REFERENCE DOCUMENT

DRAFT FINAL - FINDINGS OF SUITABILITY
TO TRANSFER – CHARLES WOOD AREA

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FINDING OF SUITABILITY TO TRANSFER

(FOST)

Fort Monmouth, New Jersey

Fort Monmouth, Charles Wood Area

August, 2013

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(FOST)
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1. PURPOSE

The purpose of this Finding of Suitability to Transfer (FOST) is to document the environmental suitability of certain parcels at Fort Monmouth (FTMM) for transfer to the Fort Monmouth Economic Revitalization Planning Authority (FMERPA) consistent with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 120(h) and Department of Defense (DOD) policy. In addition, the FOST includes the CERCLA Notice, Covenant, and Access Provisions and other Deed Provisions and the Environmental Protection Provisions (EPPs) necessary to protect human health or the environment after such transfer.

2. PROPERTY DESCRIPTION

For purposes of planning the redevelopment and supporting the transfer of the property at FTMM, the Army and FMERA have established plans to transfer certain property initially, Phase 1 Property, and then a second portion of the property (Phase 2 Property), at later dates. The Phase 1 Property has been divided into Parcels as shown on Figures 1 and 2, Enclosure 1.The FTMM property covered by this FOST includes Parcels B, C1, C, F, Howard Commons Parcel and the Golf Course Parcel (together, "Property") less certain areas that are not ready for transfer (hereafter referred to as "carve out areas"). Parcel E has already been transferred to FMERA.

The primary mission of FTMM was 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). Fort Monmouth served as the center for the development of the Army's Command and Control Communications, Computers, Intelligence, Sensors and Reconnaissance (C4ISR) systems, which were the primary tenants of the installation. Much of the Army's research and development of high-tech systems was done at Fort Monmouth. The support provided by the Garrison was used by tenant activities in the performance of research, development, procurement, and production of prototype communications and electronics equipment for use by the U.S. Armed Forces. FTMM is divided into three areas: Main Post (MP), the Charles Wood Area (CWA) and the Evans Area (EA). The MP provided supporting administrative, training, and housing functions, as well as many of the community and industrial facilities for FTMM. These facilities are distributed across the property, with no distinct clustering of functions. The CWA was used primarily for research and development (R&D), testing, housing, and recreation. The CWA research, development and testing facilities occupy the southwest corner of the sub-post. The northwest corner formerly held residential units but is currently undeveloped. Residential units currently occupy the southeastern boundary and the golf course occupies the northeast corner.

FTMM is located in the central-eastern portion of New Jersey in Monmouth County, approximately 45 miles south of New York City, 70 miles northeast of Philadelphia, and 40 miles east of Trenton. The Atlantic Ocean is approximately 3 miles to the east. Fort Monmouth falls within the Boroughs of Eatontown, Oceanport, and Tinton Falls. The CWA is in the Eatontown and Tinton Falls Boroughs.

The CWA area was acquired by the Army in 1941. The CWA tract included the former Monmouth County Country Club (originally Sun Eagles Country Club), Olmstead Gardens, and areas currently occupied by the golf course; the Howard Commons housing area; and Myer Center area. The Sun Eagles County Club was constructed in the 1920s and included a clubhouse (currently Gibbs Hall), an eighteen-hole golf course, a polo field, and an airfield. In 1941, a 7,000 troop cantonment area was built on the land including barracks, mess halls, a school building, an office building, a recreation hall, a Post Exchange, an infirmary, and a Chapel. The southwest corner of CWA was developed for R&D, which included Eatontown Signal Laboratories. Eatontown Laboratory was constructed in 1941-1942. The Eatontown Signal Laboratory was renamed Watson Laboratories in 1945 and subsequently moved to Rome, New York in 1951. A new R&D facility, the Meyer Center (Building 2700), was completed in 1954. R&D activities that had formerly been conducted at Squire Laboratory and some activities from the Evans Area were transferred to the Myer Center. The laboratories within the Myer Center facility developed state of the art electronic and communications equipment for use by the U.S. Armed Forces.

This FOST also covers a portion of the Main Post as shown on Figure 2. This area was primarily used for the Military Academy Prep School as well as office space. This part of the property is considered Property Transfer Parcel B.

It should be noted that certain parts of the CWA will not be included in this FOST as they have either already been transferred (Property Transfer Parcel, Parcel E) or are not ready to be transferred due to on-going evaluation or remediation on these properties and are considered "carve out" areas (see Figure 1, Enclosure 1).

3. ENVIRONMENTAL DOCUMENTATION

A determination of the environmental condition of the property was made based upon the:

- U.S. Army BRAC 2005 Environmental Condition of Property Report Fort Monmouth, Monmouth County, New Jersey, Final, 29 January 2007.
- Fort Monmouth Reuse and Redevelopment Plan, Final Plan, 22 August 2008.
- U.S. Army BRAC 2005 Site Investigation Report Fort Monmouth, Final, 21 July 2008.
- Final Environmental Assessment of the Implementation of Base Realignment and Closure at Fort Monmouth, New Jersey, March 2009.
- Final Finding of No Significant Impact Environmental Assessment of the Disposal and Reuse of Fort Monmouth, New Jersey, February 2010.

- U.S. Army, Environmental Condition of Property Update Report (Phase 1A Properties), Fort Monmouth, Monmouth County, New Jersey, March 21, 2013.

The information provided is a result of a complete search of agency files during the development of these environmental surveys.

A complete list of documents providing information on environmental conditions of the property is attached (Enclosure 2).

4. ENVIRONMENTAL CONDITION OF PROPERTY

The DOD Environmental Condition of Property (ECP) categories for the property are as follows (also see Figures 1 and 2, Enclosure 1). ECP Category definitions are provided on Table 1, Enclosure 3.

ECP Category 1:

- Pine Brook residential housing area, General Storage Warehouse (ECP Parcel 1);
- Golf Course and residential housing (ECP Parcel 9);
- Former residential buildings 2004 – 2012 (ECP Parcel 13);
- Undisturbed area along SW portion of Parkers Creek (ECP Parcel 20);
- Child Development Center, residential housing and former sanitary treatment plant (ECP Parcel 35);
- Southwest section of CWA around buildings 2707 and 2567 (ECP Parcel 27);
- Myers Center (Building 2700) and (ECP Parcel 15 – except for small area around former lime pit CW-2);
- Majority of ECP Parcel 28 (some parts of this parcel are still considered Category 7 due to on-going investigations or are not categorized);
- Former housing areas in the northwest portion of the CWA (ECP Parcel 14 – except for small former tank area in ECP Parcel 14 that is a Category 2); and
- A portion of the Main Post (ECP Parcel 36).

ECP Category 2:

- Sewage Lift Station Building 2603 (FTMM-63) (ECP Parcel 2);
- Former underground storage tank (UST) Building 3050 (ECP Parcel 3);
- Former UST 3027 (ECP Parcel 4);
- Former UST Building 3021 (ECP Parcel 5);
- Underground storage tank (UST) (UST-2043-36) at Building 2043 (ECP Parcel 8),
- Former UST at Building 2000 (ECP Parcel 10),
- UST (UST-2067-37) at Building 2067 (ECP Parcel 11);
- Former #2 fuel oil UST at building 2275, (portion of ECP Parcel 14);
- Former #6 fuel oil USTs (UST-2700-35 thru 39) (ECP Parcel 17);
- Former #2 fuel oil UST (UST-2700-61) (ECP Parcel 18);
- Former #2 fuel oil UST (UST-2337-65) (ECP Parcel 19);
- Former #2 fuel oil UST (UST-2707-40) (ECP Parcel 22);

- Former gasoline USTs (UST-2500-52 thru 56) (ECP Parcel 23);
- Former #2 fuel oil UST (UST-2502-13) (ECP Parcel 24);
- Former #2 fuel oil UST (UST-2503-14) (ECP Parcel 25);
- Former #2 fuel oil UST (UST-2504-15) (ECP Parcel 26);
- Former #2 fuel oil UST (UST-2561-31) (ECP Parcel 29);
- Former gasoline UST (UST-2562-41) (ECP Parcel 30);
- Former #2 fuel oil UST (UST-2537-27) (ECP Parcel 31);
- Former #2 fuel oil UST (UST-2534-24) (ECP Parcel 33); and
- Army & Air Force Exchange Service (AAFES) Gasoline Station (FTMM-58) (ECP Parcel 34).

ECP Category 3:

- Former sludge disposal (ECP Parcel 6); and
- Small portion of ECP Parcel 15 around former lime pit CW-2.

ECP Category 4:

- IRP Site FTMM-28 (CW-6) former pesticide storage Building 2044 and three USTs at Building 2044 (ECP Parcel 7);
- IRP site FTMM-29 (CW-7) former PCB transformer location (ECP Parcel 12);
- A portion of ECP Parcel 16 (CW-1; FTMM-22) that has been remediated (remainder of Parcel 16 is still undergoing remediation and will not be transferred at this time); and
- Former Indoor Small Arms Range (Bldg. T-2537) (ECP Parcel 32).

Uncategorized Property:

- There was a potential underground storage tank located near former Building 2544, but no reports of discharge were noted at this location nor was any report found of the tank removal. Therefore the NJDEP did not provide concurrence on the change to Category 1 for this parcel. The Army has no indication of petroleum release and thus could not designate it a Category 2. Therefore for purposes of this transfer, it is designated as uncharacterized and is shown on Figure 1 as such.

A summary of the ECP categories for specific buildings, parcels, or operable units and the ECP category definitions is provided in Table 1 – Description of Property (Enclosure 3).

4.1 Environmental Remediation Sites

4.1.1 Installation Restoration Program

The Army's program for performing remedial actions is known as the Installation Restoration Program (IRP). Table 4-1 presents the sites at the CWA that have been completed under the IRP.

Table 4-1 Charles Wood Area No Further Action

Installation Restoration Program Sites

AEDB-R Number	Site Name	Status
FTMM-23	CW-2 Wastewater Treatment Lime Pit (within ECP Parcel 15)	No Further Action (NFA) approved by NJDEP (May, 8, 2012 and October 17, 2012)
FTMM-24	CW-3 Suspected Landfill (within ECP Parcel 27)	NFA approved by NJDEP (January 12, 1998)
FTMM-26	CW-4 Indoor Small Arms Range (ECP Parcel 32)	NFA approved by NJDEP (April 26, 2007)
FTMM-27	CW-5 Former Charles Wood Sanitary Treatment Plant (within Parcel 35)	NFA approved by NJDEP (April 4, 1996)
FTMM-28	CW-6 Former Pesticide Storage Building 2044 (ECP Parcel 7)	NFA approved by NJDEP (April 30, 2012)
FTMM-29	CW-7 Former PCB Transformer Location (ECP Parcel 12)	NFA pending NJDEP approval (concurrence letter on draft deed notice January 29, 2013)
FTMM-30	CW-8 Sewage Lift Pumping Station (ECP Parcel 2)	NFA approved by NJDEP (November 7, 1994)
FTMM-31	CW-9 Sludge Disposal Area (ECP Parcel 6)	NFA approved by NJDEP (April 4, 1996)
FTMM-32	AOC-7 Temporary Hazardous Waste Storage Area (within ECP Parcel 27)	NFA approved by NJDEP (April 4, 1996)
FTMM-63	UST, Gasoline, Building 2603 (ECP Parcel 2)	NFA approved by NJDEP (January 10, 2003, March 7, 2012 and May 4, 2012)

Wastewater Treatment Lime Pit (CW-2) – FTMM-23: The CW-2 site is the second wastewater treatment lime pit located next to the Myer Center facility (Building 2700) in the CWA. The CW-2 wastewater treatment lime pit is located on the east side of the Myer Center facility, near the former electrical substation. The lime pit was constructed concurrently with the Myer Center facility in 1952. The pit was designed to treat corrosive wastes generated from laboratory activities within the facility. The pit was a concrete vault measuring 7 by 13 by 8 feet in height and contained limestone chips. Corrosive waste discharge lines originating from the south and east wings of Building 2700 were plumbed to the pit. The effluent discharge line exiting the pit was connected to the sanitary sewer.

In fiscal year 1992, DPW personnel collected limestone and sludge samples from the pit to evaluate the potential for environmental contaminants being present. Analytical testing of the sample material identified elevated levels of organic contaminants. A cleanup action followed, which generated ninety-one 55-gallon drums of RCRA waste. Following the cleanup action, fresh limestone chips were placed into the pit as a precautionary measure. Due to the presence of organic contaminants being identified in the pit prior to the cleanup action, the focus of the site investigation (SI) was to evaluate the potential impact to soil and groundwater. Under the SI phase, soil borings were drilled on each side of the lime pit. In the absence of field instrument readings and visible staining, one soil sample was collected from each boring at an interval just above the water table. In addition, each boring was converted to a monitoring well in order to evaluate groundwater quality.

Both soil and groundwater samples were analyzed for Target Compound List (TCL) + 30 parameters and Target Analyte List (TAL) metals. In reference to the four soil samples, only polychlorinated biphenyls (PCBs) were detected in one soil sample slightly above NJDEP Direct Contact Soil Cleanup Criteria. Tetrachloroethylene (PCE) was detected in one down gradient

monitoring well slightly above NJDEP Groundwater Quality Criteria. As of 2002, 15 consecutive quarterly rounds of groundwater samples had been collected for subsequent analysis. Arsenic and lead were detected in three of the four site monitoring wells above NJDEP Groundwater Quality Criteria. Under the RI phase, a passive soil gas survey commenced at the CW-2 site in December 1995. The purpose of the soil gas survey was to delineate the lateral extent of soil contamination at the site and to use the survey data to aid in the placement of additional monitoring wells if required. Results of the soil gas survey were negative.

A Remedial Investigation (RI) report requesting an NFA determination was submitted to the NJDEP. The CW-2 Wastewater Treatment Lime Pit was demolished in 2002. All limestone was removed from the pit prior to demolition activities. The limestone was properly disposed of. The NJDEP approved the NFA in letters dated May 8, 2012 and October 17, 2012.

Suspected Landfill (CW-3) - FTMM-24: The 1980 Installation Assessment (IA) report identified the CW-3 site as a former landfill area. The suspected landfill is located in the southwestern part of the CWA, otherwise known as the 2600 area. According to the IA report, administrative-type wastes and wood debris were placed into the one-acre landfill during 1940s. Interviews with long-term DPW employees conducted during the preliminary assessment (PA) phase concluded that a landfill did not exist at the site in question. During the 1980s and into the early 1990s, the CW-3 site was utilized as a surface disposal site for the accumulation of construction debris. Materials observed at the site during the PA phase included: concrete, brick, asphalt, wood demolition debris, wood pallets, vegetative debris, metal, and PVC pipes. Cleanup of the construction debris started in October 1994 and was completed in May 1995. On September 25, 1997, DPW personnel excavated 29 test pits at the former surface disposal area. No waste materials were encountered within any of the test pits. The various soil horizons within each test pit were clearly undisturbed. An NFA determination was approved by the NJDEP in a letter dated January 5, 1998.

Indoor Small Arms Range (CW-4) – FTMM-26: An indoor small arms range was located at the CW-4 site in the CWA. The range was a one story concrete structure (Building 2537), built in 1945. Spent rounds and shell casings were visible at the surface of a bare patch of soil approximately 5 feet in diameter northeast of the building. The area of contamination was located within 10 feet of a side entrance to the facility Environmental sampling confirmed the presence of lead in soil at the CW-4 site. Lead levels were identified above the NJDEP Direct Contact Soil Cleanup Criteria. Sampling activities also confirmed that the lead was migrating both horizontally and vertically in soil. The Youth Activity Center (Building 2566) is located approximately 250 feet from the AOC. A Remedial Action (RA) was implemented to remove the spent rounds, casings and contaminated soil from the site thereby eliminating the contaminant of concern.

Cleanup work commenced in June 1997 and was completed in July 1997. Building 2537 has since been demolished.

An RA report was submitted to the NJDEP in October 2005 recommending NFA. A NFA was received from NJDEP on April 26, 2007.

Former Charles Wood Sanitary Treatment Plant (CW-5) - FTMM-27: The former Sanitary Treatment Plant (STP) was located in the center of the CWA, bounded by Hope Road to the east, Corregidor Road to the north, Guam Lane to the west, and Laboratory Road to the south. The STP was built in 1942 to handle 800,000 gallons of sewage per day. As described in the 1980 Initial Assessment (IA), the STP consisted of a grit chamber screen, comminutor, primary and secondary settling tanks, biofilters, and a baffled contact chlorination tank. Sludge was treated in two anaerobic digesters and discharged to under drained sand beds for final drying. Supernatant liquid from digester sludge and drainage from the sand beds were recycled through the STP for additional treatment. The chlorinated effluent was discharged to a tributary of Wampum Brook on the east side of Hope Road. According to the IA and DPW employees, sludge was transported to the CWA golf course and to landfills. The STP was closed on October 29, 1975, when the CWA sewer system was connected to the Northeast Monmouth County Regional Sewerage Authority (NEMCRSA) system. In 1981, all sludges and supernatant liquids were removed from the STP and the facility was cleaned and disinfected. The removal contractor was Modern Transportation Company of Kearny, New Jersey. Mercury used in the distributor seal on the biofilter was removed and disposed of by the Directorate of Logistics. The physical facility was demolished in 1983. In 1993, a youth center was constructed on the site. Under the SI phase, two soil samples were collected in the former area of the sludge drying beds. In addition, one sediment sample was collected from the former wastewater discharge point. All three samples were analyzed for TCL + 30 parameters, TAL metals, and cyanide. No compounds of concern were detected above NJDEP Direct Contact Soil Cleanup Criteria or Sediment Criteria. An NFA determination was approved by the NJDEP in 1996.

Golf Course Pesticide Storage Building 2044 (CW-6) – FTMM-28: Building 2044 was part of a small complex of buildings located in the southwest section of the CWA golf course. The complex also included Building 2070, a large metal shed and two smaller metal igloos. Currently, Buildings 2070, 2071, and 2046 are located in the area as confirmed by the visual site inspection (VSI). Building 2070 is used to store golf course maintenance and landscaping equipment, such as mowers and tractors. Building 2071 is used as the equipment repair facility. Building 2046 is used as a golf cart and equipment wash area (closed loop) and was also used for pesticide mixing until 2001. The golf course maintenance complex may predate the purchase of the golf course by the Army. Pesticides and herbicides may have been stored and mixed in this area prior to Army ownership of the property. The 1980 Installation Assessment (IA) report contains a 1979 inventory of pesticides and herbicides that were used on the golf course and stored in Building 2044. Pesticides that were present in significant quantities include: malathion, floriable sevin, resmithrin, Borocel IV, chlordane, and Dibrom. The IA also discusses a pest control program that was in effect in 1979. The compounds that were used in large quantities include carbaryl (sevin), malathion, chlordane, and diazinon. Some of the herbicides mentioned in the IA include 2,4-dichlorophenoxyacetic acid, Dacthal, 2,4,5-trichlorophenoxyacetic, and sodium arsenite.

The course groundskeeper, who had been part of the grounds crew for 33 years (1960 to 1993) was interviewed during the PA phase. The groundskeeper stated that pesticides and herbicides were also stored inside the two metal igloos and former mixing activities generally

took place directly outside the two igloos. Pesticides and herbicides are not currently stored or mixed on site. The facility has hired an outside contractor to apply pesticides and herbicides.

Under the SI phase, soil borings were completed at two locations where pesticide mixing was documented to occur. Two soil samples were collected from each boring, one surface sample and the other sample from the interval just above the water table. In addition, each boring was converted to a monitoring well in order to evaluate groundwater quality. Both soil and groundwater samples were analyzed for Target Compound List (TCL) + 30 parameters. Dieldrin was identified in one soil sample slightly above NJDEP Direct Contact Soil Cleanup Criteria. Benzene was detected in one groundwater sample above NJDEP Groundwater Quality Criteria. Two additional monitoring wells were installed during the IRP remedial investigation (RI) phase. As of 2002, fifteen consecutive quarterly rounds of groundwater samples had been collected for subsequent analysis. Heptachlor epoxide and arsenic were initially detected in two of the four site monitoring wells above NJDEP Groundwater Quality Criteria. Alpha-chlordane, gamma-chlordane and 4,4'-DDD were also detected in the two monitoring wells; however, said contaminants were identified slightly below the NJDEP Groundwater Quality Criteria.

In a RI Report submitted in 2005, FTMM requested that the NJDEP issue a NFA finding for groundwater at the site. A Supplemental RI report was submitted in November 2011 providing updated information on groundwater sampling as well as compliance averaging for low level pesticides observed in historical samples. The Supplemental RI also requested an NFA for the site. The NJDEP provided an NFA for the site dated April 30, 2012.

Golf Course PCB Site (CW-7) – FTMM-29: The 1980 IA report identified the CW-7 site as a PCB transformer location in the CWA. Prior to its removal, the referenced transformer was located near the front entrance of the Officers Club (Gibbs Hall, Building 2000). The Officers Club is located on the same grounds as the CWA golf course. Prior to 1989, the policy at FTMM was to label all transformers as containing PCBs unless available test data proved otherwise.

Test results for the transformer located at the CW-7 site revealed PCB levels at 223,091 parts per million (ppm). The PCB Class transformer was removed from service on September 10, 1990 and shipped for off-site disposal on September 24, 1990.

Under the SI phase, four surface soil samples were collected to evaluate the potential impact the transformer had on site soils. PCBs were detected above NJDEP Direct Contact Soil Cleanup Criteria in all four samples. The sample with the highest PCB concentration was 204 times greater than the applicable standard. The NJDEP cleanup action level for PCBs in soil is 0.49 mg/kg. Sampling conducted under the SI phase demonstrated that PCBs were migrating horizontally within the soil column.

In May 1996, an RI was implemented to completely delineate PCB levels both horizontally and vertically within the soil column. The RI was a combination of field screening techniques and sample collection for laboratory analysis. Environmental data gathered under the RI phase identified PCBs as migrating both horizontally and vertically within the soil column. A corrective action was implemented to remove the contaminated soil from the site thereby

eliminating the contaminant of concern. Cleanup work commenced in November 1997 and was completed in February 1998. Off-site disposal of PCB-contaminated soils was completed in June 1998.

A RI report was submitted to the NJDEP in September 2004 recommending NFA. Following negotiations with the NJDEP, the Army conducted additional excavation of PCB contaminated soil at the site on July 30, 2008. Confirmation sampling showed that soil above the Non-Residential Direct Contact Soil Remediation Standard (NRDCSRS) was removed from the site. A draft deed notice has been submitted to and approved by the NJDEP on January 31, 2013 and is to be filed once the property actually transfers. The deed notice restricts the use of the property at this site to non-residential use.

Sewage Lift Pumping Station (CW-8) – FTMM-30: The 1980 IA report identified the CW-8 site as a potential AOC in the CWA. The CW-8 site is a sewage lift station (Building 2603) located north of the Wherry Housing area off Pinebrook Road. This site was misidentified in the IA as an STP. There has never been an STP at this site. A 1940 aerial photograph shows this area as being heavily wooded. The sewage lift station was constructed in 1954 when the Wherry Housing area was built to pump sewage into the forced main that went to the CWA STP (CW-5). The lift station building appears on several aerial photographs dating from 1957 through 1986. At present, the sewage lift station is connected to the FTMM sewage collection system. The FTMM sewage collection system ultimately discharges to the Two Rivers Water Reclamation Authority system. An NFA determination was approved by the NJDEP in 1994.

Sludge Disposal Site (CW-9) – FTMM-31: A sludge disposal site (CW-9) as identified in the 1980 IA report was located in the southwest section of the CWA golf course, south and southeast of Building 2070 and west of Green 11 and Tee 12. Since the 1940s, sludge generated from both the MP and CWA STPs were stored in this area before being used as a soil conditioner and fertilizer on the golf course. Sludge piles are visible on aerial photographs dating from 1957 through 1981. Under the SI phase, two monitoring wells were installed, one subsurface soil sample and nine surface soil samples were collected to evaluate the impact to groundwater and soil as a result of past site activities. All samples were analyzed for TCL + 30 parameters and TAL metals. No compounds of concern were detected above NJDEP Direct Contact Soil Cleanup Criteria or Groundwater Quality Standards. An NFA determination was approved by the NJDEP in 1996.

Temporary Hazardous Waste Storage Area (AOC-7) – FTMM-32: This site was identified by the NJDEP as an AOC in a June 8, 1990 letter. A temporary hazardous waste storage area (AOC-7) was located in the southwest section of the CWA. At the time, the site was an unpaved, open, sandy lot, approximately one-acre in size, surrounded by a 7-foot-high fence. The site is just east of Building 2708. According to DPW records, the site was used for a six month period in 1987 for the temporary storage of hazardous waste (in drums).

During the PA phase study, an interview was conducted with the Hazardous Waste Disposal Officer who was present at the time of the drum operation. Comments made by the Disposal Officer confirm that the site was used for a six month period in 1987 to accumulate drums of hazardous waste. Drums were stored on pallets along the interior fence line at the site.

At the end of the six month period, all drums stored at the site were removed by a permitted hazardous waste disposal company. Following this action, the area was no longer used for the temporary storage of hazardous waste. Under the SI phase, six soil borings were drilled at the site and samples collected in order to evaluate the potential impact to site soil as a result of the former hazardous waste accumulation activities. Soil boring locations were biased towards the fence line, which coincides with the areas of drum storage. In the absence of field instrument readings and visible staining, one soil sample was collected from each boring at an interval just above the water table. All six soil samples were analyzed for TCL + 30 parameters and TAL metals. No compounds of concern were detected above NJDEP Direct Contact Soil Cleanup Criteria. An NFA determination was approved by the NJDEP in 1996.

Building 2603 – FTMM-63: Site FTMM-63 is a sewage lift station (Building 2603) located north of the Wherry Housing area off Pinebrook Road in the CWA. At present, the sewage lift station is connected the FTMM sewage collection system. The FTMM sewage collection system ultimately discharges to the Two Rivers Water Reclamation Authority system. On April 14, 1998, a 275-gallon steel UST (#0081515-60) was removed. The tank was used to store diesel fuel. Soils and groundwater within the tank excavation were observed to be impacted by a petroleum substance. The NJDEP hotline was notified and the site was assigned case # 98-04-16-1603-19. Approximately 225 cubic yards (CY) of contaminated soil was removed and disposed of in accordance with NJDEP requirements. A groundwater sample was collected from the excavation prior to being backfilled with certified clean material. The sample was analyzed for TCL + 30 parameters, plus lead. Benzene was detected at a concentration of 20.0 micrograms per liter (µg/L), above the Groundwater Quality Criteria of 1.0 µg/L. Total xylenes were detected at a concentration of 786.1 µg/L, above the Groundwater Quality Criteria of 40.0 µg/L. Ethyl benzene was detected at a concentration of 141.5 µg/L, below the Groundwater Quality Criteria of 700.0 µg/L. Toluene was detected at a concentration of 113.3 µg/L, below the Groundwater Quality Criteria of 1,000 µg/L. Lead was detected at a concentration of 175.0 µg/L, above the Groundwater Quality Criteria of 10.0 µg/L. The referenced contaminants are not generally recognized as being constituents of diesel fuel. However, they are generally recognized as being constituents of gasoline.

It is possible that the site was impacted from an older UST which contained gasoline or possibly an aboveground spill involving gasoline. An unnamed creek located 15 feet down gradient of the tank site was also sampled. The sample was analyzed for TCL + 30 parameters, plus lead. No compounds of concern were identified in the creek sample. A 4-inch monitoring well was installed within the former tank excavation in July 1999.

Two rounds of groundwater samples have since been collected. Samples were analyzed for TCL + 30 parameters and TAL metals. Ethyl benzene, total xylene and lead were detected in both rounds; however, the results are below the NJDEP Groundwater Quality Criteria. Post-excavation soil samples have identified remaining soils as within the NJDEP Residential Direct Contact Soil Cleanup Criteria. Additional soil and groundwater samples were collected and a letter report provided to the NJDEP on November 17, 2011. The lastest report confirmed the conditions required no further action and NJDEP concurred per letter dated May 4, 2012.

* * *

All environmental soil and groundwater remediation activities on the property have been completed or are in place and operating properly and successfully. A summary of the environmental remediation sites is provided in Table 2 – Notification of Hazardous Substance Storage, Release, or Disposal (Enclosure 4).

4.2 Storage, Release, or Disposal of Hazardous Substances

Hazardous substances were released or disposed of on the Property in excess of reportable quantities specified in 40 CFR Part 373. Hazardous substances were released in excess of the 40 CFR 373 reportable quantities at the following sites: Officer's Club, Building 2000 (PCB release CW-7; FTMM-29), former indoor small arms range Building 2537 (lead release; FTMM-26); former lime pit near Building 2700 (volatile organic compounds from former lime pit CW-1; FTMM-22). The release or disposal of these hazardous substances was remediated at the time of the release or as part of the Installation Restoration Program (IRP). Most of the impacted soil was remediated. A small quantity of soil above the NJDEP Residential Direct Contact Soil Cleanup Criteria remains in place at FTMM-29 (Building 2000). See Section 4.1 Environmental Remediation Sites for additional information. A summary of the buildings or areas in which hazardous substance activities occurred is provided in Table 2 – Notification of Hazardous Substance Storage, Release, or Disposal (Enclosure 4). The CERCLA 120(h)(3) Notice, Description, and Covenant at Enclosure 7 will be included in the Deed.

Hazardous substances were stored on the Property in excess of the 40 CFR 373 reportable quantities at Building 2700 (fire suppression system compound (Halon 1301) and at Building 2043 (storage and mixing of pesticides in unknown quantities; FTMM-28).

Below is a list with descriptions of areas used for temporary storage (less than one year) of hazardous substances within the CWA. All hazardous substance storage operations have been terminated on the Property.

Building 2708 – CWA Temporary Hazardous Waste Storage Area

Temporary storage of hazardous waste in drums took place at this building over a 6 month period in 1987. No spills occurred and the practice at this building was discontinued.

Building 2630, 2631, & 2632 – CWA Central Hazardous Waste Storage Area

The central 90-day hazardous waste storage area at CWA was located at Buildings 2630, 2631, and 2632. The storage area consists of three prefabricated storage buildings and one outside drum storage pad. All four structures are situated on a concrete reinforced pad. Thirteen buildings house satellite accumulation areas in the CWA. Each building typically contains multiple satellite accumulation areas.

Buildings 2070 and 2071 – Charles Wood Area Golf Course

Building 2070 serves as a storage area for vehicles and equipment used in the upkeep of the FTMM Golf Course. Also located at this building are six satellite accumulation areas for exempt, universal, and nonhazardous waste.

Buildings 2506/2507 – Vehicle Component Fabrication Staging Area

This large outdoor area consists of Buildings 2506 and 2507 and the surrounding area. Building 2506 formerly housed FTMM's only paint booth used in the painting of Army equipment. Building 2507 is used for the installation of equipment (i.e., electronics, antennas, etc.) in Army vehicles. Some of the installation work is conducted outside of the building. Building 2507 contains three vehicle access bays with one having a concrete pad in front of the bay for the temporary holding of Army vehicles/equipment awaiting access to the building for work. The entire area is paved with asphalt and was used for the storage of Army vehicles (Humvees and Jeeps) and equipment, materials, and a satellite accumulation area. One storm drain outfall is located just southwest of the site on the south end of the RR tracks.

According to the latest revision of the Storm water Pollution Prevention Plan (SPPP), in addition to the Army vehicles and equipment, two Twin Poly-Pacs were used at Building 2507. One Poly-Pac housed a 5-gallon pail used in the collection of waste aerosol lubricant cans and a 55-gallon drum was used in the collection of spent antifreeze. The second Poly-Pac housed a 30-gallon drum used in the collection of oily rags and a 55-gallon drum used in the collection of oil spill debris. In addition, a 4-drum Poly-Pac was used at the site to temporarily store lead acid batteries. A 95-gallon over pack drum housed a 30-gallon drum used in the collection of off-spec gasoline. All referenced containers/drums were managed under the DPW hazardous waste management program. The site was in total compliance with applicable regulations.

No outside storage of waste materials took place at Building 2506. A 5-gallon pail used for the collection of waste aerosol lubricant cans and a fiber drum used in the collection of spent fluorescent lamps was located inside Building 2506. All referenced containers/drums were managed under the DPW hazardous waste management program. The site was in total compliance with applicable regulations. A total of four Army metal equipment shelters were stored along the north side of Building 2506. A 100-gallon metal diesel fuel tank on a concrete pad and five gasoline cans were also stored on the concrete pad along the north fence line. A locked and rusted metal flammable storage cabinet labeled methanol was also present. The VSI conducted in 2006 as part of the ECP identified the same storage structures.

4.3 Petroleum and Petroleum Products

4.3.1 Underground and Above-Ground Storage Tanks (UST/AST)

The primary fuels used throughout the history of FTMM have been coal, fuel oil, diesel, and gasoline. Until the early 1990s, the primary method of heating for FTMM had been through the use of heating oil. The majority of structures at FTMM were heated by oil burners fired by oil stored in USTs for that individual building. From the 1940s through the 1980s, FTMM utilized USTs/ASTs as the primary fuel storage method. Fuels were brought in by rail and staged in very large ASTs prior to being transported to the individual USTs. The large ASTs used to stage the fuel were at the MP. In the early 1990s, the FTMM DPW developed a UST

program for managing approximately 474 USTs throughout the FTMM installation (MP and CWA). This program was created to work toward replacing the use of heating oil as a major energy source and to convert to natural gas. The DPW's approach involved installing new gas lines and new gas-fed boilers and removing the out of service USTs. Only 13 USTs remain in service at MP and CWA, none of which are used to store heating oil. All buildings at the MP and CWA are heated by means of natural gas with the exception of several buildings that are heated and cooled through geothermal heating and cooling systems.

Current UST/AST Sites – There are no current USTs remaining at the CWA or Parcel B of the Main Post. There are fifteen current ASTs at the CWA (most no longer being used) and none at Parcel B of the Main Post. No leaks from the current ASTs at the CWA have been reported. Table 3, Enclosure 5 includes a summary of the ASTs on the property.

Former UST Sites – A total of approximately 103 USTs previously existed at the remaining CWA and Parcel B of the Main post. Table 3, Enclosure 5 includes a summary of the former USTs on the property and the status of the tanks.

Reported Releases from USTs

Petroleum product releases occurred at the following sites: Industrial Building 2044 and 2043; Residential Buildings 2067, 2275, and 2337; Buildings 2500, 2502, 2503, 2537, 2546, 2562, 2567, 2603, 2700, 2707; and Residential Buildings 3021, 3027, and 3050. The release of these petroleum products was remediated at the time of the release or as part of the UST closure.

A summary of the UST petroleum product activities is provided in Table 3 – Notification of Petroleum Products Storage, Release, or Disposal (Enclosure 5).

4.3.2 Non-UST/AST Storage, Release, or Disposal of Petroleum Products

Buildings 2070 and 2071 – Charles Wood Area Golf Course

Building 2070 (discussed above) serves as a storage area for vehicles and equipment used in the upkeep of the FTMM Golf Course. Small containers of fuel were stored in the flammables storage cabinet. Maintenance and repairs are made to both equipment and vehicles at Building 2071. Used oil and fuel filters, and oily rags were generated during repair operations. Various quantities of motor oil were stored in the building on shelves and in flammable storage cabinets.

There was non-UST/AST storage of petroleum products in excess of 55 gallons for one year or more on the property (see Buildings 2070 and 2071 above). The petroleum was used for the following types of activities: fueling and maintaining equipment. There was no evidence of petroleum releases in excess of 55 gallons as a result of these activities.

Buildings 2506/2507 – Vehicle Component Fabrication Staging Area.

As discussed above, according to the latest revision of the SPPP, in addition to the Army vehicles and equipment, a 95-gallon over pack drum housed a 30-gallon drum used in the

collection of off-spec gasoline. A 100-gallon metal diesel fuel tank on a concrete pad and five gasoline cans were also stored on the concrete pad along the north fence line. A locked and rusted metal flammable storage cabinet labeled methanol was also present.

A summary of the non-UST/AST petroleum activities is provided in Table 3 – Notification of Petroleum Products Storage, Release, or Disposal (Enclosure 5).

4.4 Polychlorinated Biphenyls (PCB)

PCB-Class oils are defined by TSCA as oils containing 500 ppm PCBs or greater. PCB-contaminated oils are defined by TSCA as oils containing between 50 ppm and 499 ppm of PCBs. Non-PCB oils are defined by TSCA as oils containing less than 50 ppm PCBs. Electrical oil having PCB concentrations at or less than 49 ppm is considered a Class D recyclable material in the state of New Jersey.

The CWA had approximately 254 oil-filled pieces of electrical equipment of which 171 units were pole mounted and 83 pieces were outside pad mounted units. Two electrical substations were located in the CWA. Following a program at FTMM to test electrical equipment for PCB oil and replace PCB oil when found, there are no remaining PCB-class pieces of equipment (containing oils with greater than 50 ppm PCBs) at the CWA or in Parcel B on the Main Post.

