 5002004s Sample Multiplr 1 00 Misc

EVENTSBP E IntFile

Quant Time Jan 18 13 20 2005 Quant Results File TPHC002 RES

Quant Method C \HPCHEM\1\METHODS\TPHC002 M (Chemstation Integrator) Title GC TPH Method

Wed Dec 15 12 51 02 2004 Last Update

Response via Initial Calibration DataAcq Meth TPHC002 M

Compound	R	T Re	esponse	Co	nc U	Jnits
System Monitoring Compounds 23) S Chlorobenzene (SURR) Spiked Amount 10 000 24) S O-Terphenyl (SURR) Spiked Amount 10 000	5 12	72 Recovery 99 Recovery	301328	109	40% 344	mg/L mg/L
Target Compounds 1) T C8 2) T C10 3) T C12 4) T C14 5) T C16 6) T C18 7) T C20 8) T C22 9) T C24 10) T C26 11) T C28 12) T C30 13) T C32	14 14 15 15	98 45	0 2531 0 0 664 664 686 421 350 1584 472 592 615	0 N 0 0 0 0 0 0	D D 026 027 028 016 014 060 018 022 023	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L
14) T C34 15) T C36 16) T C38 17) T C40 18) T C42 19) T Pristane 20) T Pnytane 21) T TPHC (Manual Integration) 22) H TPHC (Total)	0 18 0 23 0 11 12 0	00 63 00 29f 00 81 51 00	0 3352 0 5396 0 664 686 0 31204	0 N 0 N 0 0	D 208 D 026 027 D	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L

900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700

100035

6.641

8 00

(OT Reviewed)

C \HPCHEM\1\DATA\050118\T017688 D Data Filé 18 Jan 2005 1 23 pm Acq Or Sample 5002005s

Vial 9 Operator PSkelton Inst GC/MS Ins Multiplr 1 00

Misc IntFile EVENTSBP E

Quant Time Jan 18 13 51 2005 Quant Results File TPHC002 RES

Quant Method Title

C \HPCHEM\1\METHODS\TPHC002 M (Chemstation Integrator)

GC TPH Method

Last Update

Wed Dec 15 12 51 02 2004 Initial Calibration

Response via DataAcq Meth TPHC002 M

Compound	R	T Re	esponse	Conc	Units
System Monitoring Compounds 23) S Chlorobenzene (SURR) Spiked Amount 10 000 24) S O-Terphenyl (SURR) Spiked Amount 10 000		72 Recovery 00 Recovery	= 312139	10 938 109 38% 11 693 116 93%	_
Target Compounds 1) T C8 2) T C10 3) T C12 4) T C14 5) T C16 6) T C18 7) T C20 8) T C22 9) T C24 10) T C26 11) T C28 12) T C30 13) T C32 14) T C34 15) T C36 16) T C38 17) T C40 18) T C42 19) T Pristane 20) T Pnytane 21) T TPrC (Manual Integration) 22) H TPrC (Total)	7 0 0 11 12 13 14 14 15 15 16 17 18 20 0 11 12	81 51 19 22 69 13 99 45 59 66 35 00 00 81 51	0 1188 0 0 343 3297 2463 414 1937 2386 2624 3152 3021 2712 1270 2191 0 3297 2463 57636	0 136 0 099 0 016 0 075 0 090 0 199 0 118 0 114 0 101 0 046 0 083 N D N D	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L

Vial 9 Data File C \HPCHEM\1\DATA\050118\T017688 D Acq On 18 Jan 2005 1 23 pm Operator PSkelton Sample Inst GC/MS Ins 5002005s Misc Multiplr 1 00 IntFile EVENTSBP E Quant Time Jan 18 13 51 2005 Quant Results File TPHC002 RES Quant Method C \HPCHEM\1\METHODS\TPHC002 M (Chemstation Integrator) Title GC TPH Method Last Update Wed Dec 15 12 51 02 2004 Multiple Level Calibration Response via DataAcq Meth TPHC002 M Volume Ing Signal Phase Signal Info T017688 D\FID1B 40000 35000 30000 25000 20000 15000 10000 5000 600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700