Officer's Club, Building 2000

The pad mounted transformer in front of Building 2000 leaked oil containing PCBs in the soil north of the building. Several phases of investigation and remediation were conducted at the site. Soils exceeding the Residential Direct Contact Soil Cleanup Criteria (RDCSCC) of 0.49 milligrams per kilogram (mg/Kg) but below the Non-Residential Direct Contact Soil Cleanup Criteria (NRDCSCC) of 2 mg/Kg were left in place in the subsurface at the site (see Section 4.1.2). The approved Draft Deed Restriction will be filed once the property has been transferred.

The deed will include the PCB notice covenant included in Enclosure 7.

4.5 Asbestos

Four phases of asbestos surveys were completed for FTMM. The majority of surveys took place from 1989 to 1992 and from 1997 to 2002. The surveys included all walkthrough and similar buildings. Walkthrough surveys were conducted for the purpose of establishing whether the "walkthrough" building is similar to the reference building with respect to construction and suspect materials. The data presented on the walkthrough and similar buildings provided a general guideline on the type and quantity of ACM that can be found in these buildings. The data was used as a management tool.

Appendix H of the ECP includes the asbestos survey status of the buildings in the CWA and on Parcel B of the Main Post. As part of the property transfer process, re-inspections of buildings were performed in June and July of 2013 for buildings that contained friable asbestos

or where no previous survey had been completed. Asbestos Containing Material Building Summary, Table 4, Enclosure 6 provides a summary of the presence of ACM and its condition based on Appendix H of the ECP, the ACM data base maintained by the installation and the re-inspections performed in June and July 2013.

There is asbestos-containing material (ACM) in the buildings as listed in Table 4, Enclosure 6. The ACM includes floor tiles, pipe insulation, duct insulation, mastic materials, wall board, transite boards, and boiler and tank insulation.

Any remaining friable asbestos that has not been removed or encapsulated will not present an unacceptable risk to human health because the grantee will be responsible for abating any remaining friable asbestos which poses a risk due to its condition or location. It should be noted that the buildings on the Howard Commons property, which contain ACM, are slated for demolition after transfer. The transferee will be responsible for proper removal and disposal of all ACM prior to demolition, and no occupancy of these buildings will be permitted prior to demolition. The deed will include the asbestos warning and covenant included in Enclosure 7.

4.6 Lead-Based Paint (LBP)

Most facilities and buildings at FTMM were constructed before the DoD ban on the use of lead based paint (LBP) in 1978 and are likely to contain one or more coats of such paint. In addition, some facilities constructed immediately after the ban may also contain LBP, because inventories of such paints that were in the supply network were likely to have been used up at these facilities.

The first LBP Risk Assessment was conducted in 1996. Residential buildings were assessed. A list of the residential buildings in the CWA and their status in regard to lead based paint abatement is presented in Table 4.2. See ADS Environmental. Fort Monmouth Lead Hazard Assessment Project Summary prepared for Fort Monmouth DPW. July 16, 1996 for additional information.

Table 4.2
Fort Monmouth, Charles Wood Area and Parcel B
Housing Lead Based Paint Abatement Status

Building	Category	Description	Year Built	Address	Abatement
2022	Residential	Family Housing	1951	1-3 Megill	None
2023	Residential	Family Housing	1949	5-7 Megill	None
2024	Residential	Family Housing	1949	9-11 Megill	Exterior LBP encapsulated
2025	Residential	Family Housing	1949	13-15 Megill	None
2026	Residential	Family Housing	1949	19-21 Megill	Exterior LBP encapsulated
2027	Residential	Family Housing	1949	21-23 Megill	None
2028	Residential	Family Housing	1949	25-27 Megill	Exterior LBP encapsulated
2029	Residential	Family Housing	1949	29-31 Megill	None
2030	Residential	Family Housing	1949	33-35 Megill	Exterior LBP encapsulated

Building	Category	Description	Year Built	Address	Abatement
2031	Residential	Family Housing	1949	49-51 Megill	Exterior LBP encapsulated
2032	Residential	Family Housing	1949	45-47 Megill	None
2033	Residential	Family Housing	1949	41-43 Megill	Exterior LBP encapsulated
2034	Residential	Family Housing	1949	37-39 Megill	Exterior LBP encapsulated
2035	Residential	Family Housing	1949	40-42 Megill	None
2036	Residential	Family Housing	1949	44-46 Megill	Exterior LBP encapsulated
2037	Residential	Family Housing	1949	48-50 Megill	None
2038	Residential	Family Housing	1951	36-38 Megill	Exterior LBP encapsulated
2039	Residential	Family Housing	1951	56-58 Megill	None
2040	Residential	Family Housing	1951	52-54 Megill	None
2041	Residential	Family Housing	1951	63-65 Megill	None
2042	Residential	Family Housing	1951	59-61 Megill	Exterior LBP encapsulated
2231	Residential	Family Housing	1955	384-392 Hope Road	None
2232	Residential	Family Housing	1955	368-376 Hope Road	None
2233	Residential	Family Housing	1955	352-360 Hope Road	None
2234	Residential	Family Housing	1955	336-344 Hope Road	None
2235	Residential	Family Housing	1955	19-21 Hemphill	None
2236	Residential	Family Housing	1955	18-20 Hemphill	None
2237	Residential	Family Housing	1955	23-25 Hemphill	None
2238	Residential	Family Housing	1955	22-24 Hemphill	None
2239	Residential	Family Housing	1955	27-29 Hemphill	None
2240	Residential	Family Housing	1955	26-29 Hemphill	None
2241	Residential	Child Care Center	1960	Child Care Center	None
2260	Residential	Family Housing	1955		None
3001	Residential	Housing	1953		None
3002	Residential	Housing	1953		None
3003	Residential	Housing	1953		None
3004	Residential	Housing	1953		None
3005	Residential	Housing	1953		None
3006	Residential	Housing	1953		None
3007	Residential	Housing	1953		None
3008	Residential	Housing	1953		None
3009	Residential	Housing	1953		None
3010	Residential	Housing	1953		None
3011	Residential	Housing	1953		None
3012	Residential	Housing	1953		None
3013	Residential	Housing	1953		None
3014	Residential	Housing	1953		None
3015	Residential	Housing	1953		None
3016	Residential	Housing	1953		None
3017	Residential	Housing	1953		None
3018	Residential	Housing	1953		None
3019	Residential	Housing	1953		None
3020	Residential	Housing	1953		None
3021	Residential	Housing	1953		None
3022	Residential	Housing	1953		None
3023	Residential	Housing	1953		None
3024	Residential	Housing	1953		None
3025	Residential	Housing	1953		None
3026	Residential	Housing	1953		None
3027	Residential	Housing	1953		None
3028	Residential	Housing	1953		None

Building	Category	Description	Year Built	Address	Abatement
3029	Residential	Housing	1953		None
3030	Residential	Housing	1953		None
3031	Residential	Housing	1953		None
3032	Residential	Housing	1953		None
3033	Residential	Housing	1953		None
3034	Residential	Housing	1953		None
3035	Residential	Housing	1953		None
3036	Residential	Housing	1953		None
3037	Residential	Housing	1953		None
3038	Residential	Housing	1953		None
3039	Residential	Housing	1953		None
3040	Residential	Housing	1953		None
3041	Residential	Housing	1953		None
3042	Residential	Housing	1953		None
3043	Residential	Housing	1953		None
3044	Residential	Housing	1953		None
3045	Residential	Housing	1953		None
3046	Residential	Housing	1953		None
3047	Residential	Housing	1953		None
3048	Residential	Housing	1953		None
3049	Residential	Housing	1953		None
3050	Residential	Housing	1953		None
3051	Residential	Housing	1953		None
3052	Residential	Housing	1953		None

The residential units in the CWA all contain LBP and at Parcel B. No LBP survey work has been conducted at the non-residential buildings at the CWA or at the buildings in Parcel B but based on their age it is assumed that these buildings also contain LBP.

The grantee may use the housing at the golf course for residential purposes. An updated LBP inspection was performed in 2011 for the golf course housing (Buildings 2022 to 2042) and confirmed the presence of LBP. An updated LBP risk assessment will be performed for the housing at the golf course as this may remain as residential use after the property has been transferred.

The grantee does not intend on using the Howard Commons housing for residential purposes in the future. The Howard Commons housing is slated for demolition after the transfer and as such will not be subject to further LBP evaluation.

The deed will include a lead-based paint warning and covenant (Enclosure 8).

4.7 Radiological Materials

The presence of Radiological Materials (RAM) at the CWA has been predominantly limited to certain areas and functions of the installation. Historically, laboratory R&D in the areas of radio and electronics use of vacuum tubes and radium dials, the use of ionizing radiation-producing machines, and military support equipment such as night vision goggles that

contain radioactive commodities, have been among the most common uses of RAM. Facilities, buildings, and rooms that contain or once contained equipment that produce X-rays via AC or DC sources of energy are not sources of radioactive contamination. This equipment, which includes medical and dental diagnostic X-ray machines, X-ray security inspection machines, X-ray diffraction, electron microscopes, X-ray fluorescence equipment, and some high voltage electron tubes, only produce ionizing radiation when energized. Operation of this equipment will result in ionizing radiation fields being produced in and around the equipment only while activated, but will not result in radioactive contamination. Much of the activities of the past were performed as part of the Signal Corps Laboratories in the Myer Center (Building 2700).

The research laboratory in Building 2540 was the only site to regularly use and store RAM as part of the R&D activities performed at the CWA. A designated storage area was set aside for drums containing material awaiting disposal, including tritium exit signs removed from CWA buildings, smoke alarms containing RAM, and other instruments with associated check sources. These items were periodically removed to Wright Patterson Air Force Base for disposal/recycling. Floor drains in Building 2540 are connected to the sanitary sewer.

Throughout FTMM, equipment containing RAM was noted, particularly as used in chemical and explosives detectors operated by personnel working in security entrance areas, postal facilities, emergency responders, and shipping areas. Electron Capture Detectors containing Ni-63 were used in the Environmental Laboratory to analyze samples for pesticides and PCBs. All of these types of equipment involve the use of sealed sources rather than research-type materials. Sealed sources are also not generally sources of radiological contamination.

Nine buildings, building complexes, or open areas at CWA have been identified as areas where RAM was used, stored, or potentially disposed. Historical information was reviewed to determine if there was sufficient data to declare buildings as “Impacted” or “Non-Impacted” in accordance with Multi- Agency Radiation Survey and Site Investigation Manual (MARSSIM) methodology. According to MARSSIM, areas are divided into risk categories defined as follows:

- Impacted (MARSSIM Class 1 and 2) – Areas with moderate to high probabilities of potential contamination.
- Impacted (MARSSIM Class 3) – Areas with very low potential for contamination but with insufficient information to justify a non-impacted classification.
- Non-Impacted (No Survey Needed) – Areas with no potential for residual contamination.

A summary of the buildings or areas where RAM was used, stored, or potentially disposed at the CWA is provided in Table 4.3.

Table 4.3
CWA Building/Areas with RAM Use/Storage History

Building Number	Classification	Building/Area Name & Use	Current Tenant and Condition
2535	Non-Impacted	Battery Test Facility	Existing; battery testing facility.

Building Number	Classification	Building/Area Name & Use	Current Tenant and Condition
2502-2507	Non-Impacted	Fabrication and Integration	Exiting; U.S. Army Communications, Engineering, Research, and Development Center (CERDEC) (former Army Research Laboratory (ARL)) fabrication and integration of materials into military vehicles.
2539	Non-Impacted	Communications and Electronics Command (CECOM) Laboratory	Existing; research and development laboratory.
2540	Impacted MARSSIM Class 1	CECOM Laboratory	Existing; research and development laboratory.
2541	Impacted MARSSIM Class 1	CECOM Laboratory	Existing; research and development laboratory.
2560	Non-Impacted	CWA Fire Department	Existing; FTMM fire department. The building is in new condition.
2700	Non-Impacted	Myers Center (Administrative)	Existing; once used explosive detectors conditions testing facility.
2701	Non-Impacted	CWA Entry Area	Existing; once used explosive detectors containing sources, have been removed.
2704	Non-Impacted	Environmental Test Facility	Existing; military environmental conditions testing facility.
2705	Non-Impacted	CERDEC	Existing; formerly contained a Night Vision lab and had radioactive source use, currently administrative.

The Historical Site Assessment (HSA) and its Addendum identified Buildings 2540 and 2541 as Impacted areas and as such these areas were subject to a radiological survey (Final Status Survey Report (FSSR), Fort Monmouth, U.S. Army Corps of Engineers, August 15, 2012). The FSSR concluded that based on the historical research and the FSS field observations and supporting laboratory analytical data, all buildings surveyed were considered suitable for unrestricted use in accordance with Subpart E to 10 CFR 20, Radiological Criteria for License Termination. There was no evidence of any release of radiological materials at these buildings.

4.8 Radon

Radon surveys were conducted in 1991 by the Directorate of Engineering and Housing's Environmental Office as part of the Army's Radon Reduction Program. The survey was conducted for all of FTMM. Radon detectors were deployed in all structures designated as priority one buildings (daycare centers, hospitals, schools and living areas). Radon was not detected at above the EPA residential action level of 4 picocuries per liter (pCi/L) in any of the buildings on FTMM.

4.9 Munitions and Explosives of Concern (MEC)

Based on a review of existing records and available information, there is no evidence that Munitions and Explosives of Concern (MEC) are present at the CWA or at Parcel B. A Historic

Records Review (HRR) conducted in 2006 did not find any record of range or other activities that would result in MEC or explosives contamination on the CWA or at Parcel B. The term "MEC" means military munitions that may pose unique explosives safety risks, including: (A) unexploded ordnance (UXO), as defined in 10 U.S.C. §101(e)(5); (B) discarded military munitions (DMM), as defined in 10 U.S.C. §2710(e)(2); or (C) munitions constituents (e.g., TNT, RDX), as defined in 10 U.S.C. §2710(e)(3), present in high enough concentrations to pose an explosive hazard.

4.10 Other Property Conditions

The following conditions also exist on the property:

Photo Processing

Photo processing took place in CWA Buildings 2700, 2705, and 2525. According to the 1974 Industrial Hygiene survey, photo processing was being conducted in all three of these buildings. The operations in Buildings 2705 and 2525 has ceased by 1980. The 2006 visual site inspection (VSI) confirmed that both of these buildings had been completely renovated. The photo processing operations were conducted on a large scale and over a long time period in Building 2700. This operation may have discharged photo chemicals to the sanitary sewer prior to modern waste handling procedures being implemented. The 2006 VSI indicated that the chemical photo processing operation in Building 2700 had been converted to digital photo processing.

Former Laboratories

Environmental concerns associated with laboratories include the use of solvents, X-ray developer, and mercury when waste handling procedures may not have been sufficiently protective to preclude a release to the environment.

- Former Eatontown Laboratory Area in Building 2525: Aviation Research and Development Command (AVRADCOM) electronic and chemical laboratories were transferred to Building 2525 from the Myer Center. Facility personnel reported that additional chemical and electronic laboratories were housed in this building both prior and subsequent to AVRADCOM. The entire building has been renovated since its laboratory days and is currently used in an administrative capacity. A review of the DPW map and engineering drawings repository indicated a 2-inch "acid proof drain" leading from Bay 1 to a dry well southeast of the building. Floor drains were shown to have discharged into the brook northwest of the building. The main sanitary sewer line from the building is shown to have discharged to a septic tank and leach field east of the building. Building revitalization plans show all floor drains were later connected to the sanitary sewer system.

- Battery Testing Operation in Building 2535: Battery testing had been conducted in the Area of Building 2535 since the early 1940s. Battery tests were carried out in trailers in the Area of Building 2535. If a battery test failed, the battery may have released its contents. Although the latest operations used modern waste handling procedures, historically this may not have been the case.

- Laboratory Operations at the Myer Center in Building 2700. Building 2700 has an extensive history of laboratory operations. These operations have resulted in releases that are addressed within the installation restoration program earlier in this section.

Building 2704 Environmental Test Chamber Facility

Building 2704 has been used as an environmental test chamber since 1965. Chemical use in this building is limited to hydraulic fluid and standard shop chemicals (i.e., petroleum-based solvents, oils and greases). Modern waste handling practices have been in use at the facility, but historical waste handling practices are unknown.

Sanitary Sewer System

Currently, FTMM maintains a sewage collection system that consists of approximately 23 miles of underground distribution lines and 19 sewage pump stations. Five of the pump stations are located at CWA. The sewage collection system ultimately connects to the local sewerage authority (Two Rivers Water Reclamation Authority) at two connection points, one at the MP and one at CWA. Analytical sampling conducted in mid-2002 of the sewage discharge at both junction points indicated that FTMM is not a significant industrial user and does not require any treatment of the discharge nor does FTMM require a significant industrial user permit from the NJDEP.

Prior to the current configuration of the sewage system, FTMM maintained two government-owned sewage treatment plants (STPs). One STP was located on MP and the other on CWA. The CWA STP was constructed in 1942. Sewage was treated at government owned plants until 1975 when the FTMM collection system was tied into the regional system. Review of FTMM engineering drawings as part of the ECP there were numerous sinks and floor drains tied into the sanitary sewage collection system at laboratories and testing facilities. Because these connections to the sewage collection system were made prior to modern waste handling procedures, discharge of hazardous substances to the collection system was likely. Of particular concern is the potential for recalcitrant chemical such as mercury. The STP at the CWA was closed in 1975 and demolished in 1983 and a NFA for the closure was received from the NJDEP in 1996.

Mold

During the recent site inspection for the ECP Update Report mold was observed in the basement of Building 2700.

5. ADJACENT PROPERTY CONDITIONS

There are no conditions adjacent to the property that present an unacceptable risk to human health and the environment.

There are several areas throughout the remainder of the CWA that are not considered for transfer at this time. These areas are shown on Figure 1 and are identified as "Carve Outs". "Carve Outs" are areas which either are currently undergoing remediation and are not ready for transfer or are areas that require further investigations.

5.1 Carve Out Areas Needing Further Remediation

There are three active Installation Restoration Program (IRP) sites on the CWA property that are considered "Carve Outs". The IRP sites are: FTMM-22 CW-1 Wastewater Treatment Lime Pit; FTMM-25 CW-3A Landfill 3A; and FTMM-58 Army and Air Force Exchange Service (AAFES) gas station, Building 2567.

Wastewater Treatment Lime Pit (CW-1) – FTMM-22: The CW-1 site is one of two wastewater treatment lime pits located next to the Myer Center facility (Building 2700) in the CWA. The Myer Center facility is located at the intersection of Pearl Harbor Avenue and Corregidor Road. The CW-1 wastewater treatment lime pit is in the courtyard area of Building 2700. The wastewater treatment lime pit was constructed concurrently with the Myer Center facility in 1952. The pit was designed to treat corrosive wastes generated from laboratory activities within the facility. The pit was a concrete vault measuring 7 by 13 by 8 feet in height and contained limestone chips. Corrosive waste discharge lines originating from the north and west wings of Building 2700 were plumbed to the pit. The effluent discharge line exiting the pit was connected to the sanitary sewer. In fiscal year 1992, Department of Public Works (DPW) personnel collected limestone and sludge samples from the pit to evaluate the potential for environmental contaminants being present. Analytical testing of the sample material identified elevated levels of organic contaminants.

A cleanup action followed which generated ninety-two 55-gallon drums of RCRA waste. Following the cleanup action, fresh limestone chips were placed into the pit as a precautionary measure. Current hazardous waste management practices prohibit the discharge of corrosive wastes into the wastewater treatment lime pit system. Due to the presence of elevated levels of organic contaminants being identified in the pit prior to the cleanup action, the focus of the Site Inspection (SI) was to evaluate the potential impact to soil and groundwater.

Under the SI phase, soil borings were drilled on each side of the lime pit. In the absence of field instrument readings and visible staining, one soil sample was collected from each boring at an interval just above the water table. In addition, each boring was converted to a monitoring well in order to evaluate groundwater quality. Both soil and groundwater samples were analyzed for TCL + 30 parameters and TAL metals. In reference to the four soil samples, no compounds of concern were detected above NJDEP Direct Contact Soil Cleanup Criteria. Trichloroethene (TCE), tetrachloroethene (PCE), and 1,2-dichloroethene (1,2-DCE) were detected in down gradient monitoring wells above NJDEP Groundwater Quality Criteria. At their peak, contaminant levels within the groundwater were 7,440 times higher than the NJDEP Groundwater Quality Criteria.

Under the RI phase, a passive soil gas survey was conducted at the CW-1 site in March 1996 to delineate the lateral extent of soil contamination at the site and aid in the placement of

additional monitoring wells. Results of the soil gas survey determined that compounds of concern were migrating horizontally in site soil. Three new monitoring wells were installed at the CW-1 site during the first week of May 1996. One deep well was installed next to the lime pit to determine the vertical extent of contamination both in soil and groundwater. The other two wells were placed down gradient of the contaminant plume. The RI phase delineated the vertical and horizontal extent of the contaminant plume.

At present, the contaminant plume has not encroached upon the Myer Center facility. However, the down gradient migration pathway for said contaminants is in the direction of the referenced building. It should be noted that the Myer Center facility has a basement level.

A remedial design was completed and approved by the NJDEP in August 1997. The selected remedial technologies involved using a combination of air sparging and soil vapor extraction (SVE) techniques. Construction of the selected remedial alternative was completed in April 1998. In January 2002, two groundwater recovery wells (RW-1 & RW-2) were installed in the source area and two additional air sparge points (SPG-3 and SPG-4) were installed to further enhance source area remediation. Groundwater recovery system wells RW-1 and RW-2 were connected to a newly constructed groundwater treatment system (GWTS). The GWTS was designed to capture and treat contaminated groundwater in the source area and reduce the elevated concentrations of detected chlorinated hydrocarbons as well as achieve hydraulic control in the source area and beyond. The GWTS utilized an air stripper to remove dissolved-phase chlorinated hydrocarbons from impacted groundwater extracted from the recovery wells. The air stripper effluent was polished via two in-series 500-pound granular activated carbon units prior to final discharge to the sanitary sewer.

In addition to groundwater extraction, recovery wells RW-1 and RW-2 and source area monitoring wells MW-28 and MW-29 were tied into the SVE system to further enhance removal of vapor phase chlorinated hydrocarbons in the source area. Air sparge wells SPG-1, SPG-2, SPG-3, and SPG-4 were installed to enhance the stripping of volatile chlorinated hydrocarbons from source area groundwater, where they were subsequently captured by the vapor extraction at RW-1, RW-2, MW-28, MW-29, SVE-1, and SVE- 2. The vapor phase carbon units were upgraded from two in-series 55-gallon drums to two in-series 1,000-pound vapor phase units capable of a substantial SVE airflow increase. The flow upgrade resulted in a substantial increase of contaminant mass removal rates. As part of the 2002 system upgrade, the wastewater treatment lime pit was demolished (sidewalls removed but bottom of pit remained in place) and all existing limestone was removed and properly disposed of. A new sewer pipe was installed in order to maintain the existing sewer connection.

The GWTS was turned off in May of 2005 based upon available groundwater data. To date, the GWTS remains inactive. The installation continued remediation by injecting Hydrogen Release Compound (HRC) into site groundwater during FY07 and FY08 with the goal of achieving groundwater compliance by FY10. Subsequently the installation injected continued remediation by injecting Regenox in 2010 and 2011. A letter report dated November 18, 2011covering this latest action was provided to the NJDEP. The letter recommended that an updated RI/FS be performed to identify a remedy to complete the remediation of the site since

low levels of VOCs still remain in the groundwater in this area. The RI/FS work is currently underway.

Suspected Landfill (CW-3A) – FTMM-25: The CW-3A site was identified as a suspected landfill area during the PA phase study. Interviews with long-term DPW employees suggested that a former landfill might be present at the site in question. The suspected landfill is located north of the Pulse Power facility (Building 2707) which is also located in the southwestern part of the CWA.

On September 25, 1997, several test pits were excavated at the CW-3A site to ascertain whether the site was previously utilized as a landfill. Upon excavating the test pits, waste materials, mostly in the form of construction debris, were observed within the test pits. The debris itself consisted of concrete, asphalt, brick, wood, glass, and assorted scrap metals. Coal ash was also observed within each of the test pits.

To further evaluate the potential impact the landfill may have had on site soils and groundwater; four shallow monitoring wells were installed at the site. During monitoring well construction, continuous split spoon soil samples were collected in 4-foot increments. Based upon field observations and measurements, soil samples were collected at the following intervals: 0 to 6 inches, 18 to 24 inches, and just above the water table. Samples collected at the 18- to 24-inch interval were collected solely for VOAs to include a gas chromatography/mass spectrometry library search. Samples collected at the 0- to 6-inch interval were analyzed for TCL + 30 parameters, minus the VOA parameters, TAL metals, and cyanide. Samples collected just above the water table were analyzed for TCL + 30 parameters, TAL metals, and cyanide. A coal ash sample was also collected on December 17, 1997, and was analyzed for TCL + 30 parameters, TAL metals, and cyanide. During the week of January 12, 1998, groundwater samples were collected from each of the four wells. A second round of groundwater samples was collected during the week of January 26, 1998. All groundwater samples were analyzed for TCL + 30 parameters, TAL metals, and cyanide.

Benzo(a)anthracene, benzo(a)pyrene, and cadmium were detected within site soils slightly above NJDEP Direct Contact Soil Cleanup Criteria. Benzene and lead were detected in three down gradient monitoring wells slightly above NJDEP Groundwater Quality Criteria. Arsenic, chromium, and lead were detected in one up gradient monitoring well slightly above NJDEP Groundwater Quality Criteria. As of 2002, eight consecutive quarterly rounds of groundwater samples had been collected for subsequent analysis. A second RI that evaluated the potential for the presence of environmental contaminants within the existing landfill cover material was also completed.

The RI report that evaluates subsurface soils and groundwater was submitted to the NJDEP in May of 2005. The RI report that evaluates near surface soils was submitted to the NJDEP in March of 2004. The current action at this site is an RI/FS that is currently underway.

AAFES Gas Station, Building 2567 – FTMM-58: Site FTMM-58 was a gasoline service station operated by the AAFES organization. The station was located at the corner of Hope Road and Laboratory Road in the CWA. Five single walled steel underground storage tanks (USTs) were removed as part of a renovation project that was initiated as a result of one UST failing a tightness test. At the time, a determination was made to remove the existing tank system and replace it with a new fiberglass double-walled tank system. The tank system was removed (February 1993) and approximately 1,000 cubic yards (CY) of petroleum contaminated soil was excavated and stock piled for off-site disposal. A Preliminary Assessment (PA) was conducted at the site and five monitoring wells were installed. Groundwater samples have been collected and analyzed for volatile organic analysis (VOA) + 15 and lead. Benzene, 1,2-DCE, methyl tert-butyl ether (MTBE), and lead were initially detected above NJDEP Groundwater Quality Criteria.

Subsequently, consecutive quarterly rounds of groundwater samples have been collected for analysis. Benzene, xylene, tert-butyl alcohol, and MTBE were detected in two of the five site monitoring wells above NJDEP Groundwater Quality Criteria. A remedial design that addresses groundwater contamination was submitted to the NJDEP. The remedial alternative approach selected for the Building 2567 site involved the use of monitored natural attenuation (MNA). A Classified Exception Area (CEA) for site groundwater was filed with the NJDEP. A Geoprobe® investigation was performed in early 2004 to further evaluate site groundwater conditions. An RI report summarizing these findings was prepared and was submitted to the NJDEP in February 2006. As part of a monitoring program, seven groundwater monitoring wells are sampled on a quarterly basis up until August of 2011. To supplement the MNA, the installation performed Oxygen Release Compound (ORC) injections and the continued monitoring of groundwater as a key component of the MNA program. ORC injections were performed in 2007 and 2008. Subsequent to that injections of Regenox were performed in 2010 and 2011. A letter report covering the Regenox injections and subsequent sampling was submitted to NJDEP on xx November , 2011. The data indicated that all site contaminants are below criteria and that final confirmation monitoring would be performed and if results were consistent with current levels an NFA would be approved. Site closeout is anticipated for 2013.

5.2 Additional Carve Out Areas Needing Further Investigation

There are 4 additional areas in CWA that are also considered “Carve Outs” based on the fact that additional information is needed to provide full characterization so that it can be determined if remedial actions are necessary or if these sites can be considered NFA and the category changed to an ECP Category 1.

ECP Parcel 28. There are three “Carve Outs” located in ECP Parcel 28 (ECP Parcel 28 Septic Tanks 1, 2, and 3 – see Figure 1, Enclosure 1). Each of these areas is associated with either a former septic tank or leach field. These areas were not fully evaluated in accordance with NJDEP technical regulations during the site investigation (U.S. Army BRAC 2005 Site Investigation Report, Fort Monmouth, Final, July 21, 2008). The installation is in the process of completing the required investigation and if necessary, remedial actions will be planned for these areas.

ECP Parcel 35. There is one “Carve Out” located in ECP Parcel 35 (ECP Parcel 35 Septic Tank at Pool Area – see Figure 1, Enclosure 1). This area is associated with a former septic tank that had not

previously been identified and was not considered during the initial ECP. Therefore the area was not evaluated in accordance with NJDEP technical regulations during the site investigation (U.S. Army BRAC 2005 Site Investigation Report, Fort Monmouth, Final, July 21, 2008). The installation is in the process of completing the required investigation and if necessary, remedial actions will be planned for these areas.

There were several properties located near the CWA that were documented with releases of contaminants as part of the ECP in a database search or were observed with potential hazardous substances on their premises during the ECP survey. Table 5.1 lists these properties.

Table 5.1
Properties Observed During the CWA ECP Survey

Location	Property	Concern
539 Tinton Avenue	Concession Supply Co.	Observed AST and Cylinders SHWS – Active 05/2002. Inst. Control – 08/2005.
535 & 556 Tinton Avenue	Tinton Falls Borough	Observed AST and outside equipment/material storage. SHWS – Active 10/1999.
600 Tinton Avenue	CECOM – lease building until 1995/1996.	SHWS – Active 12/2005.
Pine Brook Rd &GSP	Monmouth Co. Highway Dist. 3&6	Observed outside storage of equipment/materials. SHWS – Active 11/1995. Class. Exempt area.
100 Park Road	Standard Co	Observed outside storage of equipment/materials. HIST LUST/New Jersey Release.
45 Park Road	Hecon Corporation	CERCLA – NFRA TSDF
14 Park Road	Mazel Company	CERCLA - NFRA
1 Coldstream Way	Metallurgical Industries	Area observed to be vacant field. CERCLA – RA 06/1997. SHSW – Active 03/1995. ISRA – 03/1995.
Pinebrood & Hope Road	Fitzpatrick & Associates	Observed outside equipment/material storage.
250 Pine Brook Road	Eatontown Borough	Observed AST and outside equipment/material storage. SHWS – Closed with Restrictions – 08/1995. Inst. Control.
37 Maxwell Road	Fiorri Paving	Observed outside equipment/materials storage. New Jersey Manifest.
Maxwell & Mill	Residence	Observed AST.

SHWS = State hazardous waste site
HIST LUST = Historic leaking underground storage tank
NFRA = No further remedial action planned
TSDF = Transportation, storage, disposal facility
RA = Remedial Action

ISRA = Industrial site recovery act

6. ENVIRONMENTAL REMEDIATION AGREEMENTS

The following environmental agreement is applicable to Fort Monmouth generally: Voluntary Cleanup Agreement among New Jersey Department of Environmental Protection, U.S. Department of the Army, U.S. Department of the Navy, U.S. Department of the Air Force, and U.S. Defense Logistics Agency, dated August 30, 2000. However, the Voluntary Cleanup Agreement does not require any remedial action on the CWA and Parcel B that are the subject of this FOST. The deed of transfer of the property will include a provision reserving the Army's right to conduct remediation activities under the Voluntary Cleanup Agreement if necessary in the future (Enclosure 8).

7. REGULATORY/PUBLIC COORDINATION

The NJDEP and the public were notified of the initiation of this FOST. Regulatory/public comment received during the public comment period and the Army Responses are included at Enclosure 9.

8. NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) COMPLIANCE

The environmental impacts associated with the proposed transfer of the property have been analyzed in accordance with the National Environmental Policy Act (NEPA). The results of this analysis are documented in the Final Environmental Assessment of the Implementation of Base Realignment and Closure at Fort Monmouth, New Jersey, March 2009; and Finding of No Significant Impact Environmental Assessment of the Disposal and Reuse of Fort Monmouth, New Jersey, February 2010. There were no encumbrances or conditions identified in the NEPA analysis as necessary to protect human health or the environmental.

9. FINDING OF SUITABILITY TO TRANSFER

Based on the above information, I conclude that all removal or remedial actions necessary to protect human health and the environment have been taken and the property is transferable under CERCLA section 120(h)(3). In addition, all Department of Defense requirements to reach a finding of suitability to transfer have been met, subject to the terms and conditions set forth in the attached Environmental Protection Provisions that shall be included in the deed for the property. The deed will also include the CERCLA 120(h)(3) Notice, Covenant, and Access Provisions and Other Deed Provisions. Finally, the hazardous substance notification (Table 2) shall be included in the deed as required under the CERCLA Section 120(h) and DOD FOST Guidance.

Mr. James E. Briggs
Acting Chief, Consolidated Branch
BRAC Division

13 Aug 13
Date

9 Enclosures

Encl 1 -- Site Map of Property
Encl 2 -- Environmental Documentation
Encl 3 -- Table 1 -- Description of Property
Encl 4 -- Table 2 -- Notification of Hazardous Substance Storage, Release, or Disposal
Encl 5 -- Table 3 -- Notification of Petroleum Product Storage, Release, or Disposal
Encl 6 – Table 4 – Building Summary of Asbestos Containing Material
Encl 7 – CERCLA Notice, Covenant, and Access Provisions and Other Deed Provisions
Encl 8 -- Environmental Protection Provisions
Encl 9 -- Regulatory/Public Comments and Responses

ENCLOSURE 1

Site Maps of Property

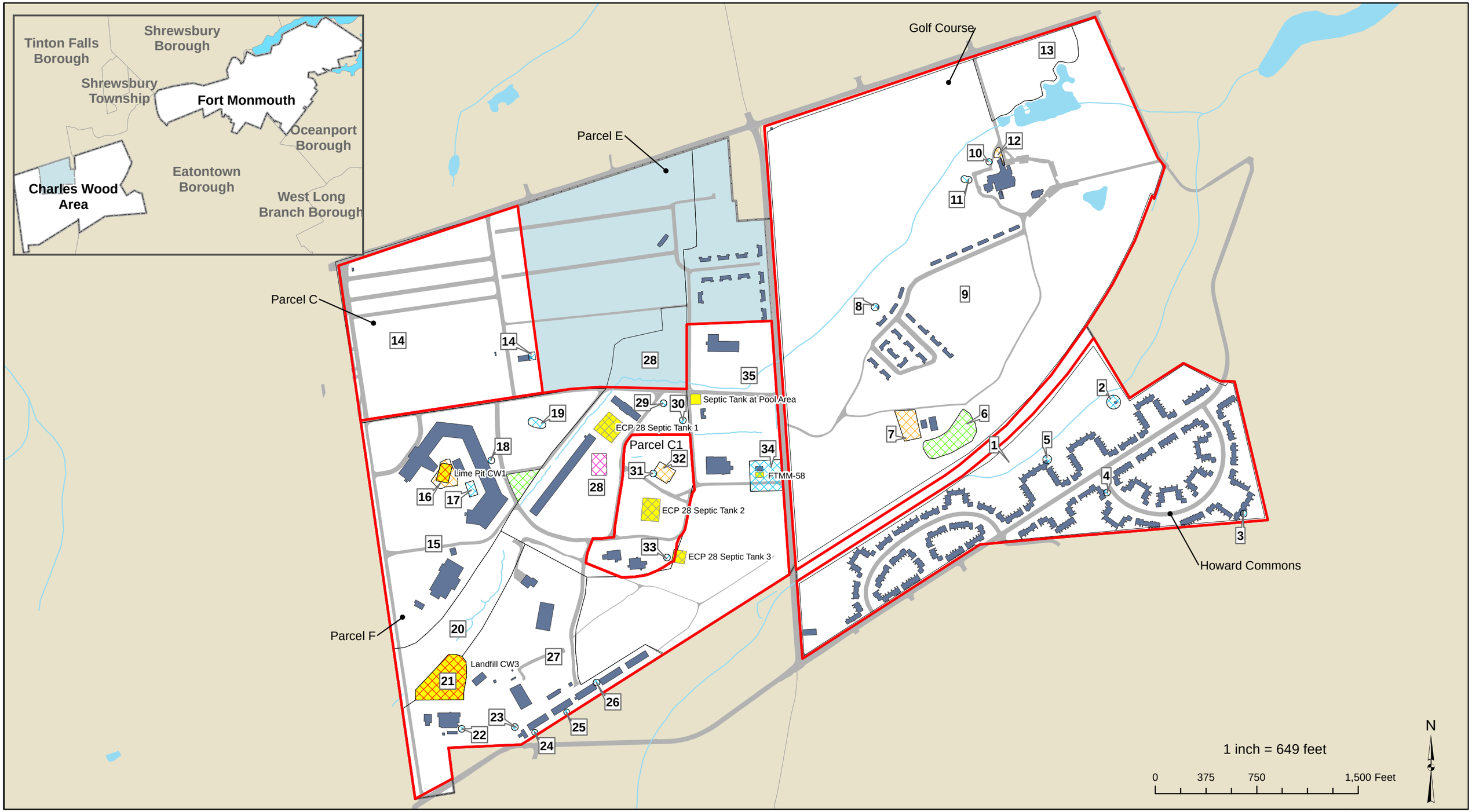

Figure 1
Fort Monmouth: Charles Wood Area FOST Parcels C, C1, F, Golf Course, and Howard Commons

Publication Date: ..... 13 MAR 2013
Spheroid: ..... WGS 1984
Projection: ..... UTM Zone 18
Prepared by: Susan Gidley, CALIBRE GIS Team

Non-categorized: Area has not been categorized.

Category 1: Areas where no release or disposal of hazardous substances or petroleum products has occurred (including no migration of these substances from adjacent areas).

Category 2: Areas where only release or disposal of petroleum products has occurred.

Category 3: Areas where release, disposal, and/or mitigation of hazardous substances has occurred, but at concentrations that do not require a removal or remedial response.

Category 4: Areas where release, disposal, and/or mitigation of hazardous substances has occurred, and all removal or remedial actions to protect human health and the environment have been taken.

Category 5: Areas where release, disposal, and/or mitigation of hazardous substances has occurred, and removal or remedial actions are underway, but all required remedial actions have not yet been taken.

Category 7: Areas that are not evaluated or require additional evaluation.

13 ECP Parcel Numbers

Transfered Property

Carve Out Areas

Phase 1 Property Transfer Parcel Boundaries

Existing Buildings

Installation

Roads

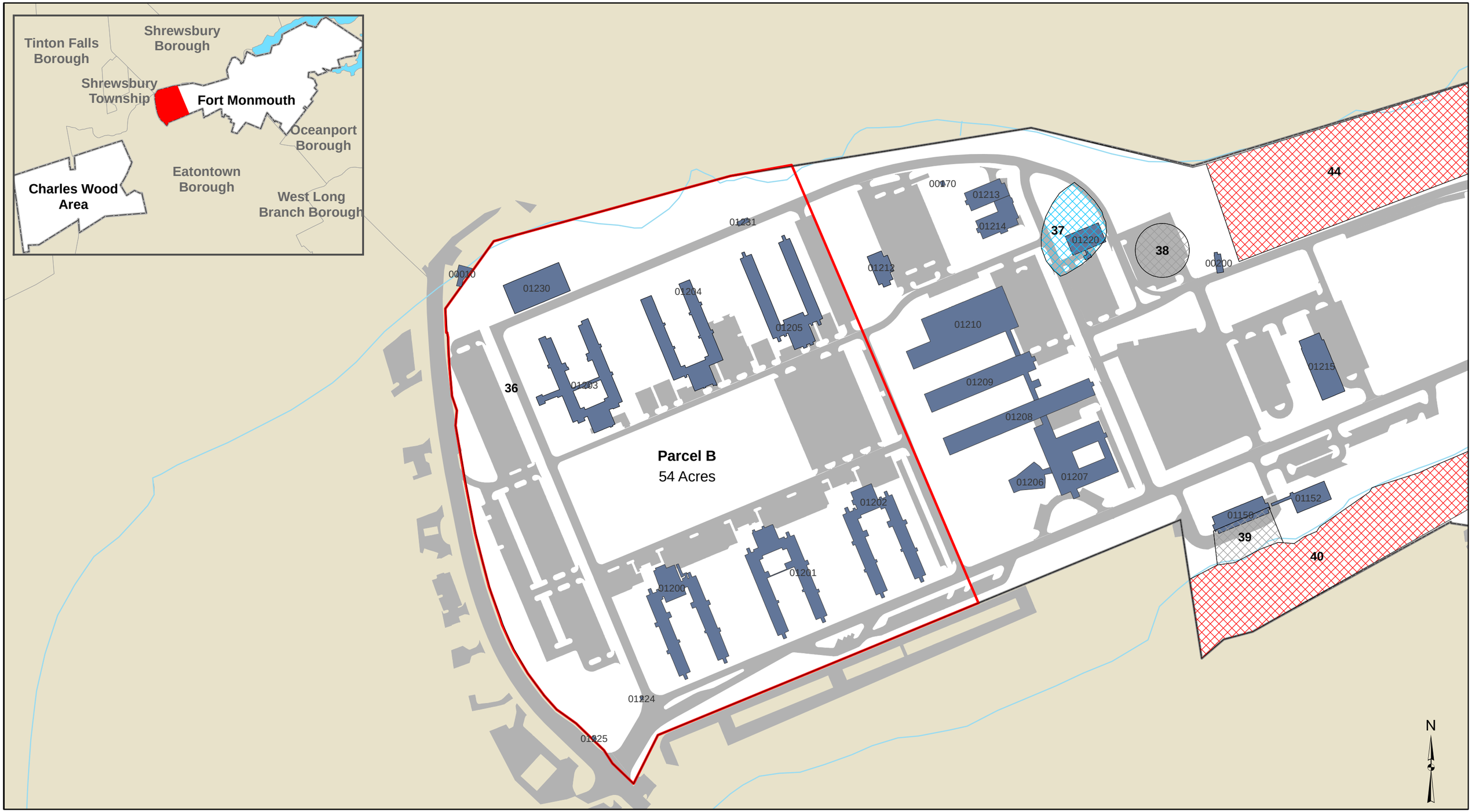

Figure 2
Fort Monmouth Main Post
FOST Parcel B

Publication Date: ..... 18 DEC 2012
Spheroid: ..... WGS 1984
Projection: ..... UTM Zone 18
Prepared by: Susan Gidley, CALIBRE GIS Team

Category 1: Areas where no release or disposal of hazardous substances or petroleum products has occurred (including no migration of these substances from adjacent areas).

Category 2: Areas where only release or disposal of petroleum products has occurred.

Category 5: Areas where release, disposal, and/or mitigation of hazardous substances has occurred, and removal or remedial actions are underway, but all required remedial actions have not yet been taken.

Category 7: Areas that are not evaluated or require additional evaluation.

Phase 1 Property Transfer Parcel Boundaries
Existing Buildings
Installation
Roads & parking

1 inch = 293 feet

0 170 340 680 Feet

ENCLOSURE 2

Environmental Documentation
(Note: The following documents are the complete list of document that were used for the ECP report and not all of the documents may apply to this FOST)

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ENCLOSURE 3

TABLE 1 – DESCRIPTION OF PROPERTY

Building Number and Property Description	ECP Parcel Designation	Condition Category	Remedial Actions
Building 2600	1(1)PS	1	None
Residential Units 3001 through 3052	1(1)PS	1	None
Building 3216	1(1)PS	1	None
Building 2603 (FTMM-63)	2(2)HS/PS/PR	2	Sewage Lift Station A 275 gallon UST and 225 cubic yards (CY) of potentially contaminated soil were removed in 1998.
Former UST located at Residential Unit 3050	3(2)PS/PR	2	#2 fuel oil storage tank (UST-3050-30). The UST and 23 CY of potentially contaminated soil have been removed.
Former UST located at Residential Unit 3027	4(2)PS/PR	2	#2 fuel oil storage tank (UST-3027-28). The UST and 8.7 CY of potentially contaminated soil have been removed.
Former UST located at Residential Unit 3021	5(2)PS/PR	2	#2 fuel oil storage tank (UST-3021-27). The UST and 113 tons of contaminated soil have been removed.
FTMM-31 (CW-9) Former Sludge Disposal	6(3)HR	3	None
FTMM-28 (CW-6) Former Pesticide Storage Building 2044 UST-2044-24 UST-2044-32 UST-2044-33	7(4)HS/HR/PS/PR	4	USTs removed, groundwater and soil evaluated for pesticides.
UST-2043-36	8(2)HS/PS/PR	2	USTs removed.
Building 2000 Officer's Club	9(1)HS/PS	1	None
Building 2001	9(1)HS/PS	1	None
Building 2002	9(1)HS/PS	1	None
Building 2018	9(1)HS/PS	1	None
Building 2020	9(1)HS/PS	1	None
Residential Units 2022 through 2042	9(1)HS/PS	1	None
Building 2044	9(1)HS/PS	1	None
Building 2046	9(1)HS/PS	1	None
Building 2067	9(1)HS/PS	1	None
Building 2068	9(1)HS/PS	1	None
Building 2070	9(1)HS/PS	1	None
Building 2071	9(1)HS/PS	1	None
Building 2000	10(2)PS/PR	2	Former UST (UST-2000-38) (#2 fuel oil) No remediation required, UST removed.
Building 2067	11(2)PS/PR	2	Former #2 fuel oil UST removed with 90 CY of potentially contaminated soil.
FTMM-29 (CW-7) Former PCB Transformer Location	12(4)HS/HR/PS	4	Transformer removed. Soil excavation and offsite disposal – three phases. Soil above residential screening criteria and

Building Number and Property Description	ECP Parcel Designation	Condition Category	Remedial Actions
			below industrial screening criteria left in place.
Former Residential Buildings 2004-2016	13(1)PS (P)	1	None
NW Area of CWA Former Residential Housing, former #2 fuel oil UST, former wash rack, vehicle storage area	14(2)PS/PR and 14(1)PS	2	UST at Building 2275 is Category 2 as petroleum contaminated soil removed. Remainder of ECP Parcel 14 is Category 1.
2700 Meyer Center 2705 (FTMM-23) (CW-2)	15(1)HS/PS 15(3)HS – around former Lime Pit CW-2	1	The parcel encompasses current and former laboratory and industrial processes within Building 2700 and the surrounding area. Building 2705 is a former photo processing and night vision laboratory. Chemical and hazardous substance use has been extensively documented in association with the historic and current research and industrial activity in this parcel. The former lime pit (CW-2 – FTMM-23) was removed and investigations performed, while some contaminants were observed in soil and groundwater, no remedial action was required and NFA letters provided by NJDEP on May 8, 1012 and October 17, 2012. The area around lime pit CW-2 is considered Category 3 and the remainder of the parcel is considered Category 1.
FTMM-22 (CW-1) Former Wastewater Treatment Lime Pit	16(4)HS/HR	5	The former wastewater treatment lime pit located in the courtyard of Building 2700 was investigated under the IRP as Site FTMM-22 (CW-1). Volatile organic compounds are present at concentrations above NJDEP GW Quality Criteria. At present, the contaminant plume has not encroached upon Building 2700. A contaminant treatment system (soil vapor extraction and air sparging) was in place until 2005. Treatment of the groundwater through enhanced bioremediation (HRC injection) was performed in FY 07 and with Regenox in 2010 and 2011. Additional remediation will be required in this area. Areas outside the main plume are now below criteria and area considered remediated and a Category 4 and are included in this FOST. Areas within the plume are not fully remediated and are not part of this FOST and transfer.

Building Number and Property Description	ECP Parcel Designation	Condition Category	Remedial Actions
Building 2700 (UST-2700-35 thru 39) former #6 fuel oil USTs	17(2)PS/PR	2	USTs and 500 CY of potentially contaminated soil removed in 1998. No further action (NFA) letter received 10/23/2000.
Building 2700 (UST-2700-61) former #2 fuel oil UST	18(2)PS/PR	2	UST and potentially contaminated soil removed in 1994. NFA letter received 1/10/2003.
Building 2337 (UST-2337-65) former #2 fuel oil UST	19(2)PS/PR	2	UST and potentially contaminated soil removed in 1994. NFA letter received 1/10/2003.
Undisturbed area along SW portion of Parkers Creek	20(1)	1	This is the undisturbed, wooded area surrounding Parkers Creek in the southwest portion of the Charles Wood Area. No release or disposal of hazardous substances or petroleum products has occurred.
Building 2707 (UST-2707-40) former #2 fuel oil UST	22(2)PS/PR	2	UST and potentially contaminated soil removed in 1998. NFA letter received 02/24/2000.
Building 2500 (UST-2500-52 thru 56) former gasoline USTs	23(2)PS/PR	2	Five former gasoline USTs and petroleum contaminated soil removed in 1993. NFA letter received on 4/20/2001.
Building 2502 (UST-2502-13) former #2 fuel oil UST	24(2)PS/PR	2	UST and potentially contaminated soil removed in 1998. NFA letter received 02/24/2000.
Building 2503 (UST-2503-14) former #2 fuel oil UST	25(2)PS/PR	2	UST and potentially contaminated soil removed in 1996. NFA letter received 07/10/1998.
Building 2504 (UST-2504-15) former #2 fuel oil UST	26(2)PS/PR	2	UST and potentially contaminated soil removed in 1995. NFA letter received 10/23/2000.
Buildings 2501, 2503, 2506, 2507, 2624, 2625, 2630, 2632, 2704, 2707, 2708, 2709, 2710, and 2713 SW portion of CWA that includes the former Pulse Power Center, Machine Shop, Paint and Fabrication facility, Former Motor Pool, and portions of the former Watson Laboratories.	27(1)HS /(P)/PS/ (P)	1	Twelve USTs removed from 1993 to 2002. No releases noted. NJDEP Closure Approval Letters received for all twelve closures.
Buildings 2525, 2535, 2539, 2540, Former Motor Pool NW of 2566 Former Eatontown Laboratory, Battery Test Facility, Safety calibration laboratory office, Former Motor Pool.	28(1)HS/ (P)/PS/	1	This parcel encompasses Buildings 2525, 2535, 2539, 2540, and all land within this area. Numerous demolished buildings located to the east and southeast of 2525. Industrial operations include the battery test facility (2535), former Eatontown laboratory (2525), and the Safety office calibration laboratory. Outdoor storage and ground staining were identified in the

Building Number and Property Description	ECP Parcel Designation	Condition Category	Remedial Actions
			area of the former motor pool in aerial photographs from 1947, 1957, 1963, 1974, and 1991. Ten former fuel oil USTs have been removed; no contamination was identified during closure; and No Further Action approval letters were received from the NJDEP. Certain portions of ECP Parcel 28 are not included in this FOST/transfer as they require additional evaluation to determine their suitability for transfer. These areas are considered "Carve Out" areas.
Building 2561 (UST-2561-31) former #2 fuel oil UST	29(2)PS/PR	2	UST and petroleum contaminated soil were removed in 1995. NFA approval letter was received from the NJDEP on 7/10/98.
Building 2562 (UST-2562-41) former gasoline UST	30(2)PS/PR	2	A former gasoline UST and potentially contaminated soil were removed in 1993. All confirmatory soil analytical results were below NJDEP criteria. Methyl-tertiary-butyl ether (MTBE) and lead were previously detected in groundwater above NJDEP criteria, but have been below the standards since November 1998. A closure report requesting No Further Action was submitted to the NJDEP on 01/02/02 and NFA provided per NJDEP letter 01/10/2003.
Building 2537 (UST-2537-27) former #2 fuel oil UST.	31(2)PS/PR	2	A former #2 fuel oil UST and 15 cubic yards of petroleum-contaminated soil were removed in 1997. A closure report was submitted to the NJDEP requesting a No Further Action determination in 1998, and a No Further Action approval letter was received from the NJDEP on 8/29/00.
Former indoor Small Arms Range (Bldg. T-2537)	32(4)HR	4	The former indoor small arms firing range located west of Building 2566 was investigated under the Fort Monmouth Installation Restoration Program as Site FTMM-26 (CW-4). Lead identified in soil above NJDEP Direct Contact Soil Cleanup Criteria, spent rounds, and casings, were removed in 1997. An RI report requesting an NFA determination from the NJDEP was submitted in October 2005. NJDEP concurred on the NFA in letter dated April 26, 2007
Building 2534 (UST-2534-24) former #2 fuel oil UST	33(2)PS/PR	2	A former #2 fuel oil UST was removed in 1994. Petroleum-related contaminants were detected in post-excavation soil samples at concentrations below the NJDEP cleanup criteria. A Closure

Building Number and Property Description	ECP Parcel Designation	Condition Category	Remedial Actions
			Report was submitted to the NJDEP, and a NFA approval letter was received from the NJDEP on 1/10/2003.
AAFES Gasoline Station (FTMM-58)	34(2)PS/PR	2	This parcel was investigated under the IRP as Site FTMM-58 (Building 2567). Site FTMM-58 was a former gasoline service station operated by the AAFES organization. The station is located at the corner of Hope Road and Laboratory Road. Five single-walled steel USTs and 1,000 cubic yards of petroleum-contaminated soil were removed as part of a renovation project that was initiated in 1991. Gasoline-related contaminants were detected in groundwater above NJDEP groundwater quality criteria. A CEA was filed with the NJDEP; and in situ bioremediation (ORC injection to be performed in 2007 and 2008) and monitored natural attenuation, including groundwater monitoring, were selected as the remedial approach. Additional injections of Regenox were performed in 2010 and 2011 and all groundwater is currently below criteria. Confirmation sampling (2 high water events) will be performed. Areas outside the plume area are considered non-impacted and area part of this FOST and are considered a Category 2. Areas in the main plume are considered a "Carve Out" and are not included in this transfer.
Child Development Center (2290), Teen Center (2566), Pool (2568, 2569) and FTMM-27 Former sewage treatment plant	35(1)PS	1	This parcel includes the Child Development Center (2290), Teen Center (2566), Pool Area (2568 and 2569) and the former sewage treatment plant, and the wooded portion of CWA south of 2566. No release or disposal of hazardous substances or petroleum products has occurred, and there has been no migration of such substances from adjacent areas. The former Charles Wood sanitary treatment plant (STP) was investigated under the Fort Monmouth Installation Restoration Program as Site FTMM-27 (CW-5). The former STP was located in the center of the CWA, bounded by Hope Road to the east, Corregidor Road to the north, Guam Lane to the west, and Laboratory Road to the south. The STP was closed on 29 October 1975 and demolished in 1983. No compounds of

Building Number and Property Description	ECP Parcel Designation	Condition Category	Remedial Actions
			concern were detected above NJDEP criteria, and a NFA determination was approved by the NJDEP in 1994. It should be noted that there is a carve out area near the swimming pool that is not characterized and is not part of this transfer (see Figure 1 Enclosure 1)
Military Army Prep School and Offices (Buildings 1200, 1201, 1202, 1203, 1204, 1205, 1230, 1231, 1225, 1222, 1224, and 1226	36(1)HS/PS	1	None
UST at Former Building 2544	28 (uncategorized)	NA	None

Category 1: Areas where no release or disposal of hazardous substances or petroleum products has occurred. (including no migration of these substances from adjacent areas)
Category 2: Areas where only release or disposal of petroleum products has occurred.
Category 3: Areas where release, disposal, and/or migration of hazardous substances has occurred, but at concentrations that do not require a removal or remedial response.
Category 4: Areas where release, disposal, and/or migration of hazardous substances has occurred, and all removal or remedial actions to protect human health and the environment have been taken.

ENCLOSURE 4

TABLE 2 – NOTIFICATION OF HAZARDOUS SUBSTANCE STORAGE, RELEASE OR DISPOSAL

Building Number	Name of Hazardous Substance(s)	Date of Storage, Release, or Disposal	Remedial Actions
FTMM-28 (CW-6) Former Pesticide Storage Building 2044 (ECP Parcel 7) UST-2044-24 UST-2044-32 UST-2044-33	Pesticides, herbicides, gasoline, and diesel	Area used for pesticide storage until 1980s	USTs removed, Area investigated low levels of pesticides identified in soils (likely not from spill) NFA provided by NJDEP April 30, 2012.
FTMM-29 (CW-7) Former PCB Transformer Location (ECP Parcel 12)	PCBs	Installation date unknown. Spill date unknown. Transformer removed in 1990.	Transformer removed. Soil excavation and offsite disposal – three phases. Soil above residential direct contact soil cleanup criteria and below non-residential soil cleanup are criteria left in place. Draft Deed Notice submitted to NJDEP, concurrence on Draft Deed Notice provided January 29, 2013, final deed notice to be filed once the property is transferred.
Building 2700 (ECP Parcel 15)	Halon 1301 [75-63-8]	Storage occurred up to 2003. No release occurred.	Former Fire Suppression System was removed.
FTMM-26 former indoor small arms range Bldg. T-2537 (ECP Parcel 32)	Lead	Soil cleanup on 1997	The former indoor small arms firing range located west of Building 2566 was investigated under the Fort Monmouth Installation Restoration Program as Site FTMM-26 (CW-4). Lead identified in soil above NJDEP Direct Contact Soil Cleanup Criteria, spent rounds, and casings, were removed in 1997. An RI report requesting an NFA determination from the NJDEP was submitted in October 2005. NJDEP concurred on the NFA in letter dated April 26, 2007
2700 Meyer Center (FTMM-22 - CW-1) (ECP Parcel 16)	Dichloroethylene, Trichloroehtylene	Remediation on going	The former wastewater treatment lime pit located in the courtyard of Building 2700 was investigated under the IRP as Site FTMM-22 (CW-1). Volatile organic compounds are present at

Building Number	Name of Hazardous Substance(s)	Date of Storage, Release, or Disposal	Remedial Actions
			concentrations above NJDEP GW Quality Standards. At present, the contaminant plume has not encroached upon Building 2700. A contaminant treatment system (soil vapor extraction and air sparging) was in place until 2005. Treatment of the groundwater through enhanced bioremediation (HRC injection) was performed in FY 07 and with Regenox in 2010 and 2011. Additional remediation will be required in this area. Areas outside the main plume are now below criteria and are considered remediated and a Category 4 and are included in this FOST. Areas within the plume are not fully remediated and are not part of this FOST and transfer.
2700 Meyer Center (FTMM-23 - CW-2) (ECP Parcel 28)	Dichloroethylene, Trichloroehtylene, PCBs	Lime Pit was closed in 1992	No levels above criteria were found soil and groundwater except for PCBs which when compliance averaging was applied were also below criteria and No Further Action was required by NJDEP.

* The information contained in this notice is required under the authority of regulations promulgated under section 120(h) of the Comprehensive Environmental Response, Liability, and Compensation Act (CERCLA or 'Superfund') 42 U.S.C. §9620(h). This table provides information on the storage of hazardous substances for one year or more in quantities greater than or equal to 1,000 kilograms or the hazardous substances CERCLA reportable quantity (which ever is greater). In addition, it provides information on the known release of hazardous substances in quantities greater than or equal to the substances CERCLA reportable quantity. See 40 CFR Part 373.

ENCLOSURE 5

TABLE 3 – NOTIFICATION OF PETROLEUM PRODUCT STORAGE, RELEASE, OR DISPOSAL

Building Number	Name of Petroleum Product(s)	Date of Storage, Release, or Disposal	Remedial Actions
USTs			
Building 2000 (UST-2000-1)	#2 Fuel Oil	Removed 5-17-94 Closed 8-29-00	UST removed
Building 2000 (UST-2000-38)	2000-gallon #2 Fuel Oil	Removed in 1997 – no soil contamination detected.	UST removed 1997
Building 2018 (UST-2018-2)	#2 Fuel Oil	Removed 11-8-91 Closed 8-29-00	UST removed
Building 2018 (UST-2018-34)	Diesel	Removed 5-20-98 closed 2-24-00	UST removed
Building 2021 (UST-2021-35)	Diesel	Removed 5-58-98 Closed 2-24-00	UST removed
Building 2022 (UST-2022-3)	#2 Fuel Oil	Removed 1-22-00 No closure report required	UST removed
Building 2023 (UST-2023-4)	#2 Fuel Oil	Removed 1-13-00 No closure report required	UST removed
Building 2024 (UST-2024-5)	#2 Fuel Oil	Removed 1-19-00 No closure report required	UST removed
Building 2025 (UST-2025-6)	#2 Fuel Oil	Removed 2-4-00 No closure report required	UST removed
Building 2026 (UST-2026-7)	#2 Fuel Oil	Removed 2-8-00 No closure report required	UST removed
Building 2027 (UST-2027-8)	#2 Fuel Oil	Removed 2-9-00 No closure report required	UST removed
Building 2028 (UST-2028-9)	#2 Fuel Oil	Removed 2-17-00 No closure report required	UST removed
Building 2029 (UST-2029-10)	#2 Fuel Oil	Removed 2-22-00 No closure report required	UST removed
Building 2030 (UST-2030-11)	#2 Fuel Oil	Removed 2-28-00 No closure report required	UST removed
Building 2031 (UST-2031-12)	#2Fuel Oil	Removed 3-1-00 No closure report required	UST removed
Building 2032 (UST-2032-13)	#2 Fuel Oil	Removed 3-2-00 No closure report required	UST removed
Building 2033 (UST-2033-14)	#2 Fuel Oil	Removed 3-17-00 No closure report required	UST removed
Building 2034 (UST-2034-15)	#2 Fuel Oil	Removed 3-20-00 No closure report required	UST removed
Building 2035 (UST-2035-16)	#2 Fuel Oil	Removed 3-21-00 No closure report required	UST removed
Building 2036 (UST-2036-17)	#2 Fuel Oil	Removed 3-22-00 No closure report required	UST removed
Building 2037 (UST-2037-18)	#2 Fuel Oil	Removed 3-23-00 No closure report required	UST removed
Building 2038 (UST-2038-19)	#2 Fuel Oil	Removed 4-11-00 No closure report required	UST removed
Building 2039	#2 Fuel Oil	Removed 4-12-00	UST removed

Building Number	Name of Petroleum Product(s)	Date of Storage, Release, or Disposal	Remedial Actions
(UST-2039-20)		No closure report required	
Building 2040 (UST-2040-21)	#2 Fuel Oil	Removed 4-13-00 No closure report required	UST removed
Building 2041 (UST-2041-22)	#2 Fuel Oil	Removed 4-6-00 No closure report required	UST removed
Building 2042 (UST-2042-23)	#2 Fuel Oil	Removed 4-7-00 No closure report required	UST removed
Building 2043 (UST-2043-36)	Diesel	UST removed 4/10/98 Closure 10/23/00	Contaminated soil removed -- NJDEP closure approval 10/23/00
Building 2044 (UST-2044-24)	#2 Fuel Oil	Removed 12-16-93 Closure Pending – metals monitoring	UST removed
Building 2044 (UST-2044-32)	Diesel	Removed 12-21-93 Closure Pending – metals monitoring	UST removed
Building 2044 (UST-2044-33)	Gasoline	Removed 12-17-93 Closure Pending – metals monitoring	UST removed
Building 2067 (UST-2067-37)	#2 Fuel Oil	Removed in May 16, 1994 – soil contamination detected and removed at same time as tank.	UST and contaminated soil removed May 16, 1994. NJDEP closure approval dated January 10, 2003.
Building 2067 (UST-2067-37)	#2 Fuel Oil	Removed in 2001 – no soil contamination detected.	UST removed 2001
Building 2275 (UST-2275-12)	#2 Fuel Oil	Oil removed from UST on 11/08/94; UST removed and some old soil contamination noted and removed on 6/20/97	Closure Report submitted to NJDEP on 07/27/98. NJDEP closure approval letter dated 8/29/00.
Building 2337 (UST-2337-65)	#2 Fuel Oil	UST and contaminated soil (highest soil TRPH 6,900 mg/kg) removed.	Closure Report submitted to NJDEP on 01/02/02; NJDEP Closure Approval Letter dated 01/10/2003.
Building 2500 (UST-2500-52)	Gasoline	Highest TPHC in soil = 10 mg.kg.	Closure Report submitted to NJDEP on 02/26/96. NJDEP Closure Approval Letter dated 4/20/01.
Building 2500 (UST-2500-53)	Gasoline	UST Removed 3/25/93	See Tank UST-2500-52
Building 2500 (UST-2500-54)	Gasoline	UST Removed 3/25/93	See Tank UST-2500-52
Building 2500 (UST-2500-55)	Gasoline	UST Removed 3/25/93	See Tank UST-2500-52
Building 2500 (UST-2500-56)	Gasoline	UST Removed 3/25/93	See Tank UST-2500-52
Building 2502 (UST-2502-13)	#2 Fuel Oil	Oil removed from UST on 11/07/94; UST removed on 4/23/96; discharge noted in pipe run-soil removed	Closure Report submitted to NJDEP on 07/27/98. NJDEP Closure Approval Letter dated 8/29/00.
Building 2503 (UST-2503-14)	#2 Fuel Oil	Oil removed from UST on 11/07/94; UST removed on 4/23/96; discharge noted in pipe run-soil removed	Closure Report submitted to NJDEP on 03/27/98. NJDEP Closure Approval Letter dated 7/10/98.
Building 2504 (UST-2504-16)	#2 Fuel Oil	Oil removed from UST on 11/7/94 and put into Bldg. 1220 oil tank. UST removed on 5/13/97	UST in good shape; no release noted. Closure Report submitted to NJDEP on 03/27/98. NJDEP Closure Approval Letter dated 10/23/00.
Building 2504	#2 Fuel Oil	Oil removed from UST on	Closure Report submitted to NJDEP on

Building Number	Name of Petroleum Product(s)	Date of Storage, Release, or Disposal	Remedial Actions
(UST-2504-15)		11/7/94; UST removed on 9/20/95.	09/11/00. NJDEP Closure Approval Letter dated 10/23/00.
Building 2506 (UST-2506-17)	#2 Fuel Oil	UST removed on 6/12/97.	UST in good shape-no discharge noted, clean excavation. Closure Report submitted to NJDEP on 03/27/98. NJDEP Closure Approval Letter dated 07/10/98.
Building 2507 (UST-2507-18)	#2 Fuel Oil	UST removed 6/5/97.	UST in good shape-no discharge noted, clean excavation. Closure Report submitted to NJDEP on 3/27/98. NJDEP Closure Approval Letter dated 07/10/98.
Building 2508 (UST-2508-19)	#2 Fuel Oil	Oil removed from UST on 11/07/94; UST removed on 4/19/96.	Closure Report submitted to NJDEP on 03/27/98. NJDEP Closure Approval Letter dated 07/10/98.
Building 2529 (UST-2529-20)	#2 Fuel Oil	Oil removed from UST on 11/09/94; UST removed on 9/26/95.	Closure Report submitted to NJDEP on 03/27/98. NJDEP Closure Approval Letter dated 07/10/98.
Building 2531 (UST-2531-21)	#2 Fuel Oil	Oil removed from UST on 11/08/94; UST removed on 9/26/97.	Closure Report submitted to NJDEP on 08/03/00. NJDEP Closure Approval Letter dated 08/29/00.
Building 2532 (UST-2532-22)	#2 Fuel Oil	UST removed 09/14/95.	Closure Report submitted to NJDEP on 03/27/98. NJDEP Closure Approval Letter dated 07/10/98.
Building 2533 (UST-2533-23)	#2 Fuel Oil	UST removed 09/14/95.	Closure Report submitted to NJDEP on 03/27/98. NJDEP Closure Approval Letter dated 07/10/98.
Building 2534 (UST-2534-24)	#2 Fuel Oil	Oil removed from UST 7/14/93; UST removed 5/24/94.	Highest TPHC in soil=469 mg/kg. Closure Report submitted to NJDEP on 5/15/02; NJDEP Closure Approval Letter dated 01/10/2003.
Building 2535 (UST-2535-25)	#2 Fuel Oil	Oil removed from UST on 11/08/94; UST removed on 6/10/97.	UST in good shape; no release noted. Closure Report submitted to NJDEP on 07/27/98. NJDEP Closure Approval Letter dated 8/29/00.
Building 2536 (UST-2535-26)	#2 Fuel Oil	Oil removed from UST on 11/08/94; UST removed on 5/21/97.	No sign of discharge. Closure Report submitted to NJDEP on 03/27/98. NJDEP Closure Approval Letter dated 07/10/98.
Building 2537 (UST-2535-27)	#2 Fuel Oil	UST and 15 CY of stained soil removed 5/27/97.	Closure Report submitted to NJDEP on 07/27/98. NJDEP Closure Approval Letter dated 8/29/00.
Building 2539 (UST-2539-28)	#2 Fuel Oil	UST removed on 12/01/92.	No release noted; Closure report submitted to NJDEP on 01/26/93; closure approved on 03/31/93.
Building 2539 (UST-2539-64)	#2 Fuel Oil	UST removed on 12/1/92.	No contamination found (TPHC in soil< 30 mg/kg). No release noted. Closure report submitted to NJDEP on 01/26/93; closure approved on 03/31/93.
Building 2542 (UST-2542-29)	#2 Fuel Oil	UST removed on 7/12/90.	UST in good shape with no signs of leakage or corrosion inside tank. No evidence of a release and no contamination observed. A Site

Building Number	Name of Petroleum Product(s)	Date of Storage, Release, or Disposal	Remedial Actions
			Assessment Compliance Statement was submitted to NJDEP on 11/22/91.
Building 2543 (UST-2543-30)	#2 Fuel Oil	Oil removed from UST on 11/21/94. UST removed on 7/29/98.	No discharge observed. Closure Report submitted to NJDEP on 03/29/99. NJDEP Closure Approval Letter dated 2/24/00.
Building 2546 (UST-2546-63)	#2 Fuel Oil	UST removed on 7/31/92.	TPHC in soil<1000 mg/kg. Approximately 35 cubic yards of soil removed. Closure approved 06/10/93.
Building 2561 (UST-2561-31)	#2 Fuel Oil	UST removed on 9/26/95.	Closure Report submitted to NJDEP on 03/27/98. NJDEP Closure Approval Letter dated 07/10/98.
Building 2562 (UST-2562-41)	Gasoline	UST and stained soil removed all confirmatory soil results were below criteria.	Maximum remaining TRPH in soil=18.4 mg/kg. Methyl-tertiary-butyl ether and lead were previously detected above New Jersey GWQC, but have been below the standards since November 1998. Closure Report requesting No Further Action submitted to NJDEP on 01/02/02. NJDEP Closure Approval Letter dated 10/23/00.
Building 2564 (UST-2564-32)	#2 Fuel Oil	UST removed on 6/26/90.	No release observed. Standard Reporting Form and Site Assessment Compliance Statement sent to NJDEP on 11/22/91.
Building 2567 (UST-2567-42)	Gasoline	UST removed on 2/24/93.	No free product in groundwater. BTEX found in monitoring wells. Closure Report submitted to NJDEP in May 2000 recommends conditional NFA with a CEA; monitoring ongoing.
Building 2567 (UST-2567-43)	Gasoline	UST removed on 2/24/93.	No free product in groundwater. BTEX found in monitoring wells. Closure Report submitted to NJDEP in May 2000 recommends conditional NFA with a CEA; monitoring ongoing.
Building 2567 (UST-2567-44)	Gasoline	UST removed on 2/24/93.	No free product in groundwater. BTEX found in monitoring wells; DICAR #89-12 12-1442 closed-out due to mechanical malfunction/repair. DICAR 91-8-27-1414 opened due to failed tank test. Report previously submitted; monitoring ongoing.
Building 2567 (UST-2567-45)	Gasoline	UST removed on 2/24/93.	No free product in groundwater. BTEX found in monitoring wells. Closure Report submitted to NJDEP in May 2000 recommends conditional NFA with a CEA; monitoring ongoing.
Building 2603 (UST-2603-60)	Diesel	UST removed 4/14/98.	UST and 225 CY of potentially contaminated soil removed 4/14/98. Closure Report submitted to NJDEP on 5/15/02.
Building 2624 (UST-2624-34)	#2 Fuel Oil	UST removed on 3-25-93.	Highest TPHC= 21.4 ppm. No release noted. Closure Report submitted to

Building Number	Name of Petroleum Product(s)	Date of Storage, Release, or Disposal	Remedial Actions
			NJDEP on 6/10/93. Closure approval dated 07/23/93.
Building 2624 (UST-2624-57)	#2 Fuel Oil	UST removed on 3-25-93.	No release noted. Closure Report submitted to NJDEP on 7/30/95. NJDEP Closure Approval Letter dated 09/21/95.
Building 2624 (UST-2624-58)	#2 Fuel Oil	UST removed on 3-25-93.	No release noted. Closure Report submitted to NJDEP on 7/30/95. NJDEP Closure Approval Letter dated 09/21/95.
Building 2624 (UST-2624-59)	#2 Fuel Oil	UST removed on 3-25-93.	No release noted. Closure Report submitted to NJDEP on 7/30/95. NJDEP Closure Approval Letter dated 09/21/95.
Building 2700 (UST-2700-61)	Diesel	UST removed on 5/4/94.	Soil TPHC concentrations below 10,000 mg/kg. Closure Report submitted to NJDEP on 5/15/02.
Building 2700 (UST-2700-35)	#6 Fuel Oil	UST removed on 3/25/98.	A total of 500 CY of potentially contaminated soil removed during removal of the 5-#6 oil tanks. Closure Report submitted to NJDEP on 09/11/00. NJDEP Closure Approval Letter dated 10/23/00.
Building 2700 (UST-2700-36)	#2 Fuel Oil	UST removed on 3/25/98.	See 2700-35. Closure Report submitted to NJDEP on 09/11/00. NJDEP Closure Approval Letter dated 10/23/00.
Building 2700 (UST-2700-37)	#6 Fuel Oil	UST removed on 3/25/98.	See 2700-35. Closure Report submitted to NJDEP on 09/11/00. NJDEP Closure Approval Letter dated 10/23/00.
Building 2700 (UST-2700-38)	#6 Fuel Oil	UST removed on 3/25/98.	See 2700-35. Closure Report submitted to NJDEP on 09/11/00. NJDEP Closure Approval Letter dated 10/23/00.
Building 2700 (UST-2700-39)	#6 Fuel Oil	UST removed on 3/25/98.	Closure Report submitted to NJDEP on 09/11/00. NJDEP Closure Approval Letter dated 10/23/00.
Building 2700 (UST-2700-62)	Diesel	Product removed from UST on 5/28/93; UST removed on 9/10/93.	Closure Report submitted to NJDEP on 06/01/00. NJDEP Closure Approval Letter dated 8/29/00.
Building 2707 (UST-2707-47)	Waste Oil	UST removed on 9/15/98.	Tank never used; only contained water. No release noted. Closure Report submitted to NJDEP on 01/02/02.
Building 2707 (UST-2707-48)	4% $CuSO_4$	UST removed on 9/10/98.	Never used; no release noted. Closure Report submitted to NJDEP on 01/02/02.
Building 2707 (UST-2707-49)	Ethylene Glycol, Water	UST removed on 9/14/98.	Never used; no release noted. Closure Report submitted to NJDEP on 01/02/02.
Building 2707 (UST-2707-50)	$CuSO_4$ & H2O, H_2SO_4, 2% SOL	UST removed on 8/13/98.	Never used. No release noted. Closure Report submitted to NJDEP on 01/02/02.
Building 2707 (UST-2707-51)	Acetone	UST removed on 8/26/98.	No release noted; all VOCs=ND. Closure Report submitted to NJDEP on 01/02/02.
Building 2707 (UST-2707-40)	#2 Fuel Oil	Oil removed from UST on 11/29/94; UST removed on 8/10/98.	Small release along piping run cleaned up by additional excavation. Closure Report submitted to NJDEP on 03/29/99.