100035

C \HPCHEM\1\DATA\050118\T017689 D Data File Acq On

Vıal 10 Operator PSkelton 18 Jan 2005 1 59 pm GC/MS Ins Inst 5002006s Multiplr 1 00

Nisc IntFile EVENTSBP E

Quant Time Jan 18 14 26 2005 Quant Results File TPHC002 RES

Quant Method C \HPCHEM\1\METHODS\TPHC002 M (Chemstation Integrator)

GC TPH Method Title

Title GC TP4 Method
Last Update Wed Dec 15 12 51 02 2004
Response via Initial Calibration
DataAcq Meth TPHC002 M

Volume Inj Signal Phase Signal Info

Sample

Compound	Ŗ	T R	esponse	Co	onc (Jnits
						
System Monitoring Compounds 23) S Chlorobenzene (SURR)	5	72	179921	10	930	ma/L
Spiked Amount 10 000	,	Recovery			30%	97 —
24) S O-Terphenyl (SURR)	12	99	313153			ma/L
Spiked Amount 10 000	12	Recovery			25%	
Target Compounds	_	00	٥		_	ma / I
1) T C8	0	00	2170		D 121	mg/L
2) T C10	7	69	3170			mg/L
3) T C12	0		0		D	mg/L
4) T C14	0	00	0		D	
5) T C16	11	59	431			mg/L
6) T C18	11	81	3512	0	145	_
7) T C20	12	51	2814	0		mg/L
8) T C22		19	329	0		mg/L
9) T C24		22	2244	0	087	
10) T C26		69	2674	0	100	mg/L
11) T C28		13	2976	0		mg/L
12) T C30		98	3431	0	129	_
13) T C32		45	3152	0	119	mg/L
14) T C34	17	5 9	2852	0	106	mg/L
15) T C36	18	68	916	0	034	mg/L
16) T C38	20	34	2193	0	083	mg/L
17) T C40	0	00	0	N	D	mg/L
18) T C42	0	00	0	N		
19) T Pristane	11	81	3512	0	140	mg/L
20) T Phytane	12	51	2814	0		mg/L
21) T TPFC (Manual Integration)		81	3512	Ō	114	mg/L
22) H TPrC (Total)		00	75055	_		mg/L

Data File C \HPCHEM\1\DATA\050118\T017689 D Acg On 18 Jan 2005 1 59 pm

Vial 10
Operator PSkelton
Inst GC/MS Ins
Multiplr 1 00

Misc IntFile EVENTSBP E

Sample

Quant Time Jan 18 14 26 2005 Quant Results File TPHC002 RES

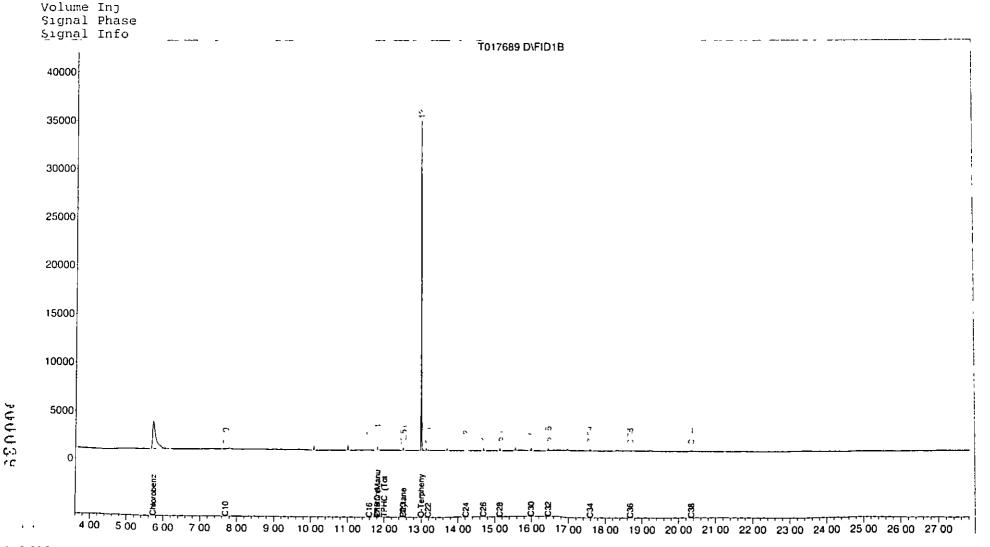
Quant Method C \HPCHEM\1\METHODS\TPHC002 M (Chemstation Integrator)