Building Number	Name of Petroleum Product(s)	Date of Storage, Release, or Disposal	Remedial Actions
			NJDEP Closure Approval Letter dated 2/24/00.
Building 3010 (UST-3010-25)	#2 Fuel Oil	Tank was abandoned in place in November 1989.	No contamination observed. Residential UST with no DICAR and no contamination; no Closure Report required.
Building 3015 (UST-3015-26)	#2 Fuel Oil	Tank was abandoned in place in November 1989.	No contamination observed. Residential UST with no DICAR and no contamination; no Closure Report required.
Building 3021 (UST-3021-27)	#2 Fuel Oil	Closure Report submitted to NJDEP on 10/12/00. NJDEP Closure Approval Letter Dated 10/17/00.	Residential UST – tank and 113 tons of contaminated soil removed. No significant amount of contamination found in groundwater.
Building 3027 (UST-3027-28)	#2 Fuel Oil	Closure Report submitted to NJDEP on 02/26/96.	Residential UST - 13,300 mg/kg TPHC around fill piping; 8.7 cubic yards soil removed; highest remaining soil TPHC=493 mg/kg.
Building 3035 (UST-3035-29)	#2 Fuel Oil	UST removed on 11/1/89.	No contamination observed. Residential UST with no contamination; no Closure Report required.
Building 3050 (UST-3050-30)	#2 Fuel Oil	Closure Report submitted to NJDEP on 06/01/00. NJDEP Closure Approval Letter dated 8/29/00.	Residential UST - excavation TPHC was ND, except lines to Building=200 ppm, fill area=26,000 ppm BN=25,500 ppm 3/13/92. Further excavation completed.
Building 3216 (UST-3216-31)	#2 Fuel Oil	UST abandoned in place in November 1989.	No contamination observed; no closure report required.
Building 1203 (UST 1203-227)	Diesel	UST removed 11/1/09.	Closure report prepare, no indication of release.
ASTs			
Building 2021 (AST-2021)	Diesel AST	No longer in use	None required
Building 2043 (AST-2043)	Diesel AST	No longer in use	None required
Building 2044 (AST-2044)	Used oil AST	No longer in use	None required
Building 2070 (AST-2070-a)	500-gallon unleaded gasoline AST	No longer in use	None required
Building 2070 (AST-2070-b)	500-gallon diesel AST	No longer in use	None required
Building 2071(concrete pad east exterior)	275-gallon - Waste Oil AST	No longer in use	None required
Building 2071 (asphalt west exterior)	100-gallon mobile refueling AST	No longer in use	None required
Building 2507 (AST-2507)	Used oil AST	No longer in use	None required
Building 2603 (AST-2603)	Diesel AST	No longer in use	None required

Building Number	Name of Petroleum Product(s)	Date of Storage, Release, or Disposal	Remedial Actions
Building 2630 (AST-2630)	Used oil AST	No longer in use	None required
Building 2700 (AST-2700A)	Diesel AST	No longer in use	None required
Building 2700 B (AST-2700B)	Diesel AST	No longer in use	None required
Building 2704 (AST-2704)	Used oil AST	No longer in use	None required
Building 2708 (AST-2708)	Diesel AST	No longer in use	None required
Building 2567	Gasoline AST	No longer in use. Tanks is a multi-compartment unit for gasoline sales	None required

DICAR – discharge investigation and corrective action report

ENCLOSURE 6

TABLE 4 – Building Summary of Asbestos Containing Materials

Phase 1 Transfer Parcels (Not Including Parcel E)
ACM Information By Building

Phase 1 Parcel	Fort Monmouth Area	Building Number	ACM Present	Comment/Description
Golf Course	CWA	2000	YES	Tank insulation, pipe insulation (friable). Re-inspection was performed on June 7, 2013 and pipe fitting and piping insulation ACM materials were found to be damaged.
Golf Course	CWA	2001	NA	Existing Tennis Court
Golf Course	CWA	2002	NA	Existing Tennis Court
Golf Course	CWA	2018	NO	Duct insulation (friable) was previously identified in a 1992 survey. The re-inspection conducted on June 6, 2013 did not observe that material to be present so building assumed not to contain ACM.
Golf Course	CWA	2020	NA	Existing Pool
Golf Course	CWA	2021	NO	Re-inspection occurred on June 7, 2013. Samples were collected from several locations and none were identified as ACM.
Golf Course	CWA	2022	YES	Based on similar to Building 2035 survey; ACM may have been removed and any remaing may be on piping beind walls.
Golf Course	CWA	2023	YES	Based on similar to Building 2035 survey; ACM may have been removed and any remaing may be on piping beind walls.
Golf Course	CWA	2024	YES	Based on similar to Building 2035 survey; ACM may have been removed and any remaing may be on piping beind walls.
Golf Course	CWA	2025	YES	Based on similar to Building 2035 survey; ACM may have been removed and any remaing may be on piping beind walls.

Phase 1 Transfer Parcels (Not Including Parcel E)
ACM Information By Building

Phase 1 Parcel	Fort Monmouth Area	Building Number	ACM Present	Comment/Description
Golf Course	CWA	2026	YES	Based on similar to Building 2035 survey; ACM may have been removed and any remaing may be on piping beind walls.
Golf Course	CWA	2027	YES	Based on similar to Building 2035 survey; ACM may have been removed and any remaing may be on piping beind walls.
Golf Course	CWA	2028	YES	Based on similar to Building 2035 survey; ACM may have been removed and any remaing may be on piping beind walls.
Golf Course	CWA	2029	YES	Based on similar to Building 2035 survey; ACM may have been removed and any remaing may be on piping beind walls.
Golf Course	CWA	2030	YES	Based on similar to Building 2035 survey; ACM may have been removed and any remaing may be on piping beind walls.
Golf Course	CWA	2031	YES	Based on similar to Building 2035 survey; ACM may have been removed and any remaing may be on piping beind walls.
Golf Course	CWA	2032	YES	Based on similar to Building 2035 survey; ACM may have been removed and any remaing may be on piping beind walls.
Golf Course	CWA	2033	YES	Based on similar to Building 2035 survey; ACM may have been removed and any remaing may be on piping beind walls.
Golf Course	CWA	2034	YES	Based on similar to Building 2035 survey; ACM may have been removed and any remaing may be on piping beind walls.
Golf Course	CWA	2035	YES	ACM may have been removed and any remaing may be on piping beind walls.

Phase 1 Transfer Parcels (Not Including Parcel E)
ACM Information By Building

Phase 1 Parcel	Fort Monmouth Area	Building Number	ACM Present	Comment/Description
Golf Course	CWA	2036	YES	Based on similar to Building 2035 survey; ACM may have been removed and any remaing may be on piping beind walls.
Golf Course	CWA	2037	YES	Based on similar to Building 2035 survey; ACM may have been removed and any remaing may be on piping beind walls.
Golf Course	CWA	2038	YES	Based on similar to Building 2035 survey; ACM may have been removed and any remaing may be on piping beind walls.
Golf Course	CWA	2039	YES	Based on similar to Building 2035 survey; ACM may have been removed and any remaing may be on piping beind walls.
Golf Course	CWA	2040	YES	Based on similar to Building 2035 survey; ACM may have been removed and any remaing may be on piping beind walls.
Golf Course	CWA	2041	YES	Based on similar to Building 2035 survey; ACM may have been removed and any remaing may be on piping beind walls.
Golf Course	CWA	2042	YES	Based on similar to Building 2035 survey; ACM may have been removed and any remaing may be on piping beind walls.
Golf Course	CWA	2043	YES	Based on similar to Building 2035 survey; ACM may have been removed and any remaing may be on piping beind walls.
Golf Course	CWA	2070	NO	Newer Building
Golf Course	CWA	2071	NO	Newer Building
Howard Commons	CWA	2600	Unknown	Not surveyed
Howard Commons	CWA	2603	Unknown	Not surveyed
Howard Commons	CWA	3001	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3002	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3003	YES	Based on similar to Building 3028 survey

Phase 1 Transfer Parcels (Not Including Parcel E)
ACM Information By Building

Phase 1 Parcel	Fort Monmouth Area	Building Number	ACM Present	Comment/Description
Howard Commons	CWA	3004	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3005	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3006	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3007	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3008	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3009	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3010	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3011	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3012	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3013	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3014	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3015	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3016	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3017	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3018	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3019	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3020	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3021	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3022	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3023	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3024	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3025	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	2026	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3027	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3028	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3029	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3030	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3031	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3032	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3033	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3034	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3035	YES	Based on similar to Building 3028 survey

Phase 1 Transfer Parcels (Not Including Parcel E)
ACM Information By Building

Phase 1 Parcel	Fort Monmouth Area	Building Number	ACM Present	Comment/Description
Howard Commons	CWA	3036	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3037	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3038	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3039	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3040	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3041	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3042	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3043	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3044	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3045	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3046	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3047	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3048	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3049	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3050	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3051	YES	Based on similar to Building 3028 survey
Howard Commons	CWA	3052	YES	Based on similar to Building 3028 survey
Parcel C	CWA	2275	NO	
Parcel C	CWA	2469	NO	Re-inspection occurred on June 6, 2013. Samples were collected from several locations and none were identified as ACM.
Parcel C	CWA	2701	NO	Demolished
Parcel C	CWA	2900	NO	Newer Building
Parcel C1	CWA	2539	YES	Floor Tile only, non-friable
Parcel C1	CWA	2540	NO	Newer Building
Parcel C1	CWA	2541	NO	Newer Building
Parcel F	CWA	2290	NO	Newer Building
Parcel F	CWA	2500	NA	Building Demolished
Parcel F	CWA	2501	YES	Floor Tile only (non-friable)

Phase 1 Transfer Parcels (Not Including Parcel E)
ACM Information By Building

Phase 1 Parcel	Fort Monmouth Area	Building Number	ACM Present	Comment/Description
Parcel F	CWA	2502	YES	Based on survey from similar building 2506, floor tile only, non-friable
Parcel F	CWA	2503	NO	
Parcel F	CWA	2504	YES	Based on survey from similar building 2506, floor tile only, non-friable
Parcel F	CWA	2505	NA	Building Demolished
Parcel F	CWA	2506	YES	Floor tile only, non-friable.
Parcel F	CWA	2507	NO	
Parcel F	CWA	2508	YES	Floor Tile (non-friable); wall board (friable). Re-inspection on June 6, 2013 indicated wall board still present and friable ACM.
Parcel F	CWA	2510	NO	Building Demolished
Parcel F	CWA	2525	YES	Floor Tile (non-friable); pipe insulation (friable). Building was re-inspected on June 7, 2013 for friable ACM. No ACM was identified during this inspection and it was noted the pipe insulation had been removed. Some friable ACM may exist in pipe chases.
Parcel F	CWA	2535	NA	Building Demolished
Parcel F	CWA	2359	Yes	Floor Tile only (non-friable)
Parcel F	CWA	2560	NO	Newer Building
Parcel F	CWA	2566	NO	Newer Building
Parcel F	CWA	2567	NO	
Parcel F	CWA	2568	NA	Building Demolished
Parcel F	CWA	2569	NO	Newer Building (1990)
Parcel F	CWA	2625	NO	Newer Building
Parcel F	CWA	2627	NO	Newer Building
Parcel F	CWA	2628	NO	Newer Building
Parcel F	CWA	2629	NO	Newer Building
Parcel F	CWA	2630	NO	Newer Building

Phase 1 Transfer Parcels (Not Including Parcel E)
ACM Information By Building

Phase 1 Parcel	Fort Monmouth Area	Building Number	ACM Present	Comment/Description
Parcel F	CWA	2632	NO	Newer Building
Parcel F	CWA	2700	YES	Transite and floor tile (non-friable); pipe insulation (friable), ceiling fireproofing (friable), duct insulation (friable). A re-inspection was performed on July 10 through July 12, 2013. Much of the insulation is in damaged condition.
Parcel F	CWA	2702	NA	Water Tower
Parcel F	CWA	2703	NA	Flag Pole
Parcel F	CWA	2704	YES	Reinspection performed on June 6, 2013. Pipe insulation was identified as friable and some of it is damaged.
Parcel F	CWA	2705	YES	Floor Tile (non-friable); pipe insulation (friable). Reinspection was performed on June 6, 2013. Pipe insulation was observed and was in good condition.
Parcel F	CWA	2706	NO	Newer Building
Parcel F	CWA	2707	NO	Newer Building
Parcel F	CWA	2708	NO	Newer Building
Parcel F	CWA	2709	NO	Newer Building
Parcel F	CWA	2710	NO	Newer Building
Parcel F	CWA	2712	NO	Demolished
Parcel F	CWA	2713	NO	Newer Building
Parcel F	CWA	2715	NO	Newer Building
Parcel F	CWA	2718	NO	Newer Building
Parcel B	MP	1200	YES	Re-inspection was performed on June 10, 2013. Former pipe insulation suspected of being friable ACM was inspected and found to be in good condition.
Parcel B	MP	1201	NO	

Phase 1 Transfer Parcels (Not Including Parcel E)
ACM Information By Building

Phase 1 Parcel	Fort Monmouth Area	Building Number	ACM Present	Comment/Description
Parcel B	MP	1202	NO	
Parcel B	MP	1203	NO	Re-inspection was performed on June 10, 2013. Former pipe insulation suspected of being friable ACM was inspected and found to be in good condition.
Parcel B	MP	1204	NO	Building Gutted
Parcel B	MP	1205	NO	Building Gutted
Parcel B	MP	1222	NO	Size and type of building indicates no ACM, this is guard shack.
Parcel B	MP	1224	NO	Brick Bus Shelter
Parcel B	MP	1225	NO	Brick Bus Shelter
Parcel B	MP	1230	NO	Newer Building
Parcel B	MP	1231	NO	Newer Building

ENCLOSURE 7

CERCLA NOTICE, COVENANT, AND ACCESS PROVISIONS AND OTHER DEED PROVISIONS

The following CERCLA Covenant and Access Provisions, along with the Other Deed Provisions, will be placed in the deed in a substantially similar form to ensure protection of human health and the environment and to preclude any interference with ongoing or completed remediation activities.

1. CERCLA NOTICE

A. Pursuant to section 120(h)(3)(A)(i)(I) and (II) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. § 9620(h)(3)(A)(i)(I) and (II)), available information regarding the type, quantity, and location of hazardous substances and the time at which such substances were stored, released, or disposed of, as defined in section 120(h) is provided in Enclosure 4, attached hereto and made a part hereof. Additional information regarding the storage, release, and disposal of hazardous substances on the property has been provided to the Grantee, receipt of which the Grantee hereby acknowledges. Such additional information includes, but is not limited to, the following documents: U.S. Army, BRAC 2005 Environmental Condition of Property Report Fort Monmouth, Monmouth County, New Jersey, Final, 29 January 2007; U.S. Army, BRAC 2005 Site Investigation Report Fort Monmouth, Final, 21 July 2008; Baseline Ecological Evaluation Report, May 2012 U.S. Army, Environmental Condition of Property Update Report, Fort Monmouth, Monmouth County, New Jersey, March 21, 2013; and U.S. Army, Finding of Suitability to Transfer, Charles Wood Area and Main Post Parcel B, Fort Monmouth, New Jersey, Final, August, 2013.

B. Pursuant to section 120(h)(3)(A)(i)(III) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. § 9620(h)(3)(A)(i)(III)), a description of the remedial action taken, if any, on the property is provided in Enclosure 4, attached hereto and made a part hereof. Additional information regarding the remedial action taken, if any, has been provided to the Grantee, receipt of which the Grantee hereby acknowledges. Such additional information includes, but is not limited to, the following documents: U.S. Army, BRAC 2005 Environmental Condition of Property Report Fort Monmouth, Monmouth County, New Jersey, Final, 29 January 2007; U.S. Army, BRAC 2005 Site Investigation Report Fort Monmouth, Final, 21 July 2008; Baseline Ecological Evaluation Report, May 2012; U.S. Army, Environmental Condition of Property Update Report, Fort Monmouth, Monmouth County, New Jersey, March 21, 2013; and U.S. Army, Finding of Suitability to Transfer, Charles Wood Area and Main Post Parcel B, Fort Monmouth, New Jersey, Final, August, 2013.

2. CERCLA COVENANT

Pursuant to section 120(h)(3)(A)(ii) and (B) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. § 9620(h)(3)(A)(ii) and (B)), the United States warrants that –

A. All remedial action necessary to protect human health and the environment with respect to any hazardous substances identified pursuant to section 120(h)(3)(A)(i)(I) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 remaining on the property has been taken before the date of this deed, and

B. Any additional remedial action found to be necessary after the date of this deed shall be conducted by the United States.

3. RIGHT OF ACCESS

A. Pursuant to section 120(h)(3)(A)(iii) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. § 9620(h)(3)(A)(iii)), the United States retains and reserves a perpetual and assignable easement and right of access on, over, and through the Property, to enter upon the Property in any case in which an environmental response action or corrective action is found to be necessary on the part of the United States, without regard to whether such environmental response action or corrective action is on the Property or on adjoining or nearby lands. Such easement and right of access includes, without limitation, the right to perform any environmental investigation, survey, monitoring, sampling, testing, drilling, boring, coring, test-pitting, installing monitoring or pumping wells or other treatment facilities, response action, corrective action, or any other action necessary for the United States to meet its responsibilities under applicable laws and as provided for in this instrument. Such easement and right of access shall be binding on the Grantee and its successors and assigns, and shall run with the land.

B. In exercising such easement and right of access, the United States shall provide the Grantee or its successors or assigns, as the case may be, with reasonable notice of its intent to enter upon the Property and exercise its rights under this clause, which notice may be severely curtailed or even eliminated in emergency situations. The United States shall use reasonable means, but without significant additional costs to the United States, to avoid and to minimize interference with the Grantee's and the Grantee's successors' and assigns' quiet enjoyment of the Property. At the completion of any work, the work site shall be reasonably restored. Such easement and right of access includes the right to obtain and use utility services, including water, gas, electricity, sewer, and communications services available on the Property at a reasonable charge to the United States. Excluding the reasonable charges for such utility services, no fee, charge, or compensation will be due the Grantee, nor its successors and assigns, for the exercise of the easement and right of access hereby retained and reserved by the United States.

C. In exercising such easement and right of access, neither the Grantee nor its successors and assigns, as the case may be, shall have any claim at law or equity against the United States or any officer, employee, agent, contractor of any tier, or servant of the United States based on actions taken by the United States or its officers, employees, agents, contractors of any tier, or servants pursuant to and in accordance with this clause. Provided, however, that nothing in this paragraph shall be considered a waiver by the Grantee, its successors and assigns, of any remedy available to them under the Federal Tort Claims Act. In addition, the Grantee, its successors and assigns, shall not interfere with any response action or corrective action conducted by the Grantor on the Property.

4. "AS IS" CONDITION OF PROPERTY

A. The Grantee acknowledges that it has inspected or has had the opportunity to inspect the Property and accepts the condition and state of repair of the Property. The Grantee understands and agrees that the Property is conveyed "AS IS" without any representation, warranty, or guaranty by the Grantor as to quantity, quality, title, character, condition, size, or kind, or that the same is in a suitable condition or fit to be used for the purpose(s) intended by the Grantee, and no claim for allowance or deduction upon such grounds will be considered.

B. No warranties, either express or implied, are given with regard to the condition of the Property including, without limitation, whether the Property does or does not contain asbestos or lead-based paint. The Grantee shall be deemed to have relied solely on its own judgment in assessing the overall condition of all or any portion of the Property including, without limitation, any asbestos, lead-based paint, or other conditions on the Property. The failure of the Grantee to inspect or to exercise due diligence to be fully informed as to the condition of all or any portion of the Property will not constitute grounds for any claim or demand against the Grantor.

C. Nothing in this "As Is" provision shall be construed to modify or negate the Grantor's obligation under the CERCLA Covenant or any other statutory obligations.

5. HOLD HARMLESS

A. To the extent authorized by New Jersey law, the Grantee, for itself, its successors and assigns, covenant and agrees to indemnify and hold harmless the Grantor, its officers, agents, and employees from (1) any and all claims, damages, judgments, losses, and costs, including fines and penalties, arising out of the violation of the notices, covenants, conditions, and restrictions in this deed by the Grantee, its successors and assigns, and (2) any and all claims, damages, judgments, losses, and costs arising out of, or in any manner predicated upon, exposure to asbestos, lead-based paint, or other condition on any portion of the Property after the date of the conveyance.

B. The Grantee, for itself, its successors and assigns, covenants and agrees that the Grantor shall not be responsible for any costs associated with modification or termination of the notices, covenants, conditions, and restrictions in this deed including, without limitation, any costs

associated with additional investigation or remediation of asbestos, lead-based paint, or other condition on any portion of the Property.

C. Nothing in this "Hold Harmless" provision shall be construed to modify or negate the Grantor's obligation under the CERCLA Covenant or any other statutory obligations.

6. POST-TRANSFER DISCOVERY OF CONTAMINATION

A. If an actual or threatened release of a hazardous substance or petroleum product is discovered on the Property after the date of the conveyance, the Grantee, its successors or assigns shall be responsible for such release or threatened release of such newly discovered hazardous substance or petroleum product unless the Grantee, its successors or assigns is able to demonstrate that such release or threatened release of such newly discovered hazardous substance or petroleum product was due to Grantor's activities, use, or ownership of the Property. If the Grantee, its successors or assigns believe the newly discovered hazardous substance or petroleum product is due to the Grantor's activities, use, or ownership of the Property, the Grantee, its successors or assigns shall immediately secure the site and notify the Grantor of the existence of the hazardous substance or petroleum products and Grantee, its successors or assigns shall not further disturb or allow the disturbance of such hazardous substance or petroleum product without the prior written permission of the Grantor.

B. The Grantee, for itself, its successors and assigns, as part of the consideration for the conveyance of the Property, hereby agrees to release the Grantor from any liability or responsibility for any claims arising solely out of the release or threatened release of any hazardous substance or petroleum product on the Property occurring after the date of the delivery and acceptance of this Deed, where such hazardous substance or petroleum product was placed on the Property by the Grantee, or its successors, assigns, employees, invitees, agents, contractors, or any other person other than the Grantor after the date of the conveyance herein. This provision shall not affect the Grantor's responsibilities to conduct response actions or corrective actions that are required by applicable laws, rules and regulations, or the Grantor's indemnification obligations under applicable laws.

7. ENVIRONMENTAL PROTECTION PROVISIONS

The Grantee shall neither transfer the Property, lease the Property, nor grant any interest, privilege, or license whatsoever in connection with the Property without the inclusion of the Environmental Protection Provisions set forth in Enclosure 8, attached hereto and made a part hereof, and shall require the inclusion of the said "Environmental Protection Provisions" in all subsequent deeds, easements, transfers, leases, or grant of any interest, privilege, or license in, of, on, or to the Property or any portion thereof.

ENCLOSURE 8

ENVIRONMENTAL PROTECTION PROVISIONS

The following conditions, restrictions, and notifications will be placed, in a substantially similar form, in the deed to ensure that there will be no unacceptable risk to human health and the environment.

1. LAND USE RESTRICTIONS

A. The Department of the Army has undertaken careful environmental study of the Property and concluded that the ground water use restriction set forth below is required to ensure protection of human health and the environment. The Grantee, its successors or assigns, shall not undertake nor allow any activity on or use of the property that would violate the land use restrictions contained herein.

1) **Groundwater Restriction.** Grantee is hereby informed and acknowledges that the groundwater adjacent to the Property may contain volatile organic concentrations above the New Jersey Ground Water Quality Standards (NJGWQS). The Grantee, its successors and assigns shall not access or use groundwater underlying the Property for potable uses without the prior written approval of United States Department of the Army, and the NJDEP. For the purpose of this restriction, "groundwater" shall have the same meaning as in section 101(12) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).
2) **Land Use Restriction.** Grantee is hereby informed and acknowledges that certain portions of the area adjacent to Building 2000 have soils remaining with PCB concentrations above the Residential but below non-residential use Soil Cleanup Criteria (otherwise known as ECP Parcel 12). This area of the property is restricted to non-residential uses and is subject to the provisions of the Deed Notice (see Figure B1 from Deed Notice (Attachment 1 to EPPs).
3) **Notice of Groundwater Monitoring Wells**. The Grantee is hereby informed and does acknowledge the presence of approximately 50 groundwater monitoring wells on the Property. The locations of these monitoring wells are shown on maps included in Attachment 1 to the EPP). The Grantee shall not disturb or permit others to disturb the monitoring wells located on the Property without prior written approval from the Grantor and the NJDEP. Upon the Grantor's determination that a well is no longer necessary, the Grantor will close such well at the Army's sole cost and expense in accordance with applicable laws, regulations, and ordinances.

B. Nothing contained herein shall preclude the Grantee, its successors or assigns from undertaking, in accordance with applicable laws and regulations and without any cost to the Grantor, such additional action as would be necessary to allow for other less restrictive use of the

Property otherwise prohibited by this provision. Prior to any such use of the Property, the Grantee shall consult with and obtain the approval of the Department of the Army, and the New Jersey Department of Environmental Protection. Upon the Grantee's obtaining the approval of the Department of the Army and the New Jersey Department of Environmental Protection, the Grantor agrees to execute an appropriate instrument modifying or terminating the land use restriction for recordation in the land records of Monmouth County, New Jersey. The recordation of any such instrument shall be the responsibility of the Grantee and shall be accomplished at no additional cost to the Department of the Army.

C. The Grantee, its successors and assigns shall submit any requests to modify or terminate, as appropriate, the restrictions imposed herein to the Department of the Army and the New Jersey Department of Environmental Protection**,** by first class mail, postage prepaid, addressed as follows:

i. U.S. Army Engineers District, New York
26 Federal Plaza, Room 2007 (CENAN-RE-M)
New York, NY 10278

ii. New Jersey Department of Environmental Protection
Bureau of Case Assignment & Initial Notice
Site Remediation Program
401 East State St. PO Box 420, 5th Floor (401-05H)
Trenton, NJ 08625 -0420

2. NOTICE OF THE PRESENCE OF ASBESTOS AND COVENANT

A. The Grantee is hereby informed and does acknowledge that friable and non-friable asbestos or asbestos-containing material (hereinafter referred to as "ACM") has been found on the Property. The Property may also contain improvements, such as buildings, facilities, equipment, and pipelines, above and below the ground that contain friable and non-friable asbestos or ACM. The Occupational Safety and Health Administration (OSHA) and the U.S. Environmental Protection Agency have determined that unprotected or unregulated exposure to airborne asbestos fibers increases the risk of asbestos-related diseases, including certain cancers that can result in disability or death.

B. FOST Enclosure 6 contains a list of buildings on the property that have been determined to contain friable asbestos. The Grantee agrees to undertake any and all asbestos abatement or remediation in the buildings noted within FOST Enclosure 6 that may be required under applicable law or regulation at no expense to the Grantor. The Grantor has agreed to transfer said buildings to the Grantee, prior to remediation or abatement of asbestos hazards, in reliance upon the Grantee's express representation and covenant to perform the required asbestos abatement or remediation of these buildings.

C. The Grantee covenants for itself, its successors and assigns that its use and occupancy of the Property will be in compliance with all applicable laws and regulations relating to

asbestos. The Grantee, its successors and assigns, shall be responsible for any remediation or abatement of asbestos found to be necessary on the buildings or structures on the Property, including ACM in or on buried pipelines that may be required under applicable law or regulation.

D. The Grantee acknowledges that it has inspected or has had the opportunity to inspect the Property as to its asbestos and ACM condition and any hazardous or environmental conditions relating thereto. The Grantee shall be deemed to have relied solely on its own judgment in assessing the condition of the Property including, without limitation, any asbestos or ACM hazards or concerns

3. NOTICE OF THE PRESENCE OF LEAD-BASED PAINT (LBP) AND COVENANT LIMITING THE USE OF THE PROPERTY FOR RESIDENTIAL PURPOSES

A. Every purchaser of any interest in residential real property on which a residential dwelling was built prior to 1978 is notified that such property may present exposure to lead from lead-based paint that may place young children at risk of developing lead poisoning. Lead poisoning in young children may produce permanent neurological damage, including learning disabilities, reduced intelligence quotient, behavioral problems, and impaired memory. Lead poisoning also poses a particular risk to pregnant women. The seller of any interest in residential real property is required to provide the buyer with information on lead-based paint hazards from risk assessment or inspections in the seller's possession and notify the buyer of any known lead-based paint hazards. A risk assessment or inspection for possible lead-based paint hazards is recommended prior to purchase.

The Grantee is hereby informed and does acknowledge that residential buildings 2022 through 2042 and residential buildings 3001 through 3052 located on the Property are known or presumed to contain lead-based paint. Additionally, other non-residential buildings on the Property that were constructed prior to 1978 are presumed to contain lead-based paint.

The following records or reports available to the Grantor pertaining to lead-based paint and/or lead-based paint hazards on the Property have been provided to the Grantee:

(a) ADS Environmental. Fort Monmouth Lead Hazard Assessment Project Summary prepared for Fort Monmouth DPW. July 16, 1996.

(b) Fort Monmouth DPW cover letter for Lead-Based Paint Risk Assessment Summaries. June 30, 2005.

(c) Versar, Inc. *Lead-Based Paint Risk Assessment Report for Selected Units at the Charles Wood Area*, prepared for U.S. Army DPW, Fort Monmouth, NJ. September 2000.

(d) Bureau Veritas North America, Inc. *Lead-Based Paint Survey* prepared for U.S. Army Garrison, Fort Monmouth, Directorate of Public Works. September 6, 2011.

B. The Grantee hereby affirms receipt of the records or reports identified in this notice and covenant and the lead hazard information pamphlet required under 15 U.S.C. § 2696.

C. The Grantee hereby acknowledges that it has had the opportunity to conduct the risk assessment or inspection required by 24 C.F.R. § 35.90(a) with regard to the Property. The Grantee shall be deemed to have relied solely on its own judgment in assessing the overall condition of the Property with regard to lead-based paint and lead-based paint hazards.

D. The Grantee for itself, its successors and assigns hereby covenants and agrees that it shall not permit the occupancy or use of any buildings or structures on the Property as a residential dwelling, as defined in 24 C.F.R. § 35.86, without complying with all applicable laws and regulations pertaining to lead-based paint and/or lead-based paint hazards. Prior to permitting the occupancy of any building or structure on the Property where its use subsequent to the conveyance herein is intended for residential habitation, the Grantee specifically agrees to perform, at its sole expense, the Grantor's abatement requirements under Title X of the Housing and Community Development Act of 1992 (Residential Lead-Based Paint Hazard Reduction Act of 1992).

4. NOTICE OF THE PRESENCE OF PESTICIDES AND COVENANT

A. The Grantee is hereby notified and acknowledges that registered pesticides have been applied to the property conveyed herein and may continue to be present thereon. The Grantor and Grantee know of no use of any registered pesticide in a manner (1) inconsistent with its labeling or with the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) (7 U.S.C. § 136, et seq.) and other applicable laws and regulations, or (2) not in accordance with its intended purpose.

B. The Grantee covenants and agrees that if the Grantee takes any action with regard to the property, including demolition of structures or any disturbance or removal of soil that may expose, or cause a release of, a threatened release of, or an exposure to, any such pesticide, Grantee assumes all responsibility and liability therefore.

5. Notice of the Presence of Mold and Covenant

A. The Grantee is hereby notified and acknowledges that mold has been found in Building 2700 on the property: Exposure to certain types of mold spores may result in allergic reactions in some persons. To the best of the Grantor's knowledge, the mold on the property does not pose a threat to human health or the environment.

B. The Grantee covenants and agrees that its use and occupancy of the improvements will be in compliance with applicable laws and regulations relating to mold; and that the Grantor assumes no liability for future remediation of mold or damages for personal liability,

illness, disability or death, to the Grantee, its successors or assigns, or to any other person, including members of the general public, arising from or incident to exposure to or any other activity causing or leading to contact of any kind whatsoever with mold on the Property after the date of this deed, whether the Grantee, its successors or assigns have properly warned or failed to properly warn the individuals affected. The Grantee agrees to be responsible for any future remediation of mold found to be necessary on the Property.

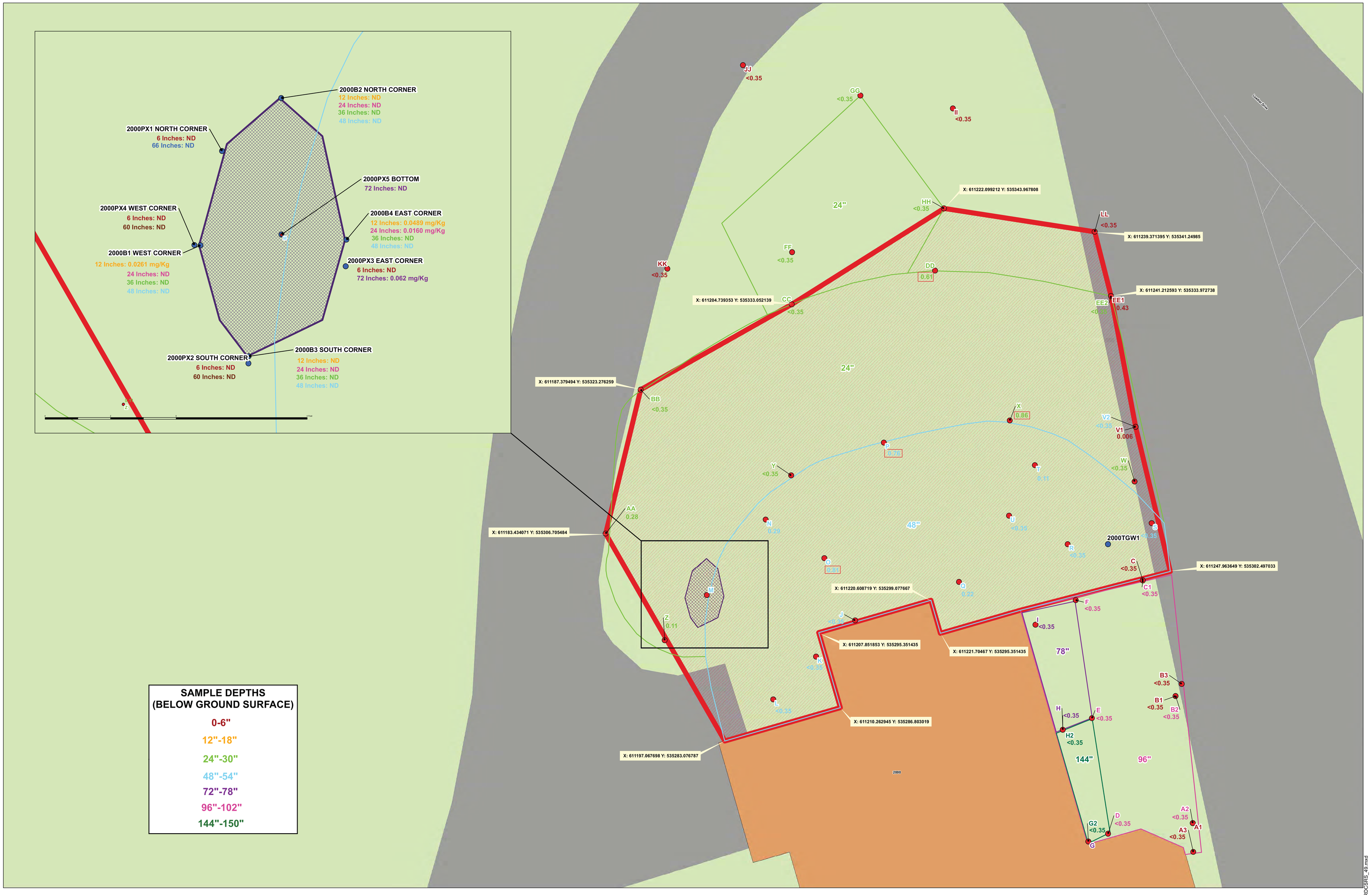
C. The Grantee acknowledges that it has had the opportunity to inspect the improvements as to its mold exposure condition and any hazardous or environmental condition related thereto. The Grantee shall be deemed to have relied solely on its own judgment in assessing the overall condition of all or any portion of the improvements, including, without limitation, any mold condition or concerns.

D. No mold warranties either expressed or implied, are given with regard to the condition of the property, including, without limitation, whether the Property does or does not contain elevated levels of mold or is not suitable for a particular purpose. The failure of the Grantee to inspect, or to be fully informed as to the condition of all or any improvement offered, will not constitute grounds for any claim or demand against the United States.

EPP Attachment 1

Site Maps

- **Land Use Restriction Map – Gibbs Hall Building 2000**
- **Main Post Well Location Map**
- **Charles Wood Area Well Location Map**



Site CW-7/ Bldg. 2000 Excavation Soil Samples

AEDB-R # FTMM-29

RDCSCC Limit = 0.49 mg/kg

Charles Wood Area

Fort Monmouth, New Jersey

FOUO

0 4.5 9 18 27 36 Feet

Legend

CW 7 Post Excavation Soil Sample Location
Results shown in mg/Kg

CW7 Secondary Excavation Sample Points
Results shown in mg/Kg

Proposed Deed Notice Boundary
AREA DOES NOT MEET RESIDENTIAL STANDARDS
TOTAL AREA: 2451.0774 sq/ft

Excavation Limits
Depth
24"
48"
78"
96"
144"
Approximate Limits of Secondary Excavation

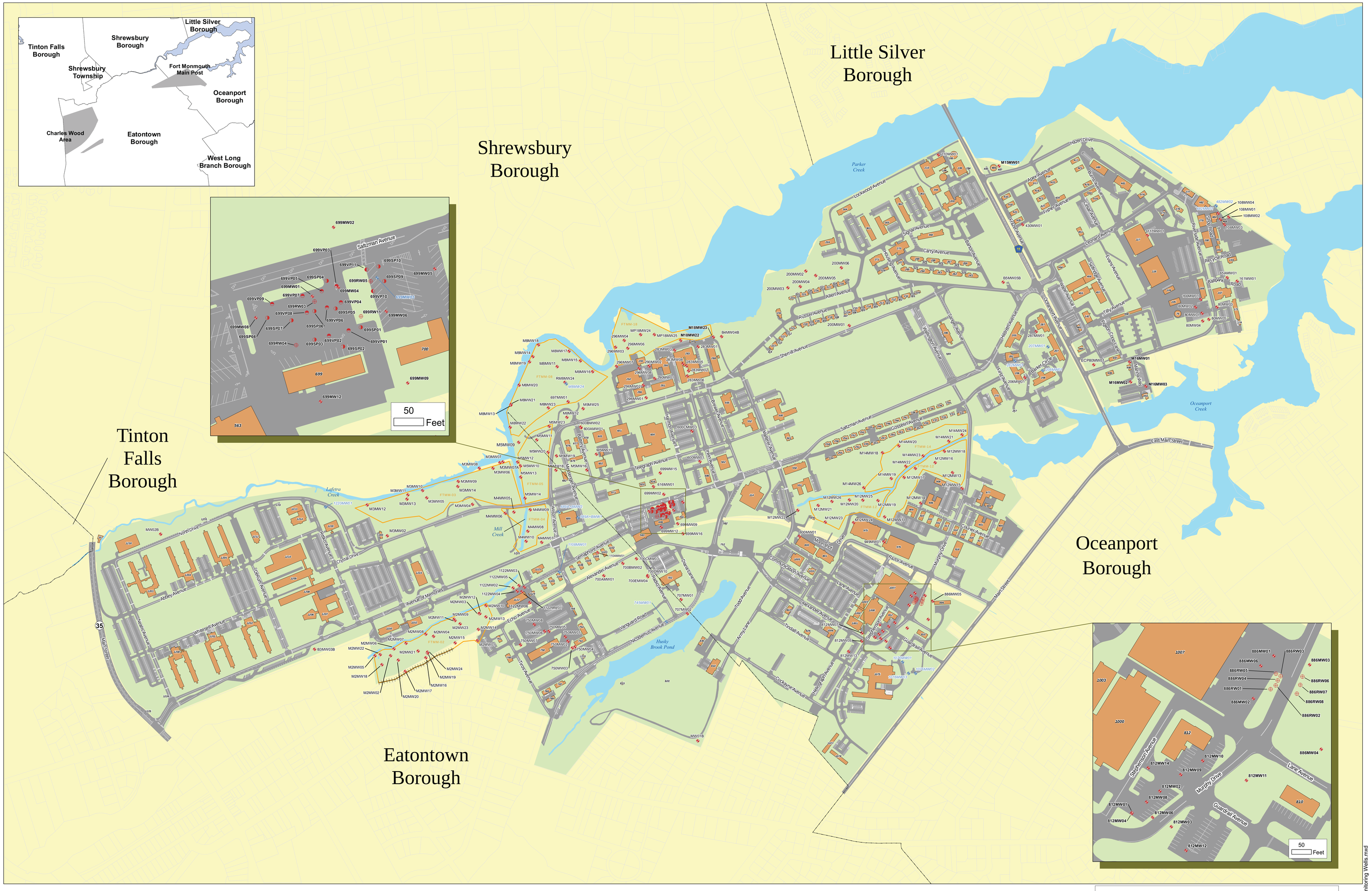
N W E S

Demolished Bulding
Existing Building
Roadway & Parking
Water Body
Post Boundaries

(Area Outside of Proposed Deed Notice Boundary Meets NJDEP RDCSCC)

Map Created by:
Fort Monmouth Installation GIO, Environmental Division
Fort Monmouth, New Jersey
Date: May 16, 2011
All drawings must be field verified.
New Jersey State Plane Feet, NAD83

May 16, 2011 H:\GIS\GIS Maps\CHPR24\Site CW-7 Soil Samples NRDCSRS_49.mxd



Monitoring Wells
Main Post
Fort Monmouth, New Jersey

Map Created by:
Fort Monmouth Installation GIO, Environmental Division
Fort Monmouth, New Jersey
Date: March 29, 2011
New Jersey State Plane Feet, NAD 83
All drawings must be field verified.

March 29, 2011 H:\GIS\GIS Maps\UTPR02\MP Monitoring Wells.mxd

Little Silver Borough
Tinton Falls Borough
Shrewsbury Borough
Shrewsbury Township
Fort Monmouth Main Post
Oceanport Borough
Charles Wood Area
Eatontown Borough
West Long Branch Borough
Eatontown Borough
Tinton Falls Borough
Tinton Avenue
Hope Road
Maxwell Place
Lowther Drive
Megill Drive
Megill Circle
Wigwag Road
Hemphill Road
Guam Lane
Bataan Avenue
Corregidor Road
Heliport Drive
Radiac Way
Laboratory Road
Computer Plaza Drive
Pearl Harbor Avenue
Watson Avenue
Quartz Avenue
Satellite Road
Fire Line Drive
Academy Avenue
Radar Avenue
Pinebrook Road
Mitchell Drive
Helms Drive
ISW3
ISW4
ISW5
ISW2
ISW6
2067MW01
2000MW01
2067MW02
2018MW01
MW09B
MW10B
B6MW06B
CW6MW03
CW6MW02
CW6MW01
CW6MW34
CW6MW35
CW6MW36
2603MW01
3021MW02
3021MW03
3021MW01
2337MW01
2700MW04
2700MW06
CW2MW31
CW2MW32
CW2MW33
CW2MW30
2562MW03
2562MW02
2562MW01
2567MW02
2567MW04
2567MW01
2567MW05
2567MW03
2567MW07
2567MW06
2534MW01
MW08B
B7MW07B
CW3AMW03
CW3AMW02
CW3AMW04
CW3AMW01
FTMM-25
CW1MW282
CW1MW39
CW1MW281
CW1SPG02
CW1MW30
CW1SVE1
CW1MW25
CW1MW34
CW1MW36
CW1SP04
CW1MW28
CW1RW02
CW1SVE2
CW1MW291
CW1MW35
CW1MW37
CW1MW27
CW1MW32
CW1MW33
CW1MW38
CW1MW26
CW1MW40
CW1RW01
CW1MW029
CW1SP03
CW1MW31
2700MW01
2700
2706
50
Feet
0 250 500 1,000
Feet
Map Created by:
Fort Monmouth Installation GIO, Environmental Division
Fort Monmouth, New Jersey
Date: January 28, 2011
New Jersey State Plane Feet, NAD 83
All drawings must be field verified.
Monitoring Wells
Charles Wood Area
Fort Monmouth, New Jersey
N
W
E
S
Legend
Monitoring Well - Active
Recovery Well
Soil Vapor Extraction Point
Sparge Point
Vapor Point
Irrigation Well
Monitoring Well - Abandoned
Landfill
Structures
Roadway & Parking
Water Body
Post Boundaries
Parcel
January 28, 2011 H:\GIS\GIS Maps\JTPR02\CWA Monitoring Wells.mxd

ENCLOSURE 9

Public and Regulatory Comments and Responses

Fort Monmouth

Finding of Suitability to Transfer

Phase 1 Properties

Responses to Regulatory (NJDEP) Comments

NJDEP Comment (April 29, 2013 Letter):

Section 2. Property Description

Page 2, paragraph 2, as you indicated on April 22, 2013, the reference to Area 400 is to be removed. Also on page 2, in the midpoint of paragraph 2, it is indicated the southeast corner of CWA was developed for R&D. Shouldn't this read south*west*?

Army Response:

The Army concurs with the requested changed and will adjust the text.

NJDEP Comment (April 29, 2013 Letter):

Section 4. Environmental Condition of Property

Parcel 28 – The narrative indicates some parts of this parcel remain a Category 7 (which are further explained in Section 5.2), or are not categorized. It does not appear the uncategorized area of Parcel 28 (the location of a former UST) is described anywhere within the document, nor is documentation regarding sampling of this area available; sampling is recommended. Additionally, former USTs 2542-29 and 2564-32, although referenced as no release or no contamination observed, were apparently not evaluated via sampling. Therefore, this office cannot concur with the determination there was no discharge in these areas. The Department recommends sampling in accordance with applicable NJDEP regulations and guidance documents.

Army Response:

The Army has located closure reports for USTs 2542-29 and 2564-32 that were prepared at the time of closure. The sampling results in the reports indicate that no petroleum was detected at either of the tanks. The reports are attached for NJDEP's information. Therefore, no change will be made to the FOST.

NJDEP Comment (April 29, 2013 Letter):

Fort Monmouth

Finding of Suitability to Transfer

Phase 1 Properties

Responses to Regulatory (NJDEP) Comments

Section 4. Environmental Condition of Property

Parcel 35 – As indicated in previous (July 23, 2012) correspondence, it was determined Appendix O of the January 2007 ECP Report indicated the presence of a former UST as adjacent to Building 2560. As no evaluation of the UST has apparently been performed in accordance with applicable NJDEP regulations and guidance documents, the Department is unable to concur with the determination there was no discharge in the area of this UST, and is therefore unable to concur with the designation of Category 1 in the area of the UST.

Army Response:

NJDEP had previously concurred with U.S. Army's determination that Parcel 35 is a Category 1, uncontaminated (see letter from NJDEP dated 17 April, 2007 attached). While the map in Appendix O shows a former tank near Building 2560, the Army has no indication of release in this area and believes this area to be uncontaminated. . Because there has been no material change in the condition of Parcel 35 since NJDEP concurred with the Category 1 determination, Parcel 35 will remain a Category 1. It should be noted, however, that despite this parcel's "uncontaminated" status, the grantee will receive the notice, covenant and access provision under CERCLA § 120(h)(3) because this parcel is being transferred with other property where there has been a release of hazardous substances. Accordingly, , the Army will remain responsible for discharges discovered in the future if caused by Army operations at the site.

NJDEP Comment (April 29, 2013 Letter):

Section 4. Environmental Condition of Property

Parcel 36 –UST 1203 is listed in Enclosure 5, Table 3, page 6 as being removed on November 1, 2009. Although the Table states "no indication of release", the evaluation report does not appear to have been submitted. Therefore, the Department is unable to concur with the determination there was no discharge or designation of Category 1 in the area of this UST.

Army Response:

The Army has located a closure report for the UST at Building 1203 that was prepared at the time of closure. The sampling results in the report indicate that no petroleum was detected in the tank excavation pit. The report is attached for NJDEP's information. Therefore, no change will be made to the FOST.

NJDEP Comment (April 29, 2013 Letter):

Section 4.1.1 Installation Restoration Program

Golf Course PCB Site (CW-7) – FTMM-29 – page 9, third and fourth lines – It is suggested the sentence beginning on line three be reworded to read similar to "A draft deed notice has been submitted to and approved by the NJDEP on January 31, 2013, and is to be filed once the property actually transfers." Regarding the fourth line, the NJDEP has not issued a Conditional NFA letter, but rather an approval of the draft deed notice, which is to be filed upon property transfer (followed by application for Remedial Action Permit).

Army Response:

The Army concurs with the requested changes and will adjust the text.

NJDEP Comment (April 29, 2013 Letter):

Section 4.3.1 Underground and Above-Ground Storage Tanks (UST/AST)

Reported Releases from USTs – page 13 – Building 2044 was listed in previous reports as a Pesticide Storage Building, rather than Residential. Building 2067 should be included, as Appendix G indicates results from the tank investigation initially exhibited TPH to 20,800 ppm in the soil, prior to receiving a Closure Approval designation on January 10, 2003.

Army Response:

The Army concurs with the requested changed and will adjust the text. Building 2044 will be moved to the group of non-residential buildings and Building 2067 will be added to the list.

Fort Monmouth

Finding of Suitability to Transfer

Phase 1 Properties

Responses to Regulatory (NJDEP) Comments

NJDEP Comment (April 29, 2013 Letter):

Section 4.4 Polychlorinated Biphenyls (PCB)

Officer's Club, Building 2000, Page 14 – The 0.049 and 2 milligrams per kilogram (mg/kg) referenced represent the Residential Direct Contact *Soil Cleanup Criteria* (RDCSCC) and Non-Residential Direct Contact *Soil Cleanup Criteria* (NRDCSCC). The approved draft Deed Notice will be *filed* once the property has been transferred.

Army Response:

The Army concurs with the requested changes and will adjust the text. Reference to "Soil Remediation Standard" will be changed to "Soil Cleanup Criteria".

NJDEP Comment (April 29, 2013 Letter):

Section 5.1 Carve Out Areas Needing Further Remediation

Wastewater Treatment Lime Pit (CW-1) – FTMM-22 – page 23, 3rd paragraph, 2nd to last sentence - The document seems to indicate the lime pit has been entirely removed during demolition activities. The base of the pit, however, I believe remains in place at this time.

Army Response:

The Army concurs with the requested changes and will adjust the text to reflect that the base of the former lime pit is still in place.

NJDEP Comment (April 29, 2013 Letter):

Enclosure 3, Table 1 – Description of Property

Parcel 28, page 3, Remedial Actions – It is agreed ten former fuel oil USTs received designations of no further action necessary. As indicated in the February 22, 2013, correspondence, however, USTs 2564-32 and 2542-29, although reportedly evidencing no visual contamination,

do not appear to have been sampled; therefore, this office cannot concur with the designation of no discharge, nor concur with a Category 1 designation for the area of these two USTs. The Department believes sampling is necessary. Additionally, no mention is made nor description provided of the non-categorized area within the parcel shown in the Site Map in Enclosure 1; again, sampling is warranted.

Army Response:

The Army will revise the text in Sections 4.3.1 to describe the "uncategorized" portions of the property relating to former USTs that were removed and where no indications of release were observed but no sampling was performed. The closure reports for USTs 2542-29 and 2564-32 are attached and indicate no release occurred. Therefore, no change to the FOST is necessary.

NJDEP Comment (April 29, 2013 Letter):

Enclosure 3, Table 1 – Description of Property

AAFES Gasoline Station (FTMM-58)- page 5 – Second to last sentence under the *Remedial Actions* column – "….are considered non-impacted and *are* part of this FOST and are considered a Category 1." The Category should read Category 2, rather than Category 1, correct? If this is not accurate, please provide the date of DEP concurrence.

Army Response:

The Army concurs with the requested change and will adjust the Table to reflect this as a Category 2.

NJDEP Comment (April 29, 2013 Letter):

Enclosure 3, Table 1 – Description of Property

Child Development Center, Teen Center, Pool and Former Sewage Treatment Plant – page 5 – The septic tank in need of investigation, and which is not included in this FOST/transfer (carve-

out), is not referenced under the Remedial Actions column, as carve-outs are in the other parcels. As noted, this office cannot concur with the designation of no discharge, nor concur with a Category 1 designation, relative to the area of the UST noted on Appendix O of the January 2007 ECP Report as adjacent to Building 2560, without evaluation in accordance with the applicable NJDEP regulations and guidance documents.

Army Response:

As noted above, NJDEP had previously concurred with U.S. Army's determination that Parcel 35, which contains the Child Development Center, Teen Center, Pool and Former Sewage Treatment Plant, is a Category 1, uncontaminated (see letter from NJDEP dated 17 April, 2007 attached). While the map in Appendix O of that April 2007 letter shows a former tank near Building 2560, the Army has no indication of release in this area. Because there has been no material change in the condition of Parcel 36 since NJDEP concurred with the Category 1 determination, Parcel 35 will remain a Category 1. It should be noted, however, that despite this parcel's "uncontaminated" status, the grantee will receive the notice, covenant and access provision under CERCLA § 120(h)(3) because this parcel is being transferred with other property where there has been a release of hazardous substances. Accordingly, the Army will remain responsible for discharges discovered in the future if caused by Army operations at the site. Additionally, Table 1 in Enclosure 3 will be revised to indicate that there is a carve out area in Parcel 35 that is the subject of further investigation.

NJDEP Comment (April 29, 2013 Letter):

Enclosure 3, Table 1 – Description of Property

Military Army Prep School and Offices – page 6 – The UST previously located at Building 1203 was reportedly removed on November 1, 2009. Although no evidence of a discharge was apparently evident, unless all tanks, former or current, have been evaluated in accordance with the applicable regulations and guidance documents (including submittal of documentation for

review), the NJDEP cannot concur with the designation of no discharge, nor concur with a Category 1 designation for the area of the former UST.

Army Response:

As noted above, the Army has located a closure report for this tank (see attached). The sampling results in that report indicate that a discharge has not occurred. Therefore, no change to the FOST is needed .

NJDEP Comment (April 29, 2013 Letter):

Enclosure 4, Table 2 – Notification of Hazardous Substance Storage, Release or Disposal

FTMM-29 (CW-7) – page 1 - Remedial Actions – The fourth and fifth lines reference residential and industrial *screening* criteria. Please change the phrasing to read *cleanup* criteria rather than screening criteria.

Army Response:

The Army concurs with the requested changes and will adjust the text.

NJDEP Comment (April 29, 2013 Letter):

Enclosure 4, Table 2 – Notification of Hazardous Substance Storage, Release or Disposal

Building 2700 (ECP Parcel 15) – page 1- does the former PCB transformer area not require inclusion on this table?

Army Response:

The Army concurs with the requested change and will add the PCB transformer area to the table.

Fort Monmouth

Finding of Suitability to Transfer

Phase 1 Properties

Responses to Regulatory (NJDEP) Comments

NJDEP Comment (April 29, 2013 Letter):

Enclosure 4, Table 2 – Notification of Hazardous Substance Storage, Release or Disposal

2700 Meyer Center (FTMM-22 – CW-1) – page 2 – Remedial Actions – first two words should read "Quality Standards", rather than "Quality Criteria". Line 14 – typo; "area" should read "are".

Army Response:

The Army concurs with the requested changes and will adjust the text.

NJDEP Comment (April 29, 2013 Letter):

Enclosure 5, Table 3 – Notification of Petroleum Product Storage, Release, or Disposal

Former USTs 2542-29 and 2564-32, on Parcel 28, are listed as no release or contamination observed, however, no sampling was apparently performed. No report of evaluation was submitted for former UST UST-2544 on Parcel 28 (non-characterized area Enclosure 1), nor forUST-2560 on Parcel 35, which are not included on the Table, nor apparently for UST-1203 on Parcel 36. As previously indicated, without same, the Department is unable to concur with the determination that no discharge was associated with these USTs.

Army Response:

Information on UST-1203 is included on page 6 of Table 3 (report attached). Information in Table 3 for USTs 2542-29 and 2564-32 will be adjusted to include information from the attached reports. Information was not included in the table for the potential tanks at buildings 2544 and 2560 as the only indication of their presence is from the map in Appendix O of the ECP which was not confirmed with other removal documentation. Thus no changes are made to Table 3 for these two potential tanks.

NJDEP Comment (April 29, 2013 Letter):

Enclosure 5, Table 3 – Notification of Petroleum Product Storage, Release, or Disposal

Fort Monmouth

Finding of Suitability to Transfer

Phase 1 Properties

Responses to Regulatory (NJDEP) Comments

Page 2 – Building 2067-37 – Date and Remedial Action - Appendix G of the US Army BRAC 2005 ECP Final Report dated January 27, 2007 (Appendix G) indicates the UST, as well as contaminated soil, were removed on May 16, 1994; the NJDEP Closure Approval is dated January 10, 2003.

Army Response:

The Army concurs with the requested changes and will adjust the text in the table.

NJDEP Comment (April 29, 2013 Letter):

Enclosure 5, Table 3 – Notification of Petroleum Product Storage, Release, or Disposal

Page 2 – Buildings 2231 through 2240 & Building 2260 – These building were contained within that portion of Parcel 35 previously transferred.

Army Response:

The Army concurs with the comment and will remove the tanks from the table.

NJDEP Comment (April 29, 2013 Letter):

Enclosure 8 Environmental Protection Provisions

1.A.2) Land Use Restriction – third and fourth lines – change "Soil Remediation Standards" to "Soil Cleanup Criteria", as these were the criteria in effect at the time of remedial activities and approval.

Army Response:

The Army concurs with the requested changes and will adjust the text.

Fort Monmouth

Finding of Suitability to Transfer

Phase 1 Properties

Responses to Regulatory (NJDEP) Comments

NJDEP Comment (April 29, 2013 Letter):

EPP Attachment 1

Site Maps – Land Use Restriction Map – Gibbs Hall Building 2000 – As above, the remediation numbers applicable to the area of concern at the time of remediation were the Residential and Non-Residential *Soil Cleanup Criteria*, rather than the Soil Remediation Standards. Please change line two of the figure's title (to reflect RDCSCC Limit = 0.49 mg/kg), as well as that within the parenthesis beneath the "Legend" box (to reflect "Area Outside of Proposed Deed Notice Boundary Meets NJDEP RDCSCC").

Army Response:

The Army concurs with the requested changes and will adjust the wording on the figure.

U.S. Army Garrison
Fort Monmouth, New Jersey

Underground Storage Tank Closure Report

Ft. Monmouth
Charles Wood Area–(former) Building 2542
Laboratory Road

NJDEP UST Registration No. 81515-29

March 2010

UNDERGROUND STORAGE TANK REPORT

CHARLES WOOD AREA – (FORMER) BUILDING 2542
NJDEP UST REGISTRATION NO. 81515-29

MARCH 2010

PREPARED FOR:

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

PROJECT NO. 06-34950

PREPARED BY:

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

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EXECUTIVE SUMMARY

UST Closure

A single wall steel underground storage tank (UST) was closed by removal in accordance with the New Jersey Department of Environmental Protection (NJDEP) guidelines on July 12, 1990. The UST was located on the northeast side of (former) Building 2542 in the Charles Wood Area of Fort Monmouth. UST No. 81515-29 was a 1,000-gallon tank containing No. 2 heating oil.

Site Assessment

This site assessment was performed by TECOM-Vinnell Services (TVS) personnel in accordance with the NJDEP *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E - December 17, 2002 and revisions dated February 3, 2003) and the NJDEP *Field Sampling Procedures Manual* (July,1994).

During the time of UST removal, no closure soil samples were collected. Soil sampling was not required at the time. However, in order to confirm that the tank did not leak, this subsurface investigation was conducted. On January 23, 2006, a Geoprobe was utilized to collect soil samples 2542W, 2542C, 2542E, and 2542GW (groundwater sample) from a total of three (3) locations along the tank centerline bottom. All soil samples were analyzed for total petroleum hydrocarbons (TPH). Groundwater was encountered at approximately eight (8.0) feet below surface grade in the borings. A sample of it was collected and analyzed for volatile organic analysis (VOA) and semi-volatile organic analysis (SVOA).

Findings

The closure soil samples collected from the location associated with UST No. 81515-29, contained TPH concentrations below the NJDEP health based criterion of 5,100 milligrams per kilogram (mg/kg) for total organic contaminants (N.J.A.C. 7:26E and revisions dated June, 2008). Soil samples 2542W, 2542C, 2542E contained TPH concentrations below the analytical method detection limits.

Conclusions and Recommendations

Based on the closure soil sampling results, soils with TPH concentrations exceeding the NJDEP health based criterion of 5,100 mg/kg for total organic contaminants are not present in the location of the UST. A groundwater sample, analyzed for volatile organic analysis and semi-volatile organic analysis, contained no compounds above the analytical method detection limits, with the exception of chloroform, a common laboratory contaminant, at 2.12 micrograms per liter (ug/L).

No Further Action is proposed in regard to the closure and site assessment of UST No. 81515-29 at (former) Building 2542.

1.0 UNDERGROUND STORAGE TANK CLOSURE SOIL SAMPLING ACTIVITIES

1.1 OVERVIEW

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 81515-29, was closed at (former) Building 2542, Laboratory Road, located on the Main Post at the U.S. Army Garrison, Fort Monmouth, New Jersey. Refer to site location map on Figure 1. This report presents the results of soil and groundwater sampling analysis. These samples were collected to confirm that the tank did not leak. The UST was a 1,000-gallon, single-wall steel tank containing No. 2 heating oil. The UST was installed in 1943 and the removal was done on July 12, 1990. Archived documents including Removal Procedures, Site Assessment Compliance Statement, NJDEP Standard Reporting Form along with the current NJDEP UST Site Investigation Report Form are included in Appendix A.

This UST Closure 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 Report provides a summary of the UST site. 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

The site, (former) Building 2542, on Laboratory Road, was located in the west central portion of the Charles Wood Area of Fort Monmouth, as shown on Figure 1, Site Location Map. UST No. 81515-29 was located on the northeast side of Building 2542, just outside the mechanical room.

1.2.1 Geological/Hydrogeological Setting

The following is a description of the geological/hydrogeological setting of the Charles Wood 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 Charles Wood Area.

<u>Regional Geology</u>

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 Charles Wood 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 Charles Wood 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.

Shallow groundwater is locally influenced within the Charles Wood Area by the following factors:

- 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 Charles Wood Area, which primarily consisted of fine-to-medium grained sands, with occasional lenses or laminations of gravel silt and/or clay.

The site, (former) Building 2542 is located approximately 300 feet southeast of an unnamed stream, the nearest water body, which flows east into Wampum Lake, which flows into Parker's Creek and then into the Shrewsbury River. Based on the Charles Wood topography, the groundwater flow in the area of Building 2542 is anticipated to be to the northwest.

1.3 HEALTH AND SAFETY

Work site health and safety hazards were minimized during all site investigation 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. All work areas were properly vented to insure that there were no contaminants present in the breathing zone above OSHA's permissible exposure limits (PEL's).

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 (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 investigation. All records of the Site Investigation activities are maintained by the Fort Monmouth DPW Environmental Office.

The following Parties participated in 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: Dean Tardiff
  Phone Number: (732) 532-6352
  NJDEP Laboratory Certification No.: 13461

2.2 FIELD SCREENING/MONITORING

Field screening of the soils was performed by a NJDEP certified Subsurface Evaluator. The Subsurface Evaluator used an OVM and visual observations to identify potentially contaminated material. No potentially contaminated material was found during the investigation.

2.3 SOIL SAMPLING

On January 23, 2006, closure soil samples 2542W, 2542C and 2542E were collected from a total of three (3) locations along the tank centerline bottom of the UST. Groundwater was encountered at approximately eight (8.0) feet below surface grade in the borings. All soil samples were analyzed for TPH. A soil sample location map is provided in Figure 2.

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 soil samples were collected into laboratory prepared glassware 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.

2.4 GROUNDWATER SAMPLING

On January 23, 2006, groundwater sample 2542C-GW was collected from soil borehole 2542C to assess the groundwater quality in the location of the tank. A temporary PVC piezometer was installed in the borehole for sample collection. The sample was collected into laboratory prepared glassware using a disposable teflon bailer. The sample was analyzed for volatile organic analysis (VOA) and semi-volatile organic analysis (SVOA).

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 SOIL SAMPLING RESULTS

Soil samples were collected from a total of three locations on January 23, 2006 to evaluate soil conditions in the location of the UST. All samples were analyzed for TPH. The closure soil sample results were compared to the NJDEP health based criterion of 5,100 mg/kg for total organic contaminants (N.J.A.C. 7:26D and revisions dated June, 2008). A summary of the analytical results and comparison to the NJDEP soil cleanup criteria is provided on Table 2. The analytical data package, including associated quality control data, is provided in Appendix B.

Soil samples collected on January 23, 2006 from UST 81515-29 contained no concentrations of TPH above the method detection limits. Soil samples 2542W, 2542C and 2542E contained TPH concentrations below the analytical method detection limits.

3.2 GROUNDWATER SAMPLING RESULTS

One groundwater sample was collected via temporary PVC piezometer installed in soil borehole 2542C. There were no compounds detected above the method detection limits for the volatile organic analysis, with the exception of chloroform, a common laboratory contaminant, at 2.12 ug/L. For the semi-volatile organic analysis, there were no compounds detected above the method detection limits.

3.3 CONCLUSIONS AND RECOMMENDATIONS

The analytical results for all soil and groundwater samples collected from the UST closure assessment at UST No. 81515-29 were below the regulatory limits.

Based on the closure soil sampling results, soils with TPH concentrations exceeding the NJDEP health based criterion for total organic contaminants of 5,100 mg/kg are not present at the location of UST No. 81515-29.

No Further Action is proposed in regard to the closure and site assessment of UST No. 81515-29 at (former) Building 2542.