Title GC TPH Method

5002006s

Last Update Wed Dec 15 12 51 02 2004
Response via Multiple Level Calibration

DataAcq Meth TPHC002 M



Sample

C \hPCHEM\1\DATA\050118\T017691 D Acq On 18 Jan 2005 3 11 pm

Vial 12

Operator PSkelton Inst GC/MS Ins Multiplr 1 00

Misc

5002007s IntFile EVENTSBP E

Quant Time Jan 19 8 25 2005 Quant Results File TPHC002 RES

Quant Method C \HPCHEM\1\METHODS\TPHC002 M (Chemstation Integrator)

GC TPH Method

Title

Last Update Wed Dec 15 12 51 02 2004

Response via Initial Calibration
DataAcq Meth TPHC002 M

Compound	R	T Re	esponse	Co	onc (Jnits
	- ~ .					·
System Monitoring Compounds						
23) S. Chlorobenzene (SURR.)	5	72	168690			mg/L
Spiked Amount 10 000		Recovery	=	103	45%	
24) S O-Terphenyl (SURR)	13	00	295166	11	145	mg/L
Spiked Amount 10 000		Recovery	=	111	45%	
Target Compounds						
1) T C8	0	00	0		D	mg/L
2) T C10	7	77	4924			mg/L
3) T C12	9	38	269			mg/L
4) T C14	10	50	2252	0	092	mg/L
5) T C16	11	81f	1338	0	053	mg/L
6) T C18	11	81	1338	0	055	mg/L
7) T C20	12	51	1759	0	071	mg/L
8) T C22	13	13	615	0	024	mg/L
9) T C24	14	22	825	0	032	mg/L
10) T C26	14	69	659	0	025	mg/L
11) T C28	15	14	679	0	026	mg/L
12) T C30	15	99	1083	0	041	mg/L
13) T C32	16	45	874	0	033	mg/L
14) T C34	17	59	3712	0	138	mg/L
15) T C36	18	69	4323	0	158	mg/L
16) T C38	0	00	0		D	mg/L
17) T C40	0	00	0	N	D	mg/L
18) T C42	0	00	0	N	Ð	mq/L
19) T Pristane	11	81	1338	0	053	mg/L
20) T Phytane	12		1759			mg/L
21) T TPHC (Manual Integration)			0		D	mg/L d
22) H TPHC (Total)	12		47953	1	825	mg/L

Data File C \HPCHEM\1\DATA\050118\T017691 D Vial 12 Acq On 18 Jan 2005 3 11 pm Operator PSkelton Sample 5002007s GC/MS Ins Inst Misc Multiplr 1 00 IntΓile EVENTSBP E Quant Time Jan 19 8 25 2005 Quant Results File TPHC002 RES C \HPCHEM\1\METHODS\TPHC002 M (Chemstation Integrator) Quant Method Title GC TPH Method Wed Dec 15 12 51 02 2004 Last Update Multiple Level Calibration Response via DataAcq Meth TPHC002 M Volume Inj Signal Phase Signal Info T017691 D\FID1B 35000 30000 25000 20000 15000 10000 5000 5 00 600 700 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 8 00

1500041

C \HPCHEM\1\DATA\050118\T017692 D

Vıal 13

Acq On Sample

18 Jan 2005 3 47 pm 5002008s

Operator PSkelton GC/MS Ins Inst Multiplr 1 00

Misc

EVENTSBP E

IntFile

Quant Time Jan 19 8 25 2005 Quant Results File TPHC002 RES

Quant Method Title

C \HPCHEM\1\METHODS\TPHC002 M (Chemstation Integrator)