APPENDIX A

CERTIFICATIONS

APPENDIX B

SOIL AND GROUNDWATER ANALYTICAL DATA PACKAGE

TABLE 1

SUMMARY OF LABORATORY ANALYSIS

FT. MONMOUTH, (former) Building 2542, UST No. 81515-29
23 January 2006

SAMPLE ID	LABORATORY SAMPLE ID	SAMPLE DATE	SAMPLE MATRIX	ANALYTICAL PARAMETER	ANALYTICAL METHOD
2542W	6004201	23-Jan-06	SOIL	TPH	OQA-QAM-25
2542C	6004202	23-Jan-06	SOIL	TPH	OQA-QAM-25
2542E	6004203	23-Jan-06	SOIL	TPH	OQA-QAM-25
2542C-Groundwater	6004204	23-Jan-06	AQUEOUS	VOA, SVOA	SW-846, EPA 625

ABBREVIATIONS:
TPH = Total Petroleum Hydrocarbons, Method NJDEP OQA-QAM-25
VOA = Volatile Organic Analysis, EPA SW-846 Method 8260
SVOA = Semi-Volatile Organic Analysis in Water, EPA Method 625

TABLE 2

SUMMARY OF LABORATORY ANALYTICAL RESULTS-SOIL

FT. MONMOUTH, (former) Building 2542, UST No. 81515-29
23 January 2006

TOTAL PETROLEUM HYDROCARBONS

SAMPLE ID	LABORATORY SAMPLE ID	SAMPLE LOCATION	SAMPLE DEPTH	MATRIX	TPH RESULTS
			(in feet)		mg/kg
2542W	6004201	WEST END UST	7.5 –8.0	Soil	ND
2542C	6004202	CENTER UST	7.5 –8.0	Soil	ND
2542E	6004203	EAST END UST	7.5 –8.0	Soil	ND

ABBREVIATIONS:
mg/kg = milligrams per kilogram = parts per million
ND = Compound Not Detected
NA = Compound Not Analyzed
*= Further Analyzed for Volatile Organic Compounds

Notes:
Gray shading indicates exceedance of NJDEP
health based criterion of 5,100 ppm total organic contaminants

TABLE 3

SUMMARY OF LABORATORY ANALYTICAL RESULTS-GROUNDWATER

FT. MONMOUTH, (former) Building 2542, UST No. 81515-29

23 January 2006

VOLATILE ORGANIC COMPOUNDS

SAMPLE ID	LAB SAMPLE ID	Benzene	Ethyl-benzene	Toluene	Total Xylenes	Methyl-tert-butyl-ether (MTBE)	Chloroform
	UNITS	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
2542C-Groundwater	6004204	ND	ND	ND	ND	ND	2.12
NJDEP Criteria	Ground Water Quality Crireria	1	700	600	1,000	110	200

SEMI-VOLATILE ORGANIC COMPOUNDS

SAMPLE ID	LAB SAMPLE ID	Naphthalene	2-Methyl-naphthanene
UNITS		ug/L	ug/L
2542C-Groundwater	6004204	ND	ND
NJDEP Criteria	Ground Water Quality Crireria	6	230

ABBREVIATIONS:
ug/L = Micrograms Per Liter = parts per billion
ND = Compound Not Detected
NA = Compound Not Analyzed
NLE= No Limit Established

Notes:
Gray shading indicates exceedance of NJDEP Class II Ground Water Quality Criteria

TABLES

FIGURES

TABLES

TABLE 1

SUMMARY OF LABORATORY ANALYSIS

FT. MONMOUTH, (former) Building 2542, UST No. 81515-29
23 January 2006

SAMPLE ID	LABORATORY SAMPLE ID	SAMPLE DATE	SAMPLE MATRIX	ANALYTICAL PARAMETER	ANALYTICAL METHOD
2542W	6004201	23-Jan-06	SOIL	TPH	OQA-QAM-25
2542C	6004202	23-Jan-06	SOIL	TPH	OQA-QAM-25
2542E	6004203	23-Jan-06	SOIL	TPH	OQA-QAM-25
2542C-Groundwater	6004204	23-Jan-06	AQUEOUS	VOA, SVOA	SW-846, EPA 625

ABBREVIATIONS:
TPH = Total Petroleum Hydrocarbons, Method NJDEP OQA-QAM-25
VOA = Volatile Organic Analysis, EPA SW-846 Method 8260
SVOA = Semi-Volatile Organic Analysis in Water, EPA Method 625

TABLE 2

SUMMARY OF LABORATORY ANALYTICAL RESULTS-SOIL

FT. MONMOUTH, (former) Building 2542, UST No. 81515-29
23 January 2006

TOTAL PETROLEUM HYDROCARBONS

SAMPLE ID	LABORATORY SAMPLE ID	SAMPLE LOCATION	SAMPLE DEPTH	MATRIX	TPH RESULTS
			(in feet)		mg/kg
2542W	6004201	WEST END UST	7.5 –8.0	Soil	ND
2542C	6004202	CENTER UST	7.5 –8.0	Soil	ND
2542E	6004203	EAST END UST	7.5 –8.0	Soil	ND

ABBREVIATIONS:
mg/kg = milligrams per kilogram = parts per million
ND = Compound Not Detected
NA = Compound Not Analyzed
*= Further Analyzed for Volatile Organic Compounds

Notes:
Gray shading indicates exceedance of NJDEP
health based criterion of 5,100 ppm total organic contaminants

TABLE 3

SUMMARY OF LABORATORY ANALYTICAL RESULTS-GROUNDWATER

FT. MONMOUTH, (former) Building 2542, UST No. 81515-29

23 January 2006

VOLATILE ORGANIC COMPOUNDS

SAMPLE ID	LAB SAMPLE ID	Benzene	Ethyl-benzene	Toluene	Total Xylenes	Methyl-tert-butyl-ether (MTBE)
	UNITS	ug/L	ug/L	ug/L	ug/L	ug/L
2542C-Groundwater	6004204	ND	ND	ND	ND	ND
NJDEP Criteria	Ground Water Quality Crireria	1	700	600	1,000	110

SEMI-VOLATILE ORGANIC COMPOUNDS

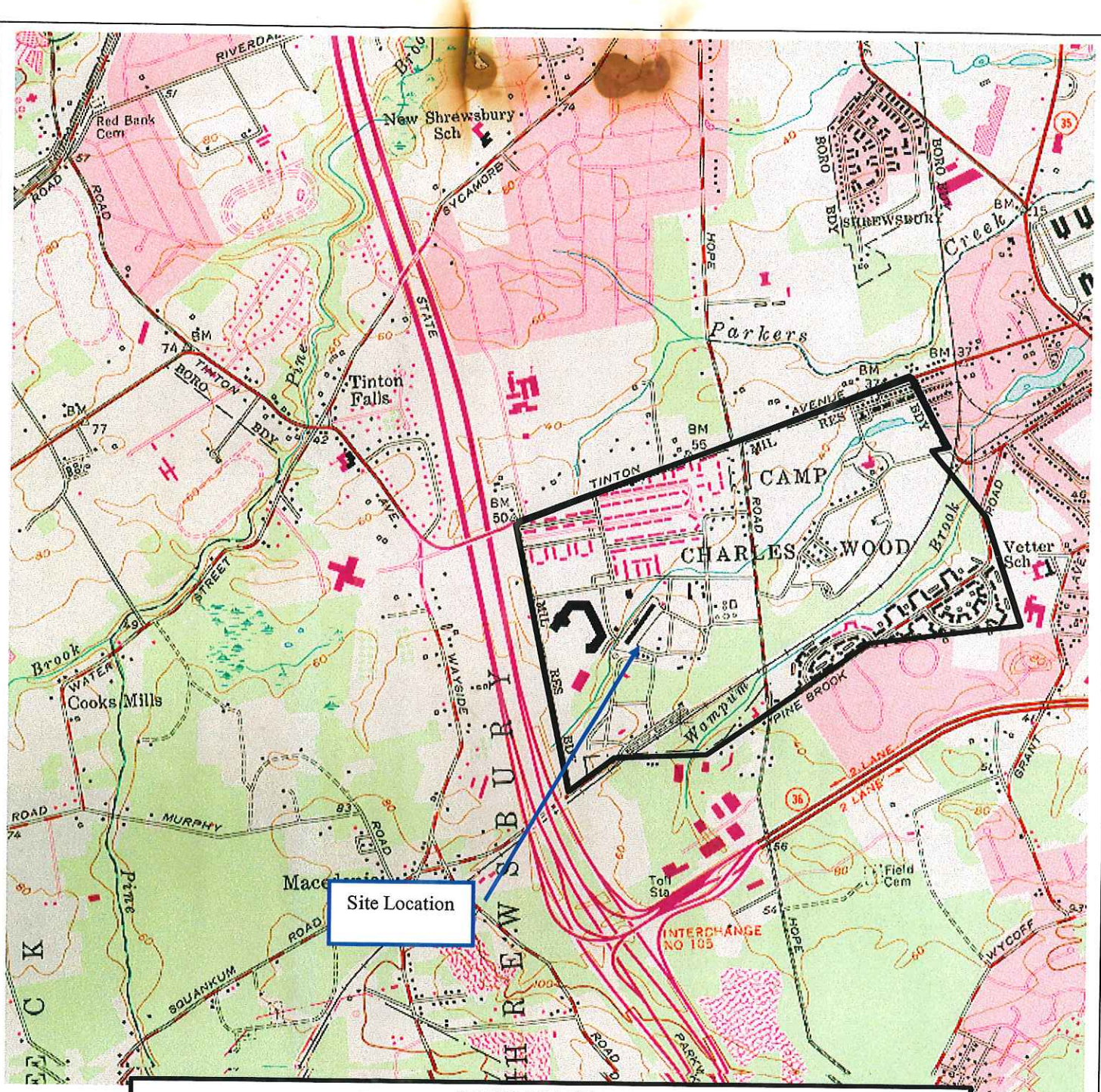
SAMPLE ID	LAB SAMPLE ID	Naphthalene	2-Methyl-naphthanene
UNITS		ug/L	ug/L
2542C-Groundwater	6004204	ND	ND
NJDEP Criteria	Ground Water Quality Crireria	~~6~~ 300	230

ABBREVIATIONS:
ug/L = Micrograms Per Liter = parts per billion
ND = Compound Not Detected
NA = Compound Not Analyzed
NLE= No Limit Established

Notes:
Gray shading indicates exceedance of NJDEP Class II Ground Water Quality Criteria

6 ppm = Resid
Inhalation SV

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

LONG BRANCH, N. J.
40073-C8-TF-024

1954
PHOTOREVISED 1981
DMA 6164 I SE-SERIES V822

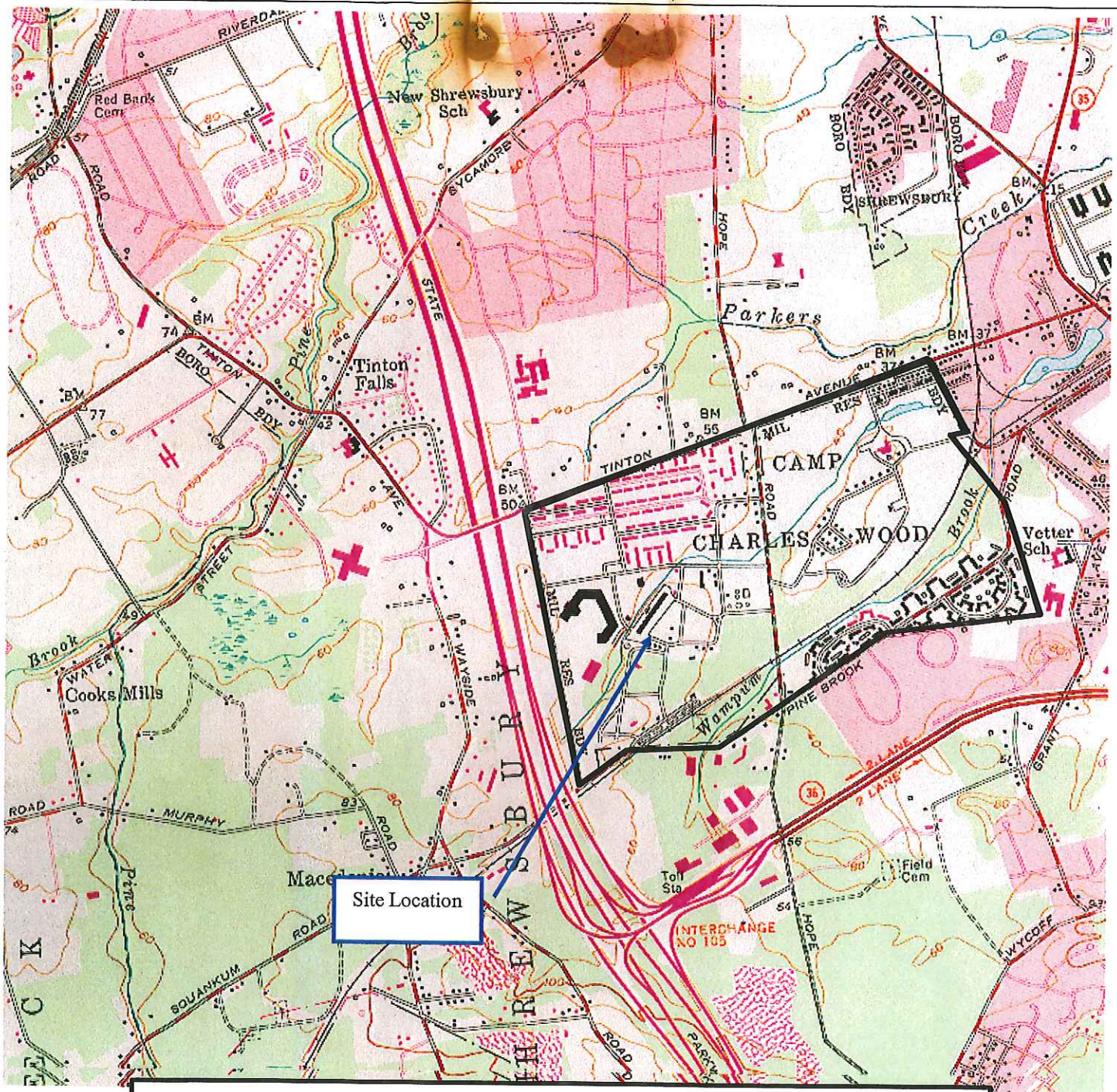
NEW JERSEY

QUADRANGLE LOCATION

Mapped, edited and published by the Geological Survey

Figure 1 – Site Location Map
(former) Building 2542
Charles Wood Area
Fort Monmouth, New Jersey

U.S. Army Garrison Fort Monmouth Department of Public Works



LONG BRANCH, N. J.
40073-C8-TF-024

1954
PHOTOREVISED 1981
DMA 6164 I SE-SERIES V822

NEW JERSEY

QUADRANGLE LOCATION

Mapped, edited and published by the Geological Survey

Figure 1 – Site Location Map
(former) Building 2542
Charles Wood Area
Fort Monmouth, New Jersey

U.S. Army Garrison Fort Monmouth Department of Public Works

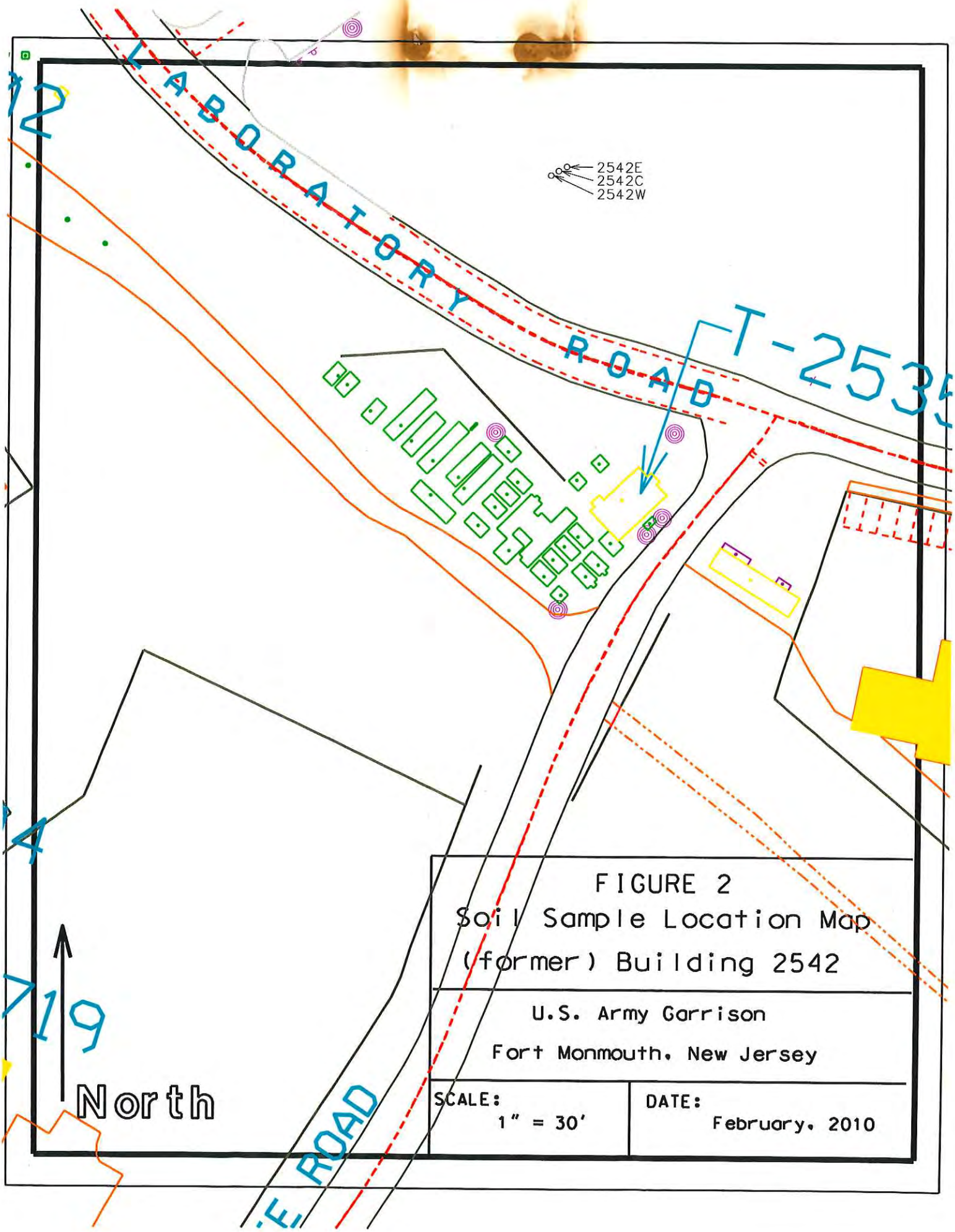


FIGURE 2
Soil Sample Location Map
(former) Building 2542

U.S. Army Garrison
Fort Monmouth, New Jersey

SCALE:	DATE:
1" = 30'	February, 2010

APPENDIX A

CERTIFICATIONS

Site Remediation Program
UST Site Remedial Investigation Report

A. Facility Name: U.S. Army Garrison

Facility Street Address: (former) Building 2542, Laboratory Rd.

Municipality: Tinton Falls County: Monmouth

Block: NA Lot(s): NA Telephone Number: 732-532-6292

B. Owner (RP)'s Name: U.S. Army Garrison

Street Address: Building 173, Riverside Ave. City: Ft. Monmouth

State: NJ Zip: 07703 Telephone Number: 732-532-6292

C. (Check as appropriate)

☐ Site Investigation Report (SIR) $500 Fee

☐ Remedial Investigation Report (RIR) $1000 Fee

D. (Complete all that apply)

Assigned Case Manager: Larry Quinn

UST Registration Number: 81515-29 (7 digits)

- Incident Report Number: _____ (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: Frank Accorsi UST Cert. No.: 0010042

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

Firm Address: Building 166, Riverside Ave. City: Ft. Monmouth

State: NJ Zip: 07703 Telephone Number: 732-532-2577

(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-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): _____ Title: _____

Signature: _____

Company Name: _____ Date: _____

Site Remediation Program
UST Site Remedial Investigation Report

A. Facility Name: U.S. Army Garrison

Facility Street Address: (former) Building 2542, Laboratory Rd.

Municipality: Tinton Falls County: Monmouth

Block: NA Lot(s): NA Telephone Number: 732-532-6292

B. Owner (RP)'s Name: U.S. Army Garrison

Street Address: Building 173, Riverside Ave. City: Ft. Monmouth

State: NJ Zip: 07703 Telephone Number: 732-532-6292

C. (Check as appropriate)

☐ Site Investigation Report (SIR) $500 Fee

☐ Remedial Investigation Report (RIR) $1000 Fee

D. (Complete all that apply)

Assigned Case Manager: Larry Quinn

UST Registration Number: 81515-29 (7 digits)

- Incident Report Number: _____ (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: Frank Accorsi UST Cert. No.: 0010042

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

Firm Address: Building 166, Riverside Ave. City: Ft. Monmouth

State: NJ Zip: 07703 Telephone Number: 732-532-2577

(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-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): _____ Title: _____

Signature: _____

Company Name: _____ Date: _____

Let's protect our earth

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Underground Storage Tanks
CN-029, Trenton, NJ 08625

Date Rec'd _____
Auth _____
Routing _____
UST NO. _____

SITE ASSESSMENT COMPLIANCE STATEMENT

Supplement to the New Jersey Standard Reporting Form
(Complete for ALL regulated UST abandonments or removals)

Within ninety (90) days of completing the UST closure of any State or Federally-regulated tank, the owner or operator must submit this completed form to the NJDEP Bureau of Underground Storage Tanks. If the facility is located in one of the counties listed on the back, a copy of this form must also be sent to the Health Agency indicated.

The owner or operator of any Federally-regulated tank must also comply with the following:

40 CFR Part 280.72 Assessing the site at closure or change-in-service

"(a) Before permanent closure or a change-in-service is completed, owners and operators must measure for the presence of a release where contamination is most likely to be present at the UST site. In selecting sample types, sample locations, and measurement methods, owners and operators must consider the method of closure, the nature of the stored substance, the type of backfill, the depth to ground water, and other factors appropriate for identifying the presence of a release."

FACILITY U.S. Army Fort Monmouth UST # 0081515 Tank No. 29 & 32

Check off the following items as appropriate for the site.

✓ The UST facility is only regulated by State law, therefore a site assessment is not mandatory.

___ The UST facility is regulated by Federal law and a site assessment was conducted.

The results of the site assessment indicate:

✓ There was NO release from the UST system.

___ There was a release from the UST system and it was reported to the DEP Environmental Hotline (609-292-7172).

NOTE: The results of the site assessment are not to be submitted to the DEP or Health Agency unless requested to do so. The results are to be available for inspection at the UST facility.

Questions can be directed to the Bureau at (609) 984-3156.

*** This registration form shall be signed by the highest ranking individual at the facility with overall responsibility for that facility (7:14B-2.3 (a) 1). ***

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

SACS-2,1/89

James Ott
(SIGNATURE)

22 NOV 1991
Date

JAMES OTT
Acting Director
(Print or Type Name)

Dir, Engineering and Housing
(Title)

Let's protect our earth

Bldg. 2542

For State Use Only	
Date Rec'd.	
Auth	
Routing	
UST NO.	

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
CN 029
TRENTON, NEW JERSEY 08625
ATTN: BUST Program
(609) 984-3156

STANDARD REPORTING FORM
for the:
Installation/Abandon/Remove/Sale-Transfer/Substantial Modification
Circle Only One — Use One Form Per Activity

(More than one tank can be listed per tank activity)

Answer questions 1 through 5 and others as applicable.

1. **Company name and address: (as it appears on registration questionnaire)** U.S. Army
DEH Bldg. # 167
Attn: SELFM-EH
Fort Monmouth, NJ 07703

2. **Facility name and location: (if different from above)** U.S. Army Fort Monmouth
Charles Wood West

3. **Contact person for this activity:** Mr. Joseph M. Fallon
Telephone Number: (908) 532-6223

4. **The identification number of the affected tank as it appears in Question Number 12 on the Registration Questionnaire:** Tank No. 29 + 32 Bldg. 2542 + 2564

5. **Registration Number (if known): UST -** # 0081515

(OVER)

6. For TRANSFER OF OWNERSHIP:

New Company Name _____

New Facility Name _____

Address _____

_____

New owner/operator (print) _____

Signature _____

7. For ABANDONMENT or REMOVAL:

a. Describe the proposed procedure in detail on an attached sheet.

b. Specify the product last stored in the tank: #2 Heating Oil

c. Date abandoned or removed: June and July of 1990

d. Is Site Assessment Compliance Statement being completed? YES or NO Form MUST be completed and returned within 90 days of tank closure. (per 40 CFR 280.72)

8. For SUBSTANTIAL MODIFICATIONS:

a. Describe the reason for the modification and, in detail, the proposed procedure to be used on an attached sheet.

b. Specify the product presently stored in the tank: _____

c. Specify the product to be stored in the tank: _____

9. For NEW OR REPLACEMENT INSTALLATIONS:

a. Attach the specifications as required by the attached instructions.

b. Specify the product (s) to be stored in the tank: _____

NOTE: All appropriate and applicable permits, licenses and certificates from any local, state and/or federal agency must be obtained separately from this notification as required by the above stated activity.

CERTIFICATION

**** This registration form shall be signed by the highest ranking individual at the facility with overall responsibility for that facility. (7:14B-2.3 (a) 1). ****

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

Signature: James Ott

Name (print or type): JAMES OTT

Title: ~~Acting Director~~ Dir, Engineering and Housing Date: 22 NOV 1991

APPENDIX B

SOIL AND GROUNDWATER ANALYTICAL DATA PACKAGE

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SAMPLE RECEIPT FORM

Date Received: 1-23-06 Work Order ID#: 60042

Site/Proj. Name: Bldg 2542/LBI Cooler Temp (°C): 2.0°

Received By: J. Chapman Sign: J. Chapman
(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
60042/04	<2	HCL			

Comments:

Former UST 2542 Sample Location GPS Positions

US State Plane 1983 New Jersey (NY East) 2900
NAD 1983 (Conus)
Geoid 96 (Conus)

(In US Survey Feet)

Position	Northing (Y Coord.)	Easting (X Coord.)
2542E	532578.441	608039.708
2542C	532574.995	608036.288
2542W	532571.538	608033.273

U.S. Army Garrison
Fort Monmouth, New Jersey

Underground Storage Tank Closure Report

Ft. Monmouth
Charles Wood Area–(former)Building 2564
Corregidor Road

NJDEP UST Registration No. 81515-32

March 2010

UNDERGROUND STORAGE TANK REPORT

CHARLES WOOD AREA – (FORMER)BUILDING 2564
NJDEP UST REGISTRATION NO. 81515-32

MARCH 2010

PREPARED FOR:

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

PROJECT NO. 06-34950

PREPARED BY:

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

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EXECUTIVE SUMMARY

UST Closure

A single wall steel underground storage tank (UST) was closed by removal in accordance with the New Jersey Department of Environmental Protection (NJDEP) guidelines on June 26, 1990. The UST was located on the northeast side of (former) Building 2564 in the Charles Wood Area of Fort Monmouth. UST No. 81515-32 was a 1,000-gallon tank containing No. 2 heating oil.

Site Assessment

This site assessment was performed by TECOM-Vinnell Services (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*.

During the time of UST removal, no closure soil samples were collected. Soil sampling was not required at the time. However, in order to confirm that the tank did not leak, this subsurface investigation was conducted. On January 27, 2006, a Geoprobe was utilized to collect soil samples 2564S, 2564C, 2564N, and 2564C-GW (groundwater sample) from a total of three (3) locations along the tank centerline bottom. All soil samples were analyzed for total petroleum hydrocarbons (TPH). Groundwater was encountered at approximately eight (8.0) feet below surface grade in the borings. A sample of it was collected and analyzed for volatile organic analysis (VOA) and semi-volatile organic analysis (SVOA).

Findings

The closure soil samples collected from the location associated with UST No. 81515-32, contained TPH concentrations below the NJDEP health based criterion of 5,100 milligrams per kilogram (mg/kg) for total organic contaminants (N.J.A.C. 7:26E and revisions dated June, 2008). Soil samples 2564S, 2564C, 2564N contained TPH concentrations below the analytical method detection limits.

Conclusions and Recommendations

Based on the closure soil sampling results, soils with TPH concentrations exceeding the NJDEP health based criterion of 5,100 mg/kg for total organic contaminants are not present in the location of the UST. A groundwater sample, analyzed for volatile organic analysis and semi-volatile organic analysis, contained no compounds above the analytical method detection limits, with the exception of methylene chloride, a common laboratory contaminant, at 2.56 micrograms per liter (ug/L).

No Further Action is proposed in regard to the closure and site assessment of UST No. 81515-32 at (former) Building 2564.

1.0 UNDERGROUND STORAGE TANK CLOSURE SOIL SAMPLING ACTIVITIES

1.1 OVERVIEW

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 81515-32, was closed at (former) Building 2564, located on Corregidor Road, located on the Main Post at the U.S. Army Garrison, Fort Monmouth, New Jersey. Refer to site location map on Figure 1. This report presents the results of soil and groundwater sampling analysis. These samples were collected to confirm that the tank did not leak. The UST was a 1,000-gallon, single-wall steel tank containing No. 2 heating oil. The UST was installed in 1942 and the removal was done on June 26, 1990. Archived documents including Removal Procedures, Site Assessment Compliance Statement, NJDEP Standard Reporting Form along with the current NJDEP UST Site Investigation Report Form are included in Appendix A.

This UST Closure 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 Report provides a summary of the UST site. 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

The site, (former) Building 2564, located on Corregidor Road, was positioned in the west central portion of the Charles Wood Area of Fort Monmouth, as shown on Figure 1, Site Location Map. UST No. 81515-32 was located on the northeast side of Building 2564, just outside the mechanical room.

1.2.1 Geological/Hydrogeological Setting

The following is a description of the geological/hydrogeological setting of the Charles Wood 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.

<u>Regional Geology</u>

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 Charles Wood 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 Charles Wood 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 Charles Wood 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.

Shallow groundwater is locally influenced within the Charles Wood Area by the following factors:

- 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 Charles Wood Area, which primarily consisted of fine-to-medium grained sands, with occasional lenses or laminations of gravel silt and/or clay.

The site, (former) Building 2564 was located approximately 100 feet southeast of an unnamed stream, the nearest water body, which flows east into Wampum Lake, which flows into Parker's Creek and then into the Shrewsbury River. Based on the Charles Wood Area topography, the groundwater flow in the area of Building 2564 is anticipated to be to the north.

1.3 HEALTH AND SAFETY

Work site health and safety hazards were minimized during all site investigation 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. All work areas were properly vented to insure that there were no contaminants present in the breathing zone above OSHA's permissible exposure limits (PEL's).

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 (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 investigation. All records of the Site Investigation activities are maintained by the Fort Monmouth DPW Environmental Office.

The following Parties participated in 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: Dean Tardiff
  Phone Number: (732) 532-6352
  NJDEP Laboratory Certification No.: 13461

2.2 FIELD SCREENING/MONITORING

Field screening of the soils was performed by a NJDEP certified Subsurface Evaluator. The Subsurface Evaluator used an OVM and visual observations to identify potentially contaminated material. No potentially contaminated material was found during the investigation.

2.3 SOIL SAMPLING

On January 27, 2006, closure soil samples 2564S, 2564C and 2564N were collected from a total of three (3) locations along the tank centerline bottom of the UST. Groundwater was encountered at approximately three and one half (3.5) feet below surface grade in the borings. All soil samples were analyzed for TPH. A soil sample location map is provided in Figure 2.

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 soil samples were collected into laboratory prepared glassware 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.

2.4 GROUNDWATER SAMPLING

On January 27, 2006, groundwater sample 2564C-GW was collected from soil borehole 2564C to assess the groundwater quality in the location of the tank. A temporary PVC piezometer was installed in the borehole for sample collection. The sample was collected into laboratory prepared glassware using a disposable teflon bailer. The sample was analyzed for volatile organic analysis (VOA) and semi-volatile organic analysis (SVOA).

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 SOIL SAMPLING RESULTS

Soil samples were collected from a total of three locations on January 27, 2006 to evaluate soil conditions in the location of the UST. All samples were analyzed for TPH. The closure soil sample results were compared to the NJDEP health based criterion of 5,100 mg/kg for total organic contaminants (N.J.A.C. 7:26D and revisions dated June, 2008). A summary of the analytical results and comparison to the NJDEP soil cleanup criteria is provided on Table 2. The analytical data package, including associated quality control data, is provided in Appendix B.

Soil samples collected on January 27, 2006 from UST 81515-32 contained no concentrations of TPH above the NJDEP health based criterion of 5,100 mg/kg for total organic contaminants. Soil samples 2564S, 2564C and 2564N contained TPH concentrations below the analytical method detection limits.

3.2 GROUNDWATER SAMPLING RESULTS

One groundwater sample was collected via temporary PVC piezometer installed in soil borehole 2564C. There were no compounds detected above the method detection limits for the volatile organic analysis, with the exception of methylene chloride, a common laboratory contaminant, at 2.56 ug/L. For the semi-volatile organic analysis, there were no compounds detected above the method detection limits.

3.3 CONCLUSIONS AND RECOMMENDATIONS

The analytical results for all soil and groundwater samples collected from the UST closure assessment at UST No. 81515-32 were below the regulatory limits.

Based on the closure soil sampling results, soils with TPH concentrations exceeding the NJDEP health based criterion for total organic contaminants of 5,100 mg/kg are not present at the location of UST No. 81515-32.

No Further Action is proposed in regard to the closure and site assessment of UST No. 81515-32 at (former) Building 2564.

APPENDIX A

CERTIFICATIONS

APPENDIX B

SOIL AND GROUNDWATER ANALYTICAL DATA PACKAGE

TABLE 1

SUMMARY OF LABORATORY ANALYSIS

FT. MONMOUTH, (former) Building 2564, UST No. 81515-32
27 January 2006

SAMPLE ID	LABORATORY SAMPLE ID	SAMPLE DATE	SAMPLE MATRIX	ANALYTICAL PARAMETER	ANALYTICAL METHOD
2564S	6006201	27-Jan-06	SOIL	TPH	OQA-QAM-25
2564C	6006202	27-Jan-06	SOIL	TPH	OQA-QAM-25
2564N	6006203	27-Jan-06	SOIL	TPH	OQA-QAM-25
2564C-Groundwater	6006204	27-Jan-06	AQUEOUS	VOA, SVOA	SW-846, EPA 625

ABBREVIATIONS:
TPH = Total Petroleum Hydrocarbons, Method NJDEP OQA-QAM-25
VOA = Volatile Organic Analysis, EPA SW-846 Method 8260
SVOA = Semi-Volatile Organic Analysis in Water, EPA Method 625

TABLE 2

SUMMARY OF LABORATORY ANALYTICAL RESULTS-SOIL

FT. MONMOUTH, (former) Building 2564, UST No. 81515-32
27 January 2006

TOTAL PETROLEUM HYDROCARBONS

SAMPLE ID	LABORATORY SAMPLE ID	SAMPLE LOCATION	SAMPLE DEPTH	MATRIX	TPH RESULTS
			(in feet)		mg/kg
2564S	6006201	SOUTH END UST	3.0 - 3.5	Soil	ND
2564C	6006202	CENTER UST	3.0 - 3.5	Soil	ND
2564N	6006203	NORTH END UST	3.0 - 3.5	Soil	ND

ABBREVIATIONS:
mg/kg = milligrams per kilogram = parts per million
ND = Compound Not Detected
NA = Compound Not Analyzed
*= Further Analyzed for Volatile Organic Compounds

Notes:
Gray shading indicates exceedance of NJDEP
health based criterion of 5,100 ppm total organic contaminants

TABLE 3

SUMMARY OF LABORATORY ANALYTICAL RESULTS-GROUNDWATER

FT. MONMOUTH, (former) Building 2564, UST No. 81515-32

27 January 2006

VOLATILE ORGANIC COMPOUNDS

SAMPLE ID	LAB SAMPLE ID	Benzene	Ethyl-benzene	Toluene	Total Xylenes	Methyl-tert-butyl-ether (MTBE)	Methylene Chloride
	UNITS	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
2564C-Groundwater	6006204	ND	ND	ND	ND	ND	2.56
NJDEP Criteria	Ground Water Quality Crireria	1	700	600	1,000	110	3

SEMI-VOLATILE ORGANIC COMPOUNDS

SAMPLE ID	LAB SAMPLE ID	Naphthalene	2-Methyl-naphthanene
UNITS		ug/L	ug/L
2564C-Groundwater	6006204	ND	ND
NJDEP Criteria	Ground Water Quality Crireria	6	230

ABBREVIATIONS:
ug/L = Micrograms Per Liter = parts per billion
ND = Compound Not Detected
NA = Compound Not Analyzed
NLE= No Limit Established

Notes:
Gray shading indicates exceedance of NJDEP Class II Ground Water Quality Criteria

FIGURES

TABLES

TABLES

TABLE 1

SUMMARY OF LABORATORY ANALYSIS

FT. MONMOUTH, (former) Building 2564, UST No. 81515-32
27 January 2006

SAMPLE ID	LABORATORY SAMPLE ID	SAMPLE DATE	SAMPLE MATRIX	ANALYTICAL PARAMETER	ANALYTICAL METHOD
2564S	6006201	27-Jan-06	SOIL	TPH	OQA-QAM-25
2564C	6006202	27-Jan-06	SOIL	TPH	OQA-QAM-25
2564N	6006203	27-Jan-06	SOIL	TPH	OQA-QAM-25
2564C-Groundwater	6006204	27-Jan-06	AQUEOUS	VOA, SVOA	SW-846, EPA 625

ABBREVIATIONS:
TPH = Total Petroleum Hydrocarbons, Method NJDEP OQA-QAM-25
VOA = Volatile Organic Analysis, EPA SW-846 Method 8260
SVOA = Semi-Volatile Organic Analysis in Water, EPA Method 625

TABLE 3

SUMMARY OF LABORATORY ANALYTICAL RESULTS-GROUNDWATER

FT. MONMOUTH, (former) Building 2564, UST No. 81515-32

27 January 2006

VOLATILE ORGANIC COMPOUNDS

SAMPLE ID	LAB SAMPLE ID	Benzene	Ethyl-benzene	Toluene	Total Xylenes	Methyl-tert-butyl-ether (MTBE)	Methylene Chloride
	UNITS	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
2564C-Groundwater	6006204	ND	ND	ND	ND	ND	2.56
NJDEP Criteria	Ground Water Quality Crireria	1	700	600	1,000	110	3

SEMI-VOLATILE ORGANIC COMPOUNDS

SAMPLE ID	LAB SAMPLE ID	Naphthalene	2-Methyl-naphthanene
UNITS		ug/L	ug/L
2564C-Groundwater	6006204	ND	ND
NJDEP Criteria	Ground Water Quality Crireria	~~6~~ 300	230

ABBREVIATIONS:
ug/L = Micrograms Per Liter = parts per billion
ND = Compound Not Detected
NA = Compound Not Analyzed
NLE= No Limit Established

Notes:
Gray shading indicates exceedance of NJDEP Class II Ground Water Quality Criteria

6 ppm ~~ppb~~ = Residential Intervention std.