GC TPH Method

Last Update

Wed Dec 15 12 51 02 2004 Initial Calibration

Response via DataAcq Meth

TPHC002 M

		Compound	R	T Re	esponse	Co	onc (Jnits
-						·		
	_	em Monitoring Compounds	5	72	149491	9	347	mg/L
		Chlorobenzene (SURR) Amount 10 000	ر	Recovery				mg/ L
		O-Terphenyl (SURR)	12		264505			ma/I.
		Amount 10 000	12	Recovery				97 —
Sprv	eu r	anount 10 000		Recovery				
T	arge	et Compounds						
1) '	T	C8	0		0		D	mg/L
2) '	T	C10	7	80	4849			mg/L
- ,	\mathbf{T}	C12		00	0		D	mg/L
-,	T	C14		50	408		017	mg/L
	T	C16		81f	1060	0	042	mg/L
- ,	T	C18	11		1060	0	044	mg/L
	T	C20		51	849	0	4د0	mg/L
	T	C22	13		781	0	0.70	mg/L
	T	C24		22	801	0	031	mg/L
	T	C26		69	981	0	037	mg/L
	T	C28	15		1096	0		mg/L
,	\mathbf{T}	C30	15		1096	0	041	mg/L
	T	C32	16		1257	0	048	mg/L
,	T	C34	17		1037	0		mg/L
- •	T	C36	0		0		D	mg/L
	T	C38		00	0		D	mg/L
	\mathbf{T}	C40	0	00	0	N	D	mg/L
18)	T	C42	0	00	0		D	mg/L
19)	\mathbf{T}	Pristane	11		1060	0	042	mg/L
,	\mathbf{T}	Phytane	12		849	0	033	
•	T	TPHC (Manual Integration)			0	N		mg/L d
22)	Н	TPHC (Total)	12	00	29519	1	123	mg/L

Data File C \HPCHEM\1\DATA\050118\T017692 D Vial 13 Aca On Operator PSkelton 18 Jan 2005 3 47 pm Sample 5002008s GC/MS Ins Inst Misc Multiplr 1 00 IntFile EVENTSBP E Quant Time Jan 19 8 25 2005 Quant Results File TPHC002 RES Ouant Method C \HPCHEM\1\METHODS\TPHC002 M (Chemstation Integrator) Title GC TPH Method Last Update Wed Dec 15 12 51 02 2004 Response Via Multiple Level Calibration DataAcq Meth TPHC002 M Volume Inj Signal Phase __Signal Info T017692 D\FID1B 35000 30000 25000 20000 15000 10000 5000 5 5 00 6 00 7 00 8 00 9 00 10 00 11 00 12 00 13 00 14 00 15 00 16 00 17 00 18 00 19 00 20 00 21 00 22 00 23 00 24 00 25 00 26 00 27 00 Acq On

Sample

C \HPCHEM\1\DATA\050118\T017693 D

Vıal 14 Operator PSkelton 18 Jan 2005 4 23 pm

GC/MS Ins 5002009s Inst Multiplr 1 00

Misc IntFile EVENTSBP E

Quant Time Jan 19 8 25 2005 Quant Results File TPHC002 RES

C \HPCHEM\1\METHODS\TPHC002 M (Chemstation Integrator) Quant Method

GC TPH Method Title

Wed Dec 15 12 51 02 2004 Initial Calibration Last Update

Response via

DataAcq Meth TPHC002 M

Compound	R	T Re	esponse	Co	onc i	Jnits
System Monitoring Compounds 23) S Chlorobenzene (SURR) Spiked Amount 10 000 24) S O-Terphenyl (SURR) Spiked Amount 10 000	5	72 Recovery 99 Recovery	258623	96 9	16%	mg/L mg/L
Target Compounds 1) T C8 2) T C10 3) T C12 4) T C14 5) T C16 6) T C18 7) T C20 8) T C22 9) T C24 10) T C26 11) T C28 12) T C30 13) T C32 14) T C34 15) T C36 16) T C38 17) T C40 18) T C42 19) T Pristane 20) T Phytane 21) T TPHC (Manual Integration)	11 12 13 14 14 15 15 16 17 19 20 0	00 00 81f 81 51 13 22 69 13 98 45 58 22f 34 00 00 81	0 2295 0 0 2480 2480 1767 1436 1156 1376 1466 1870 1628 1520 1146 1410 0 2480 1767	N N O O O O O O O N N N	102 071 056 045 052 055 070 062 056 042 053 D	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L