TABLE 2

SUMMARY OF LABORATORY ANALYTICAL RESULTS-SOIL

FT. MONMOUTH, (former) Building 2564, UST No. 81515-32
27 January 2006

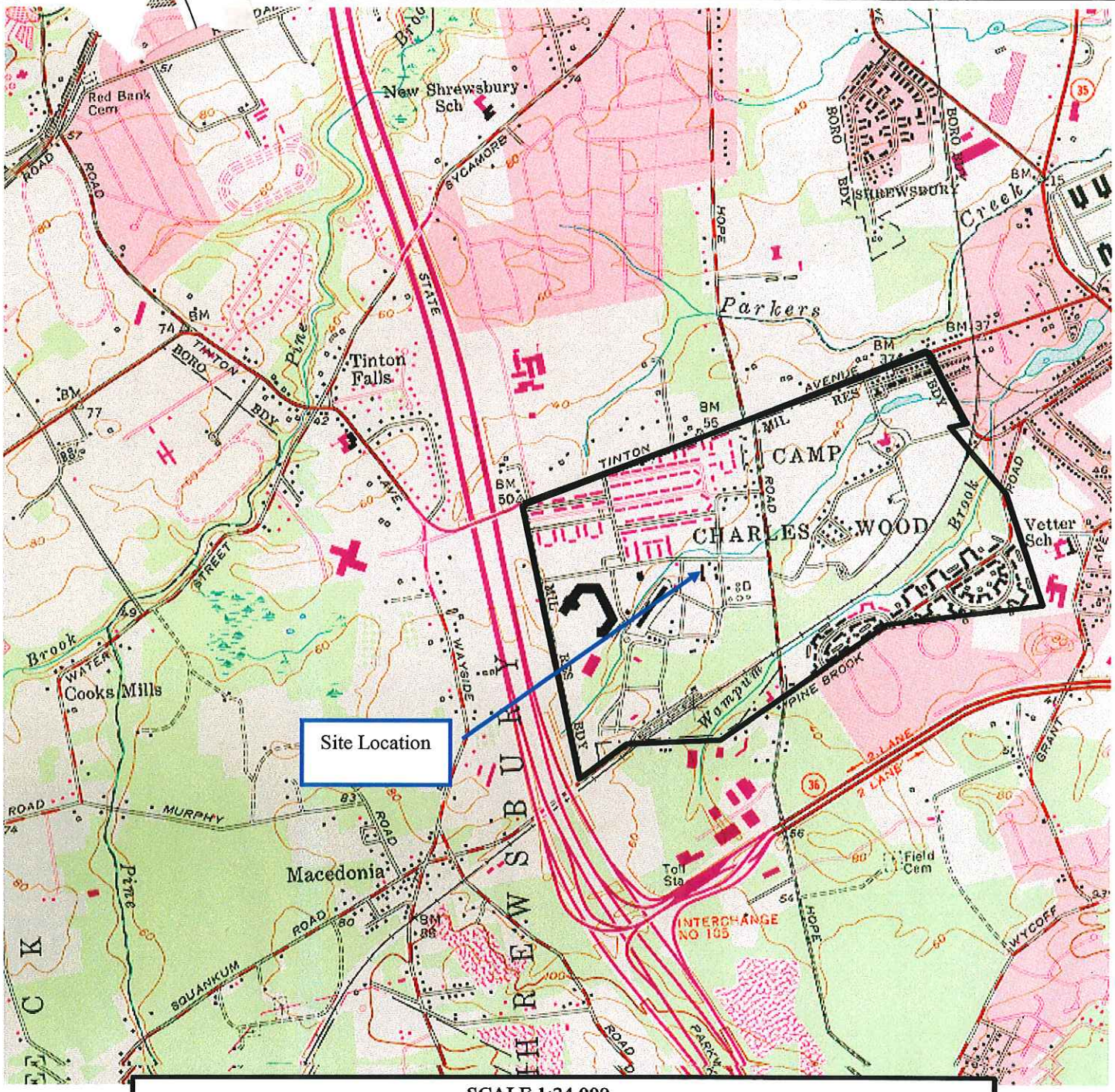
TOTAL PETROLEUM HYDROCARBONS

SAMPLE ID	LABORATORY SAMPLE ID	SAMPLE LOCATION	SAMPLE DEPTH	MATRIX	TPH RESULTS
			(in feet)		mg/kg
2564S	6006201	SOUTH END UST	3.0 - 3.5	Soil	ND
2564C	6006202	CENTER UST	3.0 - 3.5	Soil	ND
2564N	6006203	NORTH END UST	3.0 - 3.5	Soil	ND

ABBREVIATIONS:
mg/kg = milligrams per kilogram = parts per million
ND = Compound Not Detected
NA = Compound Not Analyzed
*= Further Analyzed for Volatile Organic Compounds

Notes:
Gray shading indicates exceedance of NJDEP
health based criterion of 5,100 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

LONG BRANCH, N. J.
40073-C8-TF-024

1954
PHOTOREVISED 1981
DMA 6164 I SE-SERIES V822

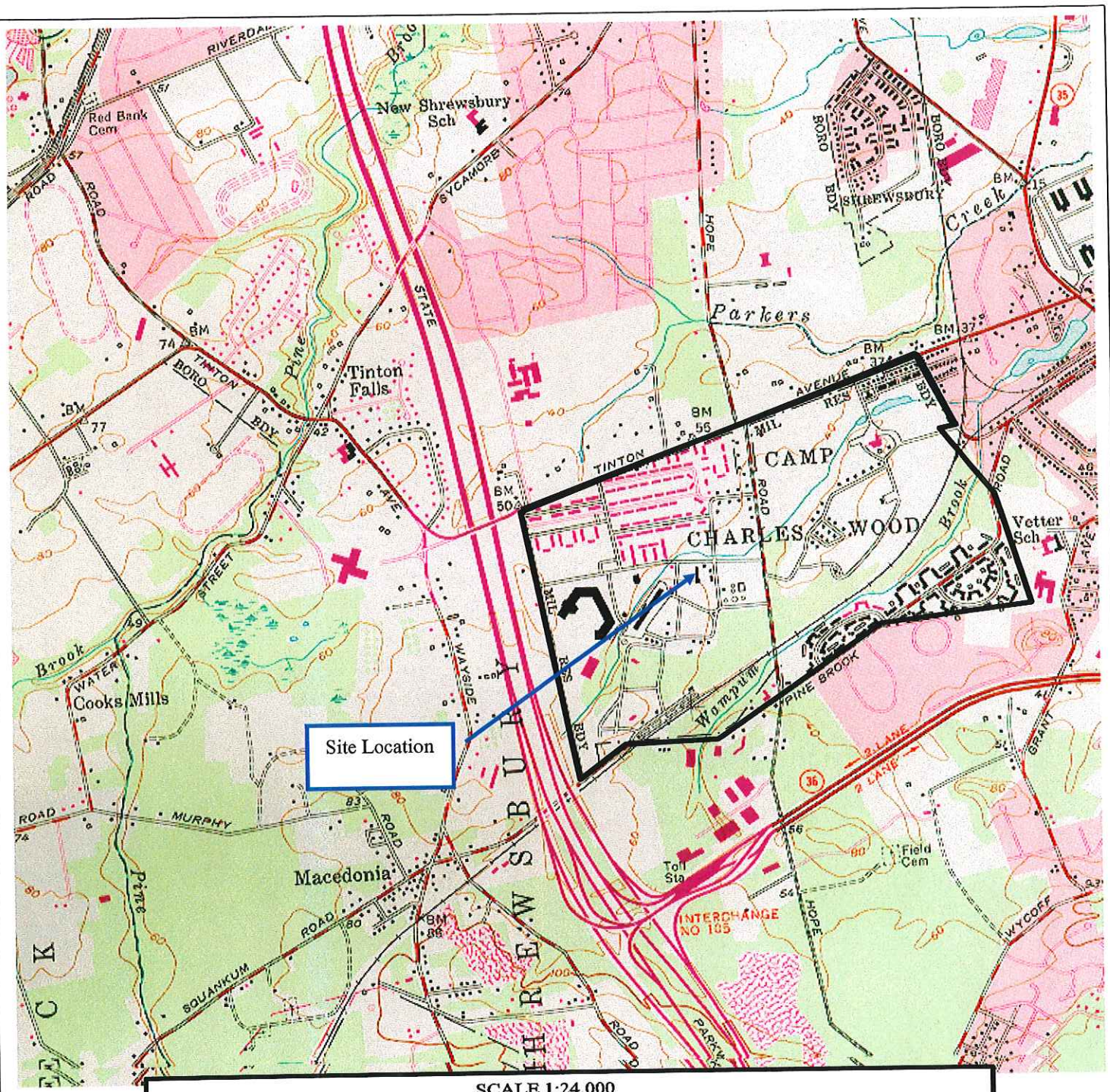
NEW JERSEY

QUADRANGLE LOCATION

Mapped, edited and published by the Geological Survey

Figure 1 – Site Location Map
(former) Building 2564
Charles Wood Area
Fort Monmouth, New Jersey

U.S. Army Garrison Fort Monmouth Department of Public Works



SCALE 1:24,000

1 0.5 0 1 MILE

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1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

CONTOUR INTERVAL 10 FEET
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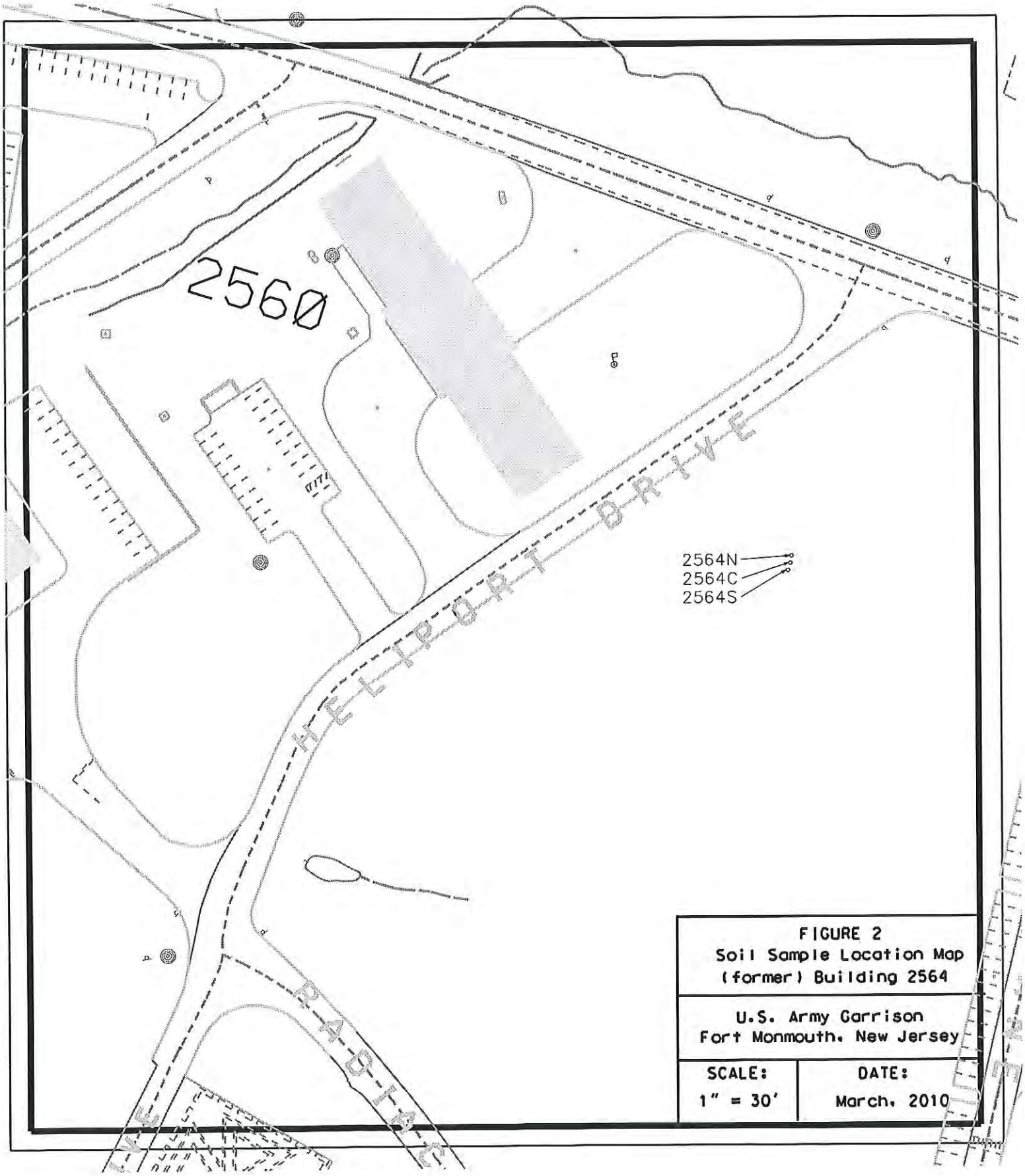

FIGURE 2
Soil Sample Location Map
(former) Building 2564

U.S. Army Garrison
Fort Monmouth, New Jersey

SCALE:	DATE:
1" = 30'	March, 2010

APPENDIX A

CERTIFICATIONS

Site Remediation Program
UST Site Remedial Investigation Report

A. Facility Name: U.S. Army Garrison

Facility Street Address: (former) Building 2564, Corregidor Road

Municipality: Tinton Falls County: Monmouth

Block: NA Lot(s): NA Telephone Number: 732-532-2692

B. Owner (RP)'s Name: U.S. Army Garrison

Street Address: Building 173 City: Ft. Monmouth

State: NJ Zip: 07703 Telephone Number: 732-532-2692

C. (Check as appropriate)

☐ Site Investigation Report (SIR) $500 Fee

☐ Remedial Investigation Report (RIR) $1000 Fee

D. (Complete all that apply)

Assigned Case Manager: Larry Quinn

UST Registration Number: 81515-32 (7 digits)

- Incident Report Number: _____ (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: Frank Accorsi 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: 732-532-2577

(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-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): _____ Title: _____

Signature: _____

Company Name: _____ Date: _____

Site Remediation Program
UST Site Remedial Investigation Report

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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): _____ Title: _____

Signature: _____

Company Name: _____ Date: _____

Let's protect our earth

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Underground Storage Tanks
CN-029, Trenton, NJ 08625

Date Rec'd _____
Auth _____
Routing _____
UST NO. _____

SITE ASSESSMENT COMPLIANCE STATEMENT

Supplement to the New Jersey Standard Reporting Form
(Complete for ALL regulated UST abandonments or removals)

Within ninety (90) days of completing the UST closure of any State or Federally-regulated tank, the owner or operator must submit this completed form to the NJDEP Bureau of Underground Storage Tanks. If the facility is located in one of the counties listed on the back, a copy of this form must also be sent to the Health Agency indicated.

The owner or operator of any Federally-regulated tank must also comply with the following:

40 CFR Part 280.72 Assessing the site at closure or change-in-service

"(a) Before permanent closure or a change-in-service is completed, owners and operators must measure for the presence of a release where contamination is most likely to be present at the UST site. In selecting sample types, sample locations, and measurement methods, owners and operators must consider the method of closure, the nature of the stored substance, the type of backfill, the depth to ground water, and other factors appropriate for identifying the presence of a release."

FACILITY U.S. Army Fort Monmouth UST # 0081515 Tank No. 29 + 32

Check off the following items as appropriate for the site.

✓ The UST facility is only regulated by State law, therefore a site assessment is not mandatory.

____ The UST facility is regulated by Federal law and a site assessment was conducted.

The results of the site assessment indicate:

✓ There was NO release from the UST system.

____ There was a release from the UST system and it was reported to the DEP Environmental Hotline (609-292-7172).

NOTE: The results of the site assessment are not to be submitted to the DEP or Health Agency unless requested to do so. The results are to be available for inspection at the UST facility.

Questions can be directed to the Bureau at (609) 984-3156.

*** This registration form shall be signed by the highest ranking individual at the facility with overall responsibility for that facility (7:14B-2.3 (a) 1). ***

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

SACS-2,1/89

James Ott
(SIGNATURE)

Date 22 NOV 1991

JAMES OTT
Acting Director
(PRINT OR TYPE NAME)

Dir, Engineering and Housing
(Title)

Let's protect our earth

Bldg. 2542

For State Use Only	
Date Rec'd.	
Auth	
Routing	
UST NO.	

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES
CN 029
TRENTON, NEW JERSEY 08625
ATTN: BUST Program
(609) 984-3156

STANDARD REPORTING FORM
for the:
Installation/Abandon/(Remove)/Sale-Transfer/Substantial Modification
Circle Only One — Use One Form Per Activity

(More than one tank can be listed per tank activity)

Answer questions 1 through 5 and others as applicable.

1. **Company name and address: (as it appears on registration questionnaire)**
   U.S. Army
   DEH Bldg. # 167
   Attn: SELFM - EH
   Fort Monmouth, NJ 07703

2. **Facility name and location: (if different from above)**
   U.S. Army Fort Monmouth
   Charles Wood West

3. **Contact person for this activity:** Mr. Joseph M. Fallon
   Telephone Number: (908) 532-6223

4. **The identification number of the affected tank as it appears in Question Number 12 on the Registration Questionnaire:** Tank No. 29 + 32 Bldg. 2542 + 2564

5. **Registration Number (if known): UST -** # 0081515

(OVER)

6. For TRANSFER OF OWNERSHIP:

New Company Name _____

New Facility Name _____

Address _____

_____

New owner/operator (print) _____

Signature _____

7. For ABANDONMENT or REMOVAL:

a. Describe the proposed procedure in detail on an attached sheet.

b. Specify the product last stored in the tank: #2 Heating Oil

c. Date abandoned or removed: June and July of 1990

d. Is Site Assessment Compliance Statement being completed? YES or NO Form MUST be completed and returned within 90 days of tank closure. (per 40 CFR 280.72)

8. For SUBSTANTIAL MODIFICATIONS:

a. Describe the reason for the modification and, in detail, the proposed procedure to be used on an attached sheet.

b. Specify the product presently stored in the tank: _____

c. Specify the product to be stored in the tank: _____

9. For NEW OR REPLACEMENT INSTALLATIONS:

a. Attach the specifications as required by the attached instructions.

b. Specify the product (s) to be stored in the tank: _____

NOTE: All appropriate and applicable permits, licenses and certificates from any local, state and/or federal agency must be obtained separately from this notification as required by the above stated activity.

CERTIFICATION

**** This registration form shall be signed by the highest ranking individual at the facility with overall responsibility for that facility. (7:14B-2.3 (a) 1). ****

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

Signature: James Ott

Name (print or type): JAMES OTT

Title: ~~Acting Director~~ Dir, Engineering and Housing Date: 22 NOV 1991

DEPARTMENT OF THE ARMY
Headquarters, U.S. Army Garrison Fort Monmouth
Fort Monmouth, New Jersey 07703-5000

REPLY TO
ATTENTION OF

22 NOV 1991

Directorate of Engineering
and Housing

SUBJECT: Removal Procedure:

U.S. Army Fort Monmouth
Charles Wood West
Site Registration #0081515
Tank #29, 32
POC: Joseph M. Fallon (908) 532-6223

The remaining product inside each tank was removed for disposal by Lionetti Oil Recovery Co., Inc. Lionetti is a licensed hazardous waste transporter and treatment, storage, and disposal facility (USEPA ID #NJD084044064).

The top of each tank was excavated and cut open across the entire length of the tank. In addition, the inside of each tank was hand cleaned and thoroughly wiped down. The soil from the top of each excavation was visually inspected and analyzed using a HNU Model PI-101 photoionizer. No contamination was detected.

After each tank was cleaned, a visual inspection was made inside the tanks for signs of leakage. No corrision was found inside the tanks.

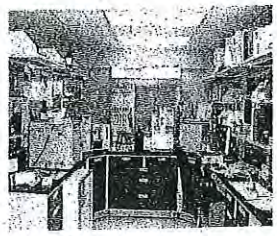
Each tank was then removed from the ground and disposed of through a metal recycler. No contamination was discovered at the sites upon removing the tanks.

Each site was then backfilled with the excavated soil to close out the project.

APPENDIX B

SOIL AND GROUNDWATER 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. 2564

Bldg. 2564

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
2564S 3.0-3.5'	6006201	Soil	27-Jan-06 11:21	01/27/06
2564C 3.0-3.5'	6006202	Soil	27-Jan-06 11:43	01/27/06
2564N 3.0-3.5'	6006203	Soil	27-Jan-06 12:03	01/27/06
2564C GW	6006204	Aqueous	27-Jan-06 12:12	01/27/06

ANALYSIS:

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

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

3-10-06

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

U.S. Army Garrison
Fort Monmouth, New Jersey

Underground Storage Tank Report

Main Post West –Bldg. 1203

NJDEP UST Registration No. 81533-227

TMS #: 0-06830
June 2011

UNDERGROUND STORAGE TANK CLOSURE AND REMEDIAL INVESTIGATION REPORT

MAIN POST WEST – BLDG. 1203
NJDEP UST REGISTRATION NO.: 81533-227

JUNE 2011

PREPARED FOR:

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

PREPARED BY:

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

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EXECUTIVE SUMMARY

May 11-15, 2009, one regulated 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 1203 in the West Main Post area of Fort Monmouth. UST No. 81533-227 was a 10,000-gallon, double-walled, fiberglass tank and double-walled piping with a leak detection system that contained diesel fuel for emergency generator. Fuel oil from the tank was transferred to other above ground storage tanks and off road diesel powered vehicles; therefore no liquid wastes were generated during the removal of the UST.

The site assessment was performed by TECOM-Vinnell Services (TVS) personnel in accordance with the NJDEP *Technical Requirements for Site Remediation* (TRSR) and the NJDEP *Field Sampling Procedures Manual.* Soil surrounding the tank was screened visually and with a calibrated hand held Mini-Rae Photo-Ionization air monitoring instrument for evidence of contamination. Following removal, the UST was inspected for holes. No holes or evidence of impacted soils were observed after the removal of the tank from the ground.

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

The post-excavation soil samples collected from the UST excavation associated with former UST No. 81533-227 contained total petroleum hydrocarbon (TPH) concentrations below the NJDEP health-based criterion of 4,800 milligrams per kilogram (mg/kg) for residual #2-home heating oil/diesel fuel (N.J.A.C. 7:26E and revisions dated September 2008). None of the soil samples collected for post remedial confirmation analysis was in excess of the additional analytical threshold of 1,000 mg/kg. The analytical data confirmed that no release had occurred from the excavated UST.

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 top soil and grass seed was applied.

Based on the post-excavation soil sampling results, soils present are less than the NJDEP health based standards for residual #2-home heating oil/diesel fuel and there are no detected base/neutral compounds (B/N) that exceed the NJDEP Residential Direct Contact Soil Cleanup Standards (RDCSCS).

No further action is proposed in regard to the closure and site assessment of USTs No. 81533-227.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 OVERVIEW

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No 81533-227, was closed in the area of Bldg. 1203 located at the West Main Post at U.S. Army Garrison, Fort Monmouth, New Jersey on May 11-15, 2009. 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. UST No. 81533-227 was a regulated 10,000 gallon diesel oil tank.

Decommissioning activities for the USTs 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 US ARMY employee.

This UST Closure and Remedial Investigation Report has been prepared by TVS to assist the US Army Garrison Directorate of Public Works (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 (*TRSR*). 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 1203 is located in the western portion of the Main Post area of Fort Monmouth, as shown on Figure 1. The UST was located to the north of Building 1203. The fill port and appurtenant double walled piping was not encountered in the excavation during the tank removal phase. The piping was removed prior to the excavation of the tank.

1.2.1 Geological/Hydrogeological Setting

The following is a description of the geological/hydrogeological setting of the Bldg. 1203. Included is a description of the regional geology of the area surrounding Fort Monmouth as well as descriptions of the local geology and hydrogeology of the Main Post area.

Fort Monmouth lies within the Outer Coastal Plain subprovince of the New Jersey section of the Atlantic Coastal Plain physiographic province, which generally consists of a seaward-dipping wedge of unconsolidated sediments including interbedded clay, silt, sand, and gravel. To the northwest is the boundary between the Outer and Inner Coastal Plains, marked by a line of hills extending southwest, from the Atlantic Highlands overlooking Sandy Hook Bay, to a point southeast of Freehold, New Jersey, and then across the state to the Delaware Bay. These formations of clay, silt, sand, and gravel formations were deposited on Precambrian and lower Paleozoic rocks and typically strike northeast-southwest, with a dip that ranges from 10 – 60 feet per mile. Coastal Plain sediments date from the Cretaceous through the Quaternary Periods and are predominantly derived from deltaic, shallow marine, and continental shelf environments.

The fort is located within the outer fringe of the Atlantic Coastal Plain Physiographic Province, of New Jersey, approximately 13 miles south of Raritan Bay. This province is characterized by a wedge-shaped mass of unconsolidated to semi-consolidated marine, marginal marine and non-marine deposits of clay, silt, sand, and gravel. These sediments range in age from Cretaceous to Holocene and lie unconformably on pre-Cretaceous bedrock consisting of metamorphic schists and gneiss, with local occurrences of basalts, sandstone, and shale (Zapecza, 1984). These sediments trend northeast-southwest and dip southeast toward the Atlantic Ocean. These sediments thicken southeastward from the Piedmont-Coastal Plain Province boundary to approximately 4,500 feet near Atlantic City, New Jersey. During the Cretaceous and Tertiary time period, sediments were deposited alternately in flood plains and in marine environments during sea transgression and sea regression periods. The formations record several major transgressive/regressive cycles and contain units that are generally thicker to the southeast and reflect a deeper water environment.

Over 20 regional geologic units are present within the sediments of the Coastal Plain. Regressive, upward coarsening deposits are usually aquifers (e.g., Englishtown and Kirkwood Formations, and the Cohansey Sand) while the transgressive deposits act as confining units (e.g., the Merchantville, Marshalltown, and Navesink Formations). The thicknesses of these units vary greatly, ranging from several feet to several hundred feet, and thicken to the southeast. For a visual representation, refer to Figure 2.

The eastern half of the Main Post is underlain by the Red Bank Formation, ranging in thickness from 20-30 feet, while the western half is underlain by the Hornerstown Formation, ranging in thickness from 20-30 feet. The predominant formation underlying the Charles Wood Area is also the Hornerstown, along with small areas of Vincentown Formation intruding in the southwest corner. Sand and gravel deposited in recent geologic times lie above these formations. Interbedded sequences of clay serve as semi-confining units for groundwater. The mineralogy ranges from quartz to glauconite.

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

Local Geology

Fort Monmouth lies in the Atlantic and Eastern Gulf Coastal Plain groundwater region and is underlain by underformed, unconsolidated to semi-consolidated sedimentary deposits. The chemistry of the water near the surface is variable with generally low dissolved solids and high iron concentrations. In areas underlain by glauconitic sediments, the water chemistry is dominated by calcium, magnesium, and iron (*e.g.* Red Bank and Tinton sands). The sediments in the vicinity of Fort Monmouth were deposited in fluvial-deltaic to nearshore environments. The water table is generally from two (2) – twelve (12) feet at the Installation, and, in certain areas fluctuates with the tidal action in Parkers and Oceanport creeks at the Main Post.

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. The Hornerstown Formation acts as an upper boundary of the Red Bank aquifer, but it might yield enough water within its outcrop to supply individual household needs. The Red Bank outcrops along the northern edges of the Installation and contains two members, an upper sand member and a lower clayey sand member. The upper sand member functions as the aquifer, and is probably present on some of the surface of the Main Post and at a shallow depth below the Charles Wood Area. The Hornerstown and Red Bank formations overlay the larger Wenonah-Mount Laurel aquifer. For a visual representation, refer to Figure 3.

The area of Bldg. 1203 is located approximately 500 feet south of Lafetra Creek. Based on the Main Post topography, the groundwater flow in the area of Bldg. 1203 is anticipated to be to the north. The wells in this area are not tidally influenced.

1.3 HEALTH AND SAFETY

Work site health and safety hazards were minimized during all decommissioning activities. All areas that posed a vapor hazard were monitored by a qualified individual utilizing a calibrated photo-ionizer detector (PID): 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 (PELs).

1.4 REMOVAL OF UNDERGROUND STORAGE TANKS

1.4.1 General Procedures

- All underground utilities were marked out by the respective shops and/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. No impacted soils were encountered during the tank excavation. These soils were used to backfill the excavation upon clearance.

- 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 UST closure activities.

1.4.2 Underground Storage Tank Excavations

During UST decommissioning activities, surficial soil was removed to expose the USTs. The tank was completely emptied of all liquids prior to removal from the ground.

Approximately 5,000 gallons of fuel was present in the UST prior to excavation. Of the contents of the UST, 2,000 gallons were transferred to the above ground storage tank at building 1203. The remaining material was used as fuel for portable generators, and off road vehicles at the Fort.

After the UST was removed from the excavation, it was staged on polyethylene sheeting, labeled, and examined for holes. No holes in the tank were observed during the inspection by the Subsurface Evaluator. Soils surrounding the UST were screened visually and with an Organic Vapor Monitor (OVM) for evidence of petroleum contamination. No soil staining or odors of fuel were observed. After removal, the tank was transported for storage at the Bldg. 108 pad for subsequent cutting and disposal.

1.5 UNDERGROUND STORAGE TANK DECOMMISSIONING AND DISPOSAL

Subsequent to disposal, the UST was purged with air to remove vapors prior to cutting. The end of the UST was opened using a gasoline powered demolition saw equipped with a fiberglass blade. The UST was cleaned first with rubber squeegees and adsorbent material broomed on the sidewalls and bottom. The adsorbent material were then drummed and then transferred 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 transferred to the ID 27 staging area where the fiberglass tank was cut, placed into a 30 cubic yard roll-off container, and shipped off site as non-hazardous bulk solid waste. 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 excavation activities is included in Appendix D.

2.0 REMEDIAL INVESTIGATION ACTIVITIES

2.1 OVERVIEW

The Remedial 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, Updated 15 February 2008). Sampling frequency and parameters analyzed complied with the NJDEP document *Technical Requirements for Site Remediation*, 7:26E-3.9 (December 17, 2007 and revisions dated June 2, 2008) which was the applicable regulation at the date of the closure. 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: Joe Fallon
  Phone Number: (732) 532-2692

- Subsurface Evaluator: Charles Appleby
  Employer: US Army, CECOM
  Phone Number: (732) 532-6254
  NJDEP License No.: 9974

- Analytical Laboratory: Fort Monmouth Environmental Testing Laboratory (FTMEL)
  Contact Person: Dean Tardiff
  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. No impacted soils were encountered during the tank removal procedures. Clean overburden soils were stockpiled for later reuse.

2.3 SOIL SAMPLING

May 15, 2009, post-excavation soil samples collected from a total of four (4) locations along the sidewalls of the UST excavations. Groundwater was encountered at approximately eight (8) feet (bgs) during the tank removal operations. Refer to soil sampling location map in Figure 3. All samples were analyzed for residual #2-home heating oil/diesel fuel and if necessary contingent B/N+10 in accordance with the requirements of Technical Requirements for Site Remediation.

Soil samples were collected using a Geoprobe© due to site conditions. The location of an air conditioning unit and the presence of pea gravel made collecting samples by other methodologies impossible. Samples were collected in accordance to the FTMM SOP #: SAM-0202. In accordance with the SOP, the sample was removed from the acetate sleeve and the appropriate six (6) inch interval was submitted for analysis in accordance with the *Field Sampling Procedures Manual (FSPM).*

The site assessment was performed by TVS personnel in accordance with the NJDEP *Technical Requirements for Site Remediation* and the NJDEP *FSPM.* 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 (FMETL) for analysis.

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 SOIL SAMPLING RESULTS

The post-excavation soil sample results were compared to the NJDEP health based criterion of 4,800 mg/kg for total organics as diesel fuel (N.J.A.C. 7:26D and revisions dated September 2008). A summary of the analytical results and comparison to the NJDEP soil cleanup standards is provided on Table 2. The analytical data package, including associated quality control data, is provided in Appendix E.

All post-excavation soil samples collected, from the UST remedial excavation contained concentrations of residual diesel fuel below the most stringent NJDEP soil cleanup standards.

3.2 CONCLUSIONS AND RECOMMENDATIONS

The analytical results for all final post-excavation soil samples collected from the UST closure excavation at UST No. 81533-227 were below all applicable NJDEP soil cleanup standards for residual diesel fuel. No further action is proposed in regard to the closure and site assessment of UST 81533-227 at Building 1203.

TABLES

TABLE 1

SUMMARY OF LABORATORY ANALYSIS
FT. MONMOUTH, BUILDING 1203, UST No.0081533-227
May 15, 2009

SAMPLE ID	LABORATORY SAMPLE ID	SAMPLE DATE	SAMPLE MATRIX	ANALYTICAL PARAMETER	ANALYTICAL METHOD
1203A North wall	9019701	15-May-09	SOIL	TPH	OQA-QAM-25
1203B South wall	9019702	15-May-09	SOIL	TPH	OQA-QAM-25
1203C East wall	9019703	15-May-09	SOIL	TPH	OQA-QAM-25
1203D West wall	9019704	15-May-09	SOIL	TPH	OQA-QAM-25

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

TABLE 2

SUMMARY OF LABORATORY ANALYTICAL RESULTS
FT. MONMOUTH, BUILDING 1203, UST No.81533-227
May 15, 2009

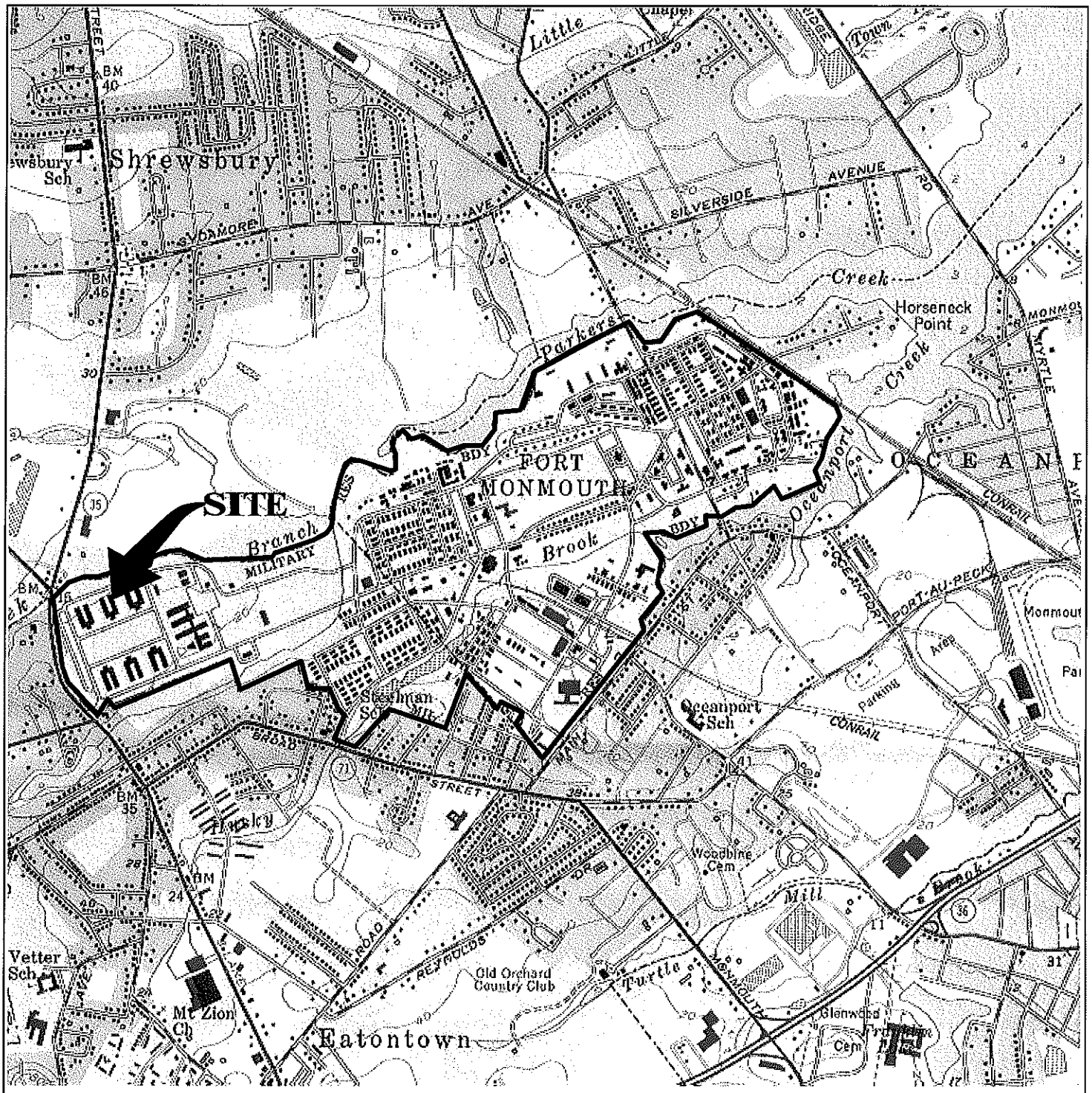
TOTAL PETROLEUM HYDROCARBONS (results in mg/kg)

SAMPLE ID	LABORATORY SAMPLE ID	SAMPLE LOCATION	SAMPLE DEPTH (in feet)	MATRIX	TPH RESULTS
1203A	9019701	North Wall	6-6.5'	Soil	ND
1203B	9019702	South Wall	6-6.5'	Soil	ND
1203C	9019703	East Wall	6-6.5'	Soil	ND
1203D	9019704	West Wall	6-6.5	Soil	ND

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

Notes:
Gray shading indicates exceedance of NJDEP health based standard of 4,800 mg/kg total #2fuel oil/diesel contamination

FIGURES



LONG BRANCH, N. J.