Data File C \HPCHEM\1\DATA\050118\T017693 D Vial 14 Acq On 18 Jan 2005 4 23 pm Operator PSkelton Sample 5002009s Inst GC/MS Ins Misc Multiplr 1 00 IntFile EVENTSBP E Quant Time Jan 19 8 25 2005 Quant Results File TPHC002 RE5 C \HPCHEM\1\METHODS\TPHC002 M (Chemstation Integrator) Ouant Method Title GC TPH Method Wed Dec 15 12 51 02 2004 Last Update Multiple Level Calibration Response via DataAcq Meth TPHC002 M Volume Inj Signal Phase _ Signal Info T017693 D\FID1B 35000 30000 25000 20000 15000 10000 5000 500 600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700

300045

(QT Reviewed) 15

Acq On

C \HPCHEM\1\DATA\050118\T017694 D 18 Jan 2005 5 00 pm

Vıal

5002010s

Operator PSkelton GC/MS Ins Inst Multiplr 1 00

Sample Misc

EVENTSBP E IntFile

Quant Time Jan 19 8 26 2005 Quant Results File TPHC002 RES

Quant Nethod C \HPCHEM\1\METHODS\TPHC002 M (Chemstation Integrator)

GC TPH Method Title Wed Dec 15 12 51 02 2004 Last Update

Response via Initial Calibration

DataAcq Meth TPHC002 M

Compound	R	T Re	esponse	Co	onc U	inits
System Monitoring Compounds 23) S Chlorobenzene (SURR) Spiked Amount 10 000 24) S O-Terphenyl (SURR) Spiked Amount 10 000	_	72 Recovery 00 Recovery	158789 = 271733 =	98		mg/L mg/L
Target Compounds 1) T C8 2) T C10 3) T C12 4) T C14 5) T C16 6) T C18 7) T C20 8) T C22 9) T C24 10) T C26 11) T C28 12) T C30 13) T C32 14) T C34 15) T C36 16) T C38 17) T C40 18) T C42 19) T Pristane 20) T Phytane 21) T TPHC (Manual Integration)	15 16 17 18 20 0 11	00 00 59 81 51 25 99 69 13 99 45 59 69 35 00 00 81 51	0 307 0 294 2859 2244 522 285 2254 2532 2791 2716 2590 1477 1649 0 2859 2244	0 N 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	013 D 012 118 090 020 011 085 096 105 103 096 054 062 D D 114 088	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L

Data File C \HPCHEM\1\DATA\050118\T017694 D Vial 15 18 Jan 2005 Operator PSkelton Acq On 5 00 pm Sample 5002010s Inst GC/MS Ins Multiplr 1 00 Misc IntFile EVENTSBP E Quant Time Jan 19 8 26 2005 Quant Results File TPHC002 RES C \HPCHEM\1\METHODS\TPHC002 M (Chemstation Integrator) Ouant Method Title GC TPH Method Wed Dec 15 12 51 02 2004 Last Update Multiple Level Calibration Response via DataAcq Meth TPHC002 M Volume Inj Signal Phase Signal Info T017694 D\FID18 35000 30000 25000 20000 15000 10000 5000 500 600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700

T017694 D TPHC002 M

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Wed Jan 19 08 29 35 2005



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	
	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 C UST Closure Approval/NFA for Building 1076 (Tanks 1076-160 and 1076-1601)



State of New Jersey

Christine Todd Whitman
Governor

Department of Environmental Protection

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 seventeen (17) UST closure reports dated June 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 17 UST located on the Main Post of the Fort Monmouth site:

NJDEP Req. #	Bldg. #	NJDEP Req. #	Bldg. #
0090010—06	80	0081533—226	707
0090010—17	166	0081533—119	745
0081533—5	207A	0081533—160	1076
0081533—211	207B	0081533161	1076
0081533—57	282	0081533—168	1108
0081533—64	290	00192486—1	2000
0081533—68	295	0081515—62	2700.4
0081533—108	689A	00192486—30	3050
0081533—109	689B		

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.

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

ATTACHMENT D

Figure 1 Fort Monmouth Patterson Army Health Clinic Public Sale/Lease Parcel and Intersecting ECP Parcel