40073-C8-TF-024

1954

PHOTOREVISED 1981

DMA 6164 I SE-SERIES V822

QUADRANGLE LOCATION

Mapped, edited and published by the Geological Survey

Figure 1
Site Location Map
Main Post
Fort Monmouth, New Jersey

U.S. Army Garrison Fort Monmouth Department of Public Works

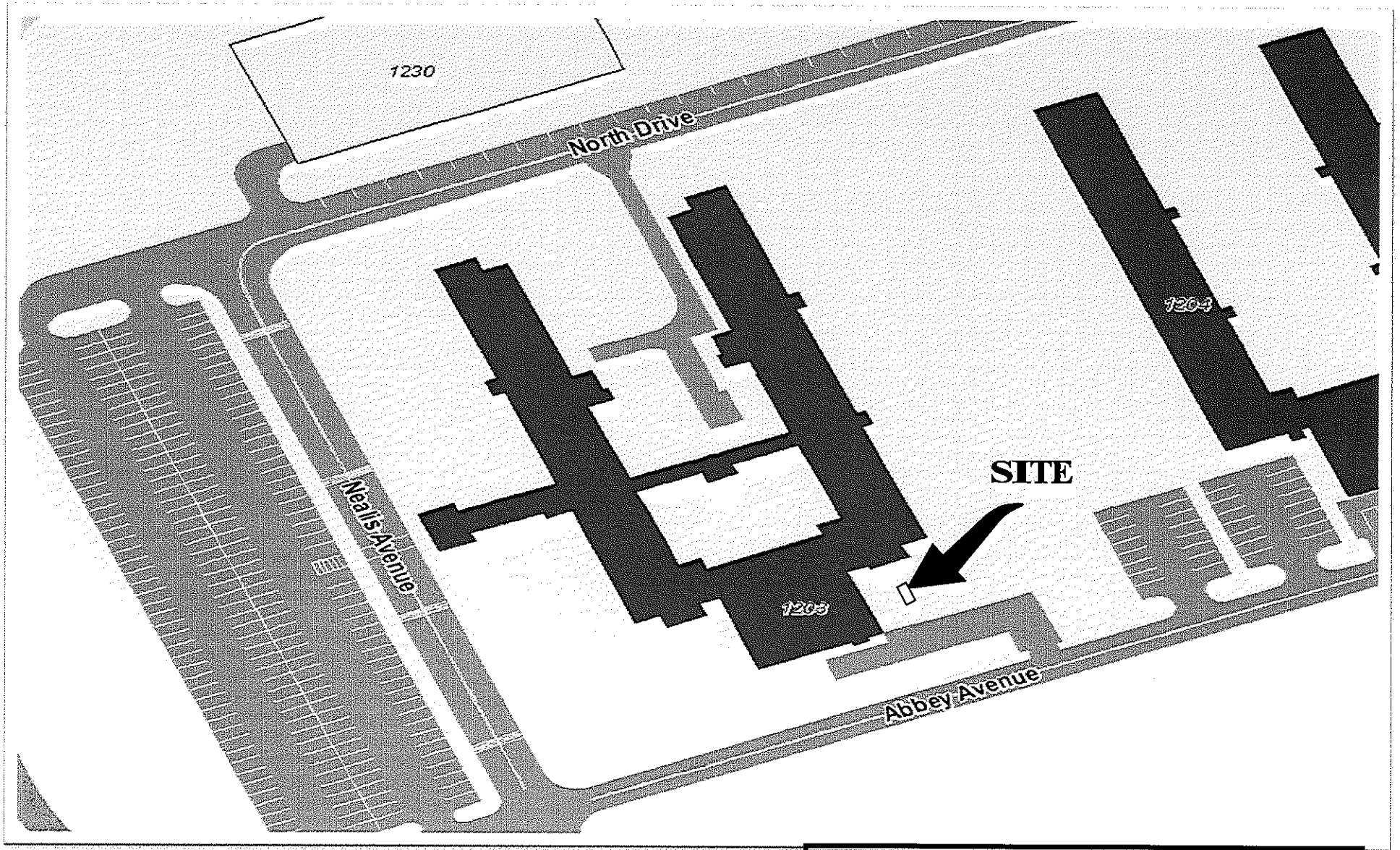


Figure 2
Tank Sampling Location Map
Main Post, Fort Monmouth

U.S. Army Garrison Fort Monmouth Department of Public Works

N

APPENDIX A

CERTIFICATIONS

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT MONMOUTH
286 SANGER AVENUE
FORT MONMOUTH, NEW JERSEY 07703-5101

Directorate of Public Works 13 May 2009

NJ Department of Environmental Protection
Division of Remediation Support
UST Program
Registration and Billing Unit
P.O. Box 028
Trenton, New Jersey 08625-0028

Re: Updated UST Facility Certification Questionnaire
Removal of UST, TMS# N09-6830
US Army Garrison, Fort Monmouth, Main Post West
Facility ID: 0081533

Dear Sir/Madam:

Enclosed is a UST Facility Certification Questionnaire which documents the removal of one UST from Fort Monmouth. The removed UST is Tank No. 227. This tank was located at Building 1203 in Fort Monmouth's Main Post West facility.

Note that the NJDEP TMS form, which states the closure approval, states an incorrect Facility ID Number. The correct Facility Identification number is 0081533 not 008153.

Should you have any questions or require any additional information, please contact Mr. Charles Appleby, Environmental Protection Specialist, at 732-532-2692 or email: Charles.Appleby@US.Army.mil

UST Reg. ID # 81533 File Copy

Sincerely,

Joseph Fallon

Joseph Fallon
Chief, Environmental Division

Encl. Completed NJDEP UST Facility Certification Questionnaire
Closure – Notice of Intent, UST, TMS# N09-6830
Email – NJDEP Case Manager Approval to remove UST

cc: Lawrence Quinn, NJDEP Case Manager

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF REMEDIATION SUPPORT
UST Program • Registration and Billing Unit
PO Box 028, Trenton, N.J. 08625-0028
1-609-633-1464 • www.state.nj.us/dep/srp/bust

STATE USE ONLY
Check In ☐ Yes ☐ No

UNDERGROUND STORAGE TANK FACILITY CERTIFICATION QUESTIONNAIRE

FACILITY UST # (PROGRAM INTEREST ID): 0081533

Completion of this Registration Questionnaire will satisfy the registration requirements of the Underground Storage of Hazardous Substances Act, N.J.S.A. 58:10A-21 et seq., and the Underground Storage Tank Rules N.J.A.C. 7:14B et. seq.

Check appropriate box

A. ☐ This is a registration of a proposed or newly installed underground storage tank. (This form must be filed at least 30 days prior to operation)
B. ☐ This is a registration of an existing underground storage tank not presently registered.
C. ☒ This is a correction or amendment to an existing facility registration. (Check type of change below)
D. ☐ There have been no changes to the facility registration since last submittal. (Complete Section A, C & E)

If "C" is checked above, please check the appropriate type of change(s) below

☐ Facility Name and/or Address Change
☐ Owner Name and/or Address Change
☐ Facility Operator and/or Address Change
☐ Owner Contact Person Change
☐ Type of Product(s) Stored
☐ Substantial Modification(s) (see 14B)
☐ Tank(s) and/or Piping Changes
☒ Closure (Complete Section B Questions 1, 4, 5, 12C)
☐ Financial Responsibility Change (Including Policy Renewal)
☐ Sale or Transfer (Complete entire form)
☐ Other *(please specify)*

SECTION A - GENERAL FACILITY INFORMATION

1. **Facility Name** US Army Garrison Fort Monmouth West
2. **Facility Location**
   Address Line 1
   Address Line 2
   City or Municipality Eatontown Borough
   Monmouth (COUNTY) NJ (STATE) 07703- (ZIP CODE) (BLOCK) (LOT)
3. **Facility Operator** Directorate of Public Works (ORGANIZATION (If applicable, e.g. Company) or INDIVIDUAL)
   Contact Person John McCarthy (PERSON) Environ Engineer (TITLE)
   732 532 6024 (PHONE NUMBER (INCLUDE AREA CODE & EXT)) John.mccarthy@us.army.mil (E-MAIL ADDRESS)
   Operator Address (if different than #2)
   IMNE-PWE (ADDRESS LINE 1 (NUMBER AND STREET))
   173 Riverside Ave
   Fort Monmouth (CITY OR MUNICIPALITY) NJ (STATE) 07703- (ZIP CODE)
4. **Tank Owner** (Organization) SAME
   Contact Person (PERSON) (TITLE)
   (PHONE NUMBER (INCLUDE AREA CODE & EXT)) (E-MAIL ADDRESS)
   Tank Owner Address (ADDRESS LINE 1 (NUMBER AND STREET))
   (ADDRESS LINE 2 (e.g. PO BOX, SUITE))
   (CITY OR MUNICIPALITY) (STATE) (ZIP CODE)

5. **Billing Address:** Check one below
☐ Same as Tank Owner address listed in Section A4. ☒ Same as Facility Operator address listed in Section A3. ☐ Other and attach billing address.

6. **Total number of regulated underground storage tanks at facility** ☐☐☐ (Complete Section B for each tank unless there has been no change since last submittal)

7. **Total regulated underground storage capacity at facility (gallons)** ☐☐☐☐☐☐

8. **Facility Type:** A ☐ State B ☐ Commercial/ Industrial C ☐ County/Municipal D ☐ Federal E ☐ Charitable / Public School F ☐ Residential G ☐ Farm (as defined in N.J.S.A. 54:4-23.1 et seq.)

NOTE: The facility site plan must be submitted when registering any underground storage tank pursuant to N.J.A.C. 7:14B 2.2.

SECTION B - SPECIFIC TANK INFORMATION

ALL regulated underground storage tanks, including those taken out of operation (UNLESS THE TANK WAS REMOVED FROM THE GROUND PRIOR TO 9/3/86) must be registered. Report all tank/piping status changes. ***DO NOT MARK SHADED AREAS***

1. Tank Identification Number	TANK NO. 227	TANK NO.	TANK NO.	TANK NO.	TANK NO.
2. CAS Number (Hazardous substances only)					
3. Date Tank Installed					
4. Tank Size (gallons) - Please note that each compartment is considered a separate Tank System					
5. Tank Contents (Mark one "X" for each tank)					
A. Leaded Gasoline					
B. Unleaded Gasoline					
C. Alcohol Enriched Gasoline					
D. Light Diesel Fuel (No. 1-D)					
E. Medium Diesel Fuel (No. 2-D)					
F. Waste Oil					
G. Kerosene (No. 1)					
H. Heating Oil (No. 2) Complete 13C					
I. Heating Oil (No. 4) Complete 13C					
J. Heating Oil (No. 6) Complete 13C					
K. Aviation Fuel					
L. Motor Oil					
M. Lubricating Oil					
N. Automatic Transmission Fluid					
O. Hazardous Waste (Specify ID Number)					
P. Coolant/Antifreeze					
Q. Other (please specify)					
6. Tank & Piping Construction (Mark at least one each for Tank and Piping)	Tank / Piping	Tank / Piping	Tank / Piping	Tank / Piping	Tank / Piping
A. Bare steel					
B. Cathodically Protected Metal (Mark SA or IC)					
1. Sacrificial Anode (SA) *Date Sacrificial Anode Installed (TANK ONLY)	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year
2. Impressed Current (IC) *Date Impressed Current Installed (TANK ONLY)	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year
C. Fiberglass-Coated Steel (TANK ONLY)					
D. Fiberglass-Reinforced Plastic					
E. Internally Lined (TANK ONLY) *Date Internal Lining Installed	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year
F. Other (Please specify) (Include Brand Name)					
7. Piping Operation (Mark one for each tank system)					
A. Pressurized Piping (PIPING ONLY)					
B. American Suction Piping (PIPING ONLY)					
C. European Suction Piping (PIPING ONLY)					
D. Supply/Return (Heating Oil Piping Only)					
8. Tank & Piping Structure (Mark one for each TANK & PIPING)					
A. Single Wall					
B. Double Wall					
C. Secondary Containment (e.g. Externally Lined)					
9. Type of Monitoring/Detection (Mark all that apply for TANK & PIPING)					
A. Statistical Inventory Reconciliation Vendor Name & Phone Number					
B. Manual Tank Gauging (TANK ONLY)					
C. Inventory Control (TANK ONLY)					
D. Interstitial					
E. Tightness Test					
F. Ground Water Observation Wells					
G. Vapor Observation Wells					
H. In-Tank (Auto Monitoring Gauge) (TANK ONLY)					
I. In-Line Electronic Pressure Monitor (PIPING ONLY) See Definition Page 4					
J. Automatic Line Leak Detector (PIPING ONLY) See Definition Page 4					
K. None (TANK & PIPING)					

Tank Identification Number	TANK NO. 007	TANK NO.	TANK NO.	TANK NO.	TANK NO.
10. Overfill Protection (Mark one X for each tank)					
A. Yes					
B. No					
11. Spill Containment Around Fill Pipe (Mark one X for each tank)					
A. Yes					
B. No					
12. Tank Status Information (Mark appropriate choice for each tank)					
A. In-Use					
B. Out of Service (See Definition Page 4)					
Date Taken Out of Service	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year
C. Closed					
1. Removed	✓				
Date Removed Case mgr. Email Approval.	Mo. Day Year 05/12/2009	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year
Closure #	N09-6830				
2. Abandoned-In-Place					
Date Abandoned-In-Place	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year
Closure #					
13. Tank Use Information (Mark if applicable)					
A. Emergency Back-up Generator					
B. Sump (See Definition Page 4)					
C. Heating Oil Tanks If you checked H, I or J under item B5 on Page 2, check one of the following					
1. Product for on-site consumption use					
2. Product for sale or distribution					
14. Other Information (Mark if applicable)					
A. Date of Sale or Transfer	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year
B. Substantial Modification #					
C. ISRA #					
15. Is the tank within a wellhead protection area as defined on Page 4 (Mark for each tank)					
A. Yes					
B. No					

SECTION C - FINANCIAL RESPONSIBILITY

Please note: In addition to new submittals, any change in the Financial Responsibility Assurance Mechanism as per N.J.A.C. 7:14B 2.2 (including policy renewal date) for an existing facility shall be listed below.

Type of Mechanism (i.e. Insurance) _____ Carrier/Issuing Agency _____

____/____/____ Effective Date ____/____/____ Expiration Date _____ Policy Number $_____ Amount of Aggregate Coverage

SECTION D - GENERAL GUIDANCE

FEE:	(If applicable) Please make check payable to: "Treasurer, State of New Jersey". Registration and Billing Fee Schedule can be found in N.J.A.C. 7:14B-3.
PENALTY:	Failure by owner or operator of a regulated underground storage tank to comply with any requirement of 7:14B et. seq. may result in penalties set forth in N.J.S.A. 58:10A-12.
EMERGENCY:	If a discharge or spill occurs, the NJDEP Hotline at (877) 927-6337 must be called **IMMEDIATELY** - 24 hours a day.
EXEMPTION:	Residential heating oil underground storage tanks are exempt from the rules as per by N.J.S.A. 58:10A-21 et. seq. Please see N.J.A.C. 7:14B.-1.4(b) for other exemptions.
PUBLICATIONS:	Operation and maintenance / record keeping / compliance publications are available on line at **www.state.nj.us/dep/srp/bust** Suggested Publications: "Underground and Storage Tank Owner's Self-inspection Checklist" and "Tank Care".
QUESTIONNAIRE:	Initial facility registrations can be submitted online at www.njdeponline.com (Renewal and modifications need prior DEP pin code approval to submit online).
MAILING:	UST Registration Certificates are mailed directly to the facility to be displayed prominently as per N.J.A.C. 7:14B-2.6

SECTION E - CERTIFICATION

Must be signed as follows:

- For a corporation, by a person authorized by resolution of the Board of Directors to sign the document.
- For a partnership or sole proprietorship, by a general partner or the proprietor, respectively.
- For a municipality, State, Federal or other public agency, by either a principal executive officer or ranking elected official.
- For persons other than indicated above, by the person with legal responsibility for the site.

"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.

Ms. Barbara Folk
(Typed / Printed Name)

Barbara Folk
(Signature)

Director
(Title)

12 May 2009
(Date)

008153
Facility UST #

SECTION F - DEFINITIONS

Section B7 C. **"European" Suction Piping** - Suction piping which has enough slope so that the product in the pipe can drain back into the tank when the suction is released, and which has only one check valve, located directly beneath the pump in the dispensing unit. Any underground storage tank equipped with "European" Suction Piping has no monitoring detection requirements for piping.

Section B9 I. **In-Line Electronic Pressure Monitor** - (Used with pressurized piping only) A monitor which checks for loss of pressure within piping when no product is dispensed. This method may be used once every 30 days or every time the dispenser turns off.

Section B9 J. **Automatic Line Leak Detectors** - (Used with pressurized piping - Must be able to detect a 3 gph leak within 1 hour of its occurrence). Types of detectors are:

1. Flow restrictors and flow shut offs which monitor pressure within piping. When a suspected leak is detected, either restricts the flow of product through the piping well below the 3 gph leak rate it detects, or completely cuts off product flow and shuts down the pump.
2. Continuous alarm systems which constantly monitor piping conditions and trigger an audible or visual alarm if a leak is suspected.

Section B12 B. **Out of Service Storage Tank** - Any underground storage tank system in which hazardous substances are contained or have been contained, but from which hazardous substances are not or have not been introduced or dispensed pending a decision to close the system or begin reuse of the system.

Please Note: Underground storage tank systems which are out of service shall comply with the provisions of N.J.A.C. 7:14B-9-1. The owner or operator of an underground storage tank system which is out of service for a period greater than three months shall follow the guidelines in the current American Petroleum Institute Bulletin #1604. The owner or operator may request that the underground storage tank system remain out of service for a period of more than 12 months without having to permanently close the tank system by complying with the provisions of N.J.A.C. 7:14B-9.1(b) by submitting a Site Investigation (SI) Report at least 30 days before expiration of the 12 month period.

Section B13 B. **Sump** - Any underground storage tank used to collect or contain a hazardous substance for no more than 48 hours.

Section B15 **Wellhead Protection Area** -

1. The area within a 2,000 ft. radius surrounding a public community or public non-community water system well when there is an underground storage tank containing gasoline or non-petroleum hazardous substances located within that area.

2. The area within a 750 ft. radius surrounding a public community or public non-community water system well when there is an underground storage tank containing petroleum products other than gasoline located within that area.

New Jersey Department of Environmental Protection

Division of Remediation Support
Bureau of Risk Management, Initial Notice and Case Assignment
PO Box 435
Trenton, NJ 08625-0435
(609) 633-0708

CLOSURE - Notice of Intent
Underground Storage Tank System

DEP Received Date: 04/30/2009
Earliest Start of Work Date: 05/14/2009
Expiration Date: 05/05/2010

TMS #: N09-6830 **Facility ID #:** 008153
Activity #: UCL090001

Facility Name:
US ARMY GARRISON FORT MONMOUTH WEST

Facility Address:
MAIN POST W
BLDG 1203
Eatontown Boro
Monmouth County

Decommission, close and conduct a site investigation for the UST(s) and all associated piping specified in this approval in accordance with the Technical Requirements for Site Remediation, N.J.A.C. 7:26E.

The management of any excavated soils must follow the requirements listed in N.J.A.C. 7:14B-8.2.

Note: The UNDERGROUND STORAGE TANK SERVICES CERTIFICATION ACT, N.J.S.A. 58:10A-24, requires all services performed on an UST system for the purpose of complying with P.L.1986, c.102 to be performed by or under the immediate on-site supervision of a person certified by the Department for that service. The certified person providing that service must be employed by a business that is also certified by the Department for that service.

Contact Person: BARBARA FOLK **Telephone #:** (732)427-1523

This Permit must be displayed at the Site during the Approved Activity and must be made available for inspections at all times.

The above listed facility is hereby granted approval to perform the attached activities in accordance with N.J.A.C. 7:14B-1 et. seq..

Rafael Rivera

Rafael Rivera, Supervisor
Bureau of Risk Management, Initial Notice and Case Assignment

This Permit consists of 2 pages.

APPENDIX B

WASTE MANIFEST

APPENDIX C

UST DISPOSAL CERTIFICATE

B.1203 - 10,000 GAL. UST
(FIBERGLASS) SCRAP RECIEPT

MAZZA
FACILITY ID# 195599
DEP# 1336001136
3230 SHAFTO RD.TINTON FALLS.NJ

Weighed: JIM WEIMER
Deposit: BOB ALBANESE
BILL ID: 558
CHENEGA TECH SERVICES CORP.

Vehicle ID: 1496
Reference: C0703815

Origin: FORT MONMOUTH, MONMOUTH
DATE IN: 05/13/2009 TIME IN: 10:24:20
DATE OUT: 05/13/2009 TIME OUT: 10:35

INBOUND TICKET Number: 02-367388

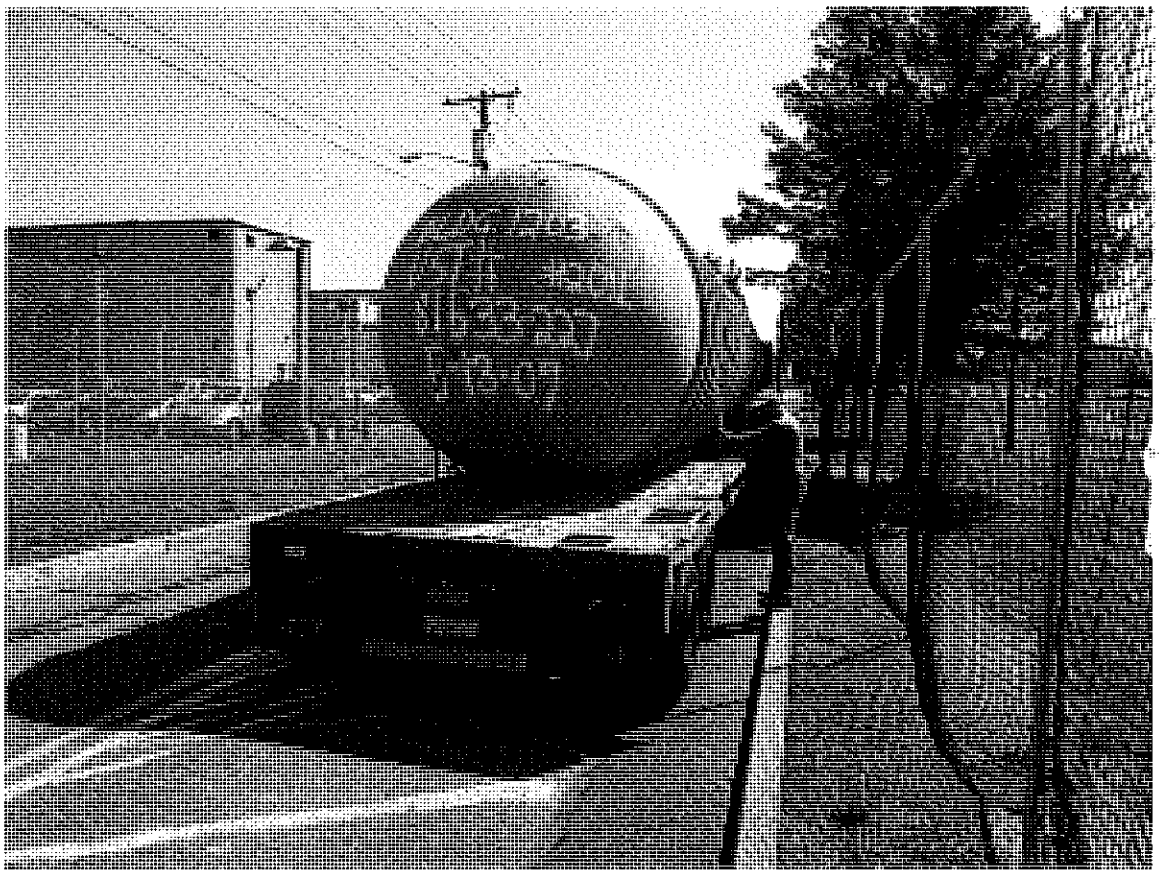
SCALE 2 GROSS WT.	35400	LB
SCALE 3 TARE WT.	32800	LB
NET WEIGHT	2600	LB

Qty	Description	Amount
1.30	INCOMING BULKY WAST	122.20
	RE TAX	3.90
	NET CHARGE AMOUNT:	126.10

X_____

APPENDIX D

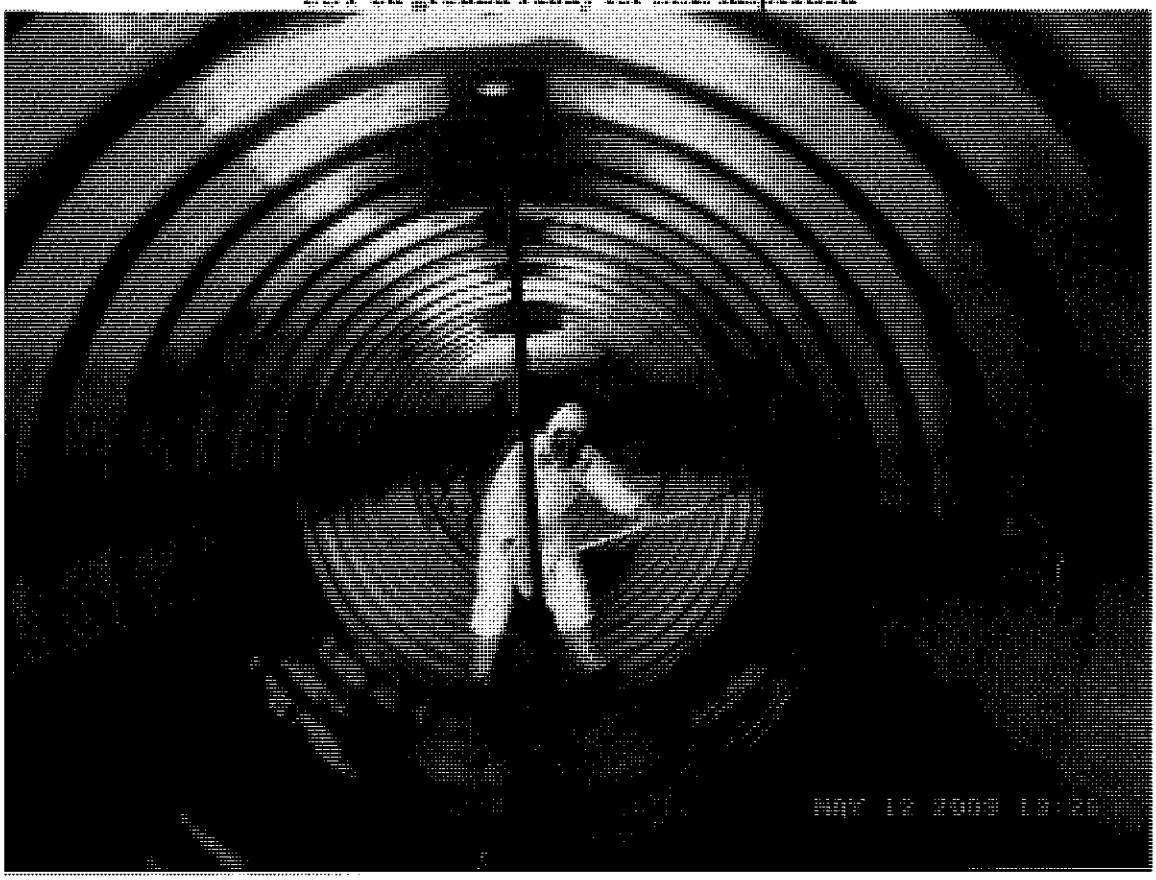
PHOTO DOCUMENTATION



Removed and labeled fiberglass USTs

Fiberglass UST being removed from excavation

UST on ground ready for SSE inspection



UST being cleaned

Exposing top of UST prior to removal

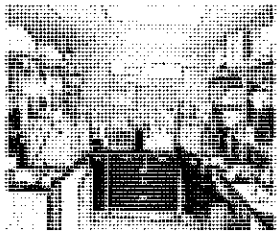
Tank excavation w/tank out of ground

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: 08-155522

Bldg. 1203 (FBI)/UST # 81533-227

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
1203A, North Wall	9019701	Soil	15-May-09 09:20	05/15/09
1203B, South Wall	9019702	Soil	15-May-09 11:30	05/15/09
1203C, East Wall	9019703	Soil	15-May-09 10:00	05/15/09
1203D, West Wall	9019704	Soil	15-May-09 10:30	05/15/09
1203-Duplicate	9019705	Soil	15-May-09 10:00	05/15/09

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, % SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

Jacqueline Hamer 5/27/09
Jacqueline Hamer/Date
QA/QC Supervisor

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

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MS/MSD 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:jacqueline.hamer@us.army.mil
NJDEP Certification #13461

Chain of Custody Record

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

Project No: 08-155522
Location: BLDG. 1203 (FBI)
UST # 81533-227

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
90197 01	1203A-NORTH WALL	5-15-09	0920	SOIL	1	X	X					0	8.5-9	ICE
02	1203B-SOUTH WALL		1130		1	X	X					0	8.5-9	
03	1203C-EAST WALL		1000		1	X	X					0	8.5-9	
04	1203D-WEST WALL		1030		1	X	X					0	8.5-9	
05	1203-DUPLICATE		1000		1	X	X					0	8.5-9	

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Frank Accorsi	5-15-09 1210	[illegible]			
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 1 Wk., ( )ASAP Verbal ____Hrs.

Remarks: * CONTINGENT BNHS IF TPH >1,000 PPM

000002

print legibly

new coc..XLS4/10/2009

GPS

COORDINATES

U.S. ARMY - FT. MONMOUTH, NJ

BUILDING 1203 - UST #81533-227

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)
1203A NORTH WALL UST	538355.702	614177.199
1203B SOUTH WALL UST	538321.554	614191.323
1203C EAST WALL UST	538347.476	614192.563
1203D WEST WALL UST	538332.874	614175.602

METHOD SUMMARY

Method Summary

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

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

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

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

CONFORMANCE/ NON-CONFORMANCE SUMMARY

TPHC CONFORMANCE/NON–CONFORMANCE SUMMARY REPORT

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

Additional comments: _____

Laboratory Manager: [signature] Date: 05/21/09

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 #: 08-155522
Location: BLDG. 1203 (FBI)
ECP:
Work Order:

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

Date Received: 15-May-09
Date Extracted: 18-May-09
Extraction Method: Shake
Analysis Complete: 19-May-09
Analyst: Robert Szot

Lab ID	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	RL (mg/kg)	TPHC Result (mg/kg)	Qualifiers
MB05180901	MB05180901	1.00	15.11	100.00	7	100	0.00	
LCS05180901	LCS05180901	1.00	15.10	100.00	7	100	1040.81	
9019701	1203-A NORTH WALL	1.00	15.02	76.16	9	131	0.00	
9019702	1203-B SOUTH WALL	1.00	15.05	77.30	9	129	0.00	
9019703	1203-C EAST WALL	1.00	15.00	78.70	9	127	0.00	
9019704	1203-D WEST WALL	1.00	15.11	76.77	9	129	0.00	
9019705	1203 DUPLICATE	1.00	15.01	80.16	9	125	0.00	

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

Response Factor Report TPHC

Method : C:\HPCHEM\1\METHODS\TPHC022.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Thu Apr 30 08:51:56 2009

Calibration Files
5 =T021010.D 10 =T021012.D 20 =T021013.D
50 =T021011.D 100 =T021009.D

		Compound	5	10	20	50	100	Avg		%RSD
1)	T	C8	2.539	2.251	2.173	2.078	2.204	2.249	E4	7.74
2)	T	C10	2.763	2.361	2.286	2.093	2.238	2.348	E4	10.72
3)	T	C12	2.778	2.347	2.271	2.085	2.229	2.342	E4	11.17
4)	T	C14	2.730	2.337	2.246	2.067	2.205	2.317	E4	10.83
5)	T	C16	2.722	2.329	2.236	2.057	2.196	2.308	E4	10.89
6)	T	C18	2.766	2.359	2.259	2.070	2.189	2.329	E4	11.44
7)	T	C20	2.924	2.488	2.387	2.194	2.344	2.467	E4	11.20
8)	T	C22	2.884	2.467	2.364	2.184	2.325	2.445	E4	10.86
9)	T	C24	2.875	2.452	2.361	2.182	2.322	2.438	E4	10.78
10)	T	C26	2.845	2.437	2.338	2.179	2.317	2.423	E4	10.45
11)	T	C28	2.831	2.430	2.326	2.176	2.326	2.418	E4	10.25
12)	T	C30	2.840	2.432	2.316	2.166	2.320	2.415	E4	10.58
13)	T	C32	2.807	2.403	2.288	2.141	2.287	2.385	E4	10.63
14)	T	C34	2.885	2.481	2.360	2.199	2.340	2.453	E4	10.65
15)	T	C36	2.842	2.458	2.341	2.179	2.298	2.424	E4	10.49
16)	T	C38	2.743	2.390	2.284	2.122	2.216	2.351	E4	10.22
17)	T	C40	3.173	2.527	2.342	2.176	2.252	2.494	E4	16.09
18)	T	C42	2.758	2.414	2.332	2.170	2.236	2.382	E4	9.63
19)	T	Phytane	2.766	2.359	2.259	2.070	2.175	2.326	E4	11.54
20)	T	Pristane	2.924	2.488	2.387	2.194	2.337	2.466	E4	11.24
21)	H	TPHC (Total)	2.952	2.460	2.343	2.166	2.338	2.452	E4	12.18
22)	S	Chlorobenzene (SURR.)	1.976	1.700	1.656	1.539	1.625	1.699	E4	9.76
23)	S	O-Terphenyl (SURR.)	3.026	2.584	2.480	2.284	2.447	2.564	E4	10.91

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\090519\T021106.D Vial: 19
Acq On : 20 May 2009 12:35 am Operator: ROBERTS
Sample : CCV022-50 Inst : TPHC
Misc : TPHC 5/19/09 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\HPCHEM\1\METHODS\TPHC022A.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed May 20 10:07:46 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF		%Dev	Area%	Dev(Min)
1	T	C8	30.988	29.388	E3	5.2	92	-0.01
2	T	C10	31.726	30.238	E3	4.7	91	0.00
3	T	C12	31.741	30.149	E3	5.0	91	0.00
4	T	C14	31.525	29.813	E3	5.4	91	0.00
5	T	C16	31.602	29.693	E3	6.0	91	0.00
6	T	C18	32.159	29.884	E3	7.1	91	0.00
7	T	C20	33.924	31.571	E3	6.9	90	0.00
8	T	C22	33.370	31.395	E3	5.9	91	0.00
9	T	C24	33.163	31.359	E3	5.4	91	0.00
10	T	C26	33.034	31.243	E3	5.4	91	0.00
11	T	C28	32.998	31.399	E3	4.8	92	0.00
12	T	C30	33.028	31.288	E3	5.3	92	0.00
13	T	C32	32.899	30.999	E3	5.8	91	0.00
14	T	C34	33.898	32.001	E3	5.6	91	0.00
15	T	C36	33.636	31.682	E3	5.8	91	0.00
16	T	C38	32.687	30.902	E3	5.5	91	-0.01
17	T	C40	33.886	32.059	E3	5.4	92	-0.02
18	T	C42	32.675	32.068	E3	1.9	93	-0.02
19	T	Phytane	32.159	29.884	E3	7.1	91	0.00
20	T	Pristane	33.924	31.571	E3	6.9	90	0.00
21	H	TPHC (Total)	32.989	31.186	E3	5.5	91	0.00
22	S	Chlorobenzene (SURR.)	23.296	22.262	E3	4.4	93	0.00
23	S	O-Terphenyl (SURR.)	35.248	33.028	E3	6.3	91	0.00

Evaluate Continuing Calibration Report - Not Founds

Data File : C:\HPCHEM\1\DATA\090519\T021106.D Vial: 19
Acq On : 20 May 2009 12:35 am Operator: ROBERTS
Sample : CCV022-50 Inst : TPHC
Misc : TPHC 5/19/09 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\HPCHEM\1\METHODS\TPHC022A.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed May 20 10:07:46 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)

(#) = Out of Range SPCC's out = 0 CCC's out = 0
T021089.D TPHC022A.M Wed May 20 10:11:03 2009

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\090519\T021106.D Vial: 19
Acq On : 20 May 2009 12:35 am Operator: ROBERTS
Sample : CCV022-50 Inst : TPHC
Misc : TPHC 5/19/09 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 20 10:08 2009 Quant Results File: TPHC022A.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC022A.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed May 20 10:07:46 2009
Response via : Initial Calibration
DataAcq Meth : TPHC022.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
22) S Chlorobenzene (SURR.)	5.26	1113102	47.782 mg/L
Spiked Amount 50.000		Recovery =	95.56%
23) S O-Terphenyl (SURR.)	12.73	1651414	46.851 mg/L
Spiked Amount 50.000		Recovery =	93.70%
Target Compounds			
1) T C8	4.13	1469383	47.418 mg/L
2) T C10	7.44	1511921	47.655 mg/L
3) T C12	9.10	1507446	47.492 mg/L
4) T C14	10.28	1490625	47.284 mg/L
5) T C16	11.29	1484629	46.979 mg/L
6) T C18	11.78	1494209	46.464 mg/L
7) T C20	12.23	1578571	46.532 mg/L
8) T C22	13.00	1569741	47.041 mg/L
9) T C24	13.74	1567929	47.279 mg/L
10) T C26	14.43	1562152	47.289 mg/L
11) T C28	15.06	1569972	47.578 mg/L
12) T C30	15.66	1564424	47.367 mg/L
13) T C32	16.33	1549951	47.113 mg/L
14) T C34	17.15	1600058	47.202 mg/L
15) T C36	18.23	1584078	47.094 mg/L
16) T C38	19.73	1545095	47.270 mg/L
17) T C40	21.85	1602971	47.305 mg/L
18) T C42	24.87	1603383	49.071 mg/L
19) T Phytane	11.78	1494209	46.464 mg/L
20) T Pristane	12.23	1578571	46.532 mg/L
21) H TPHC (Total)	12.00	31186090	945.353 mg/L

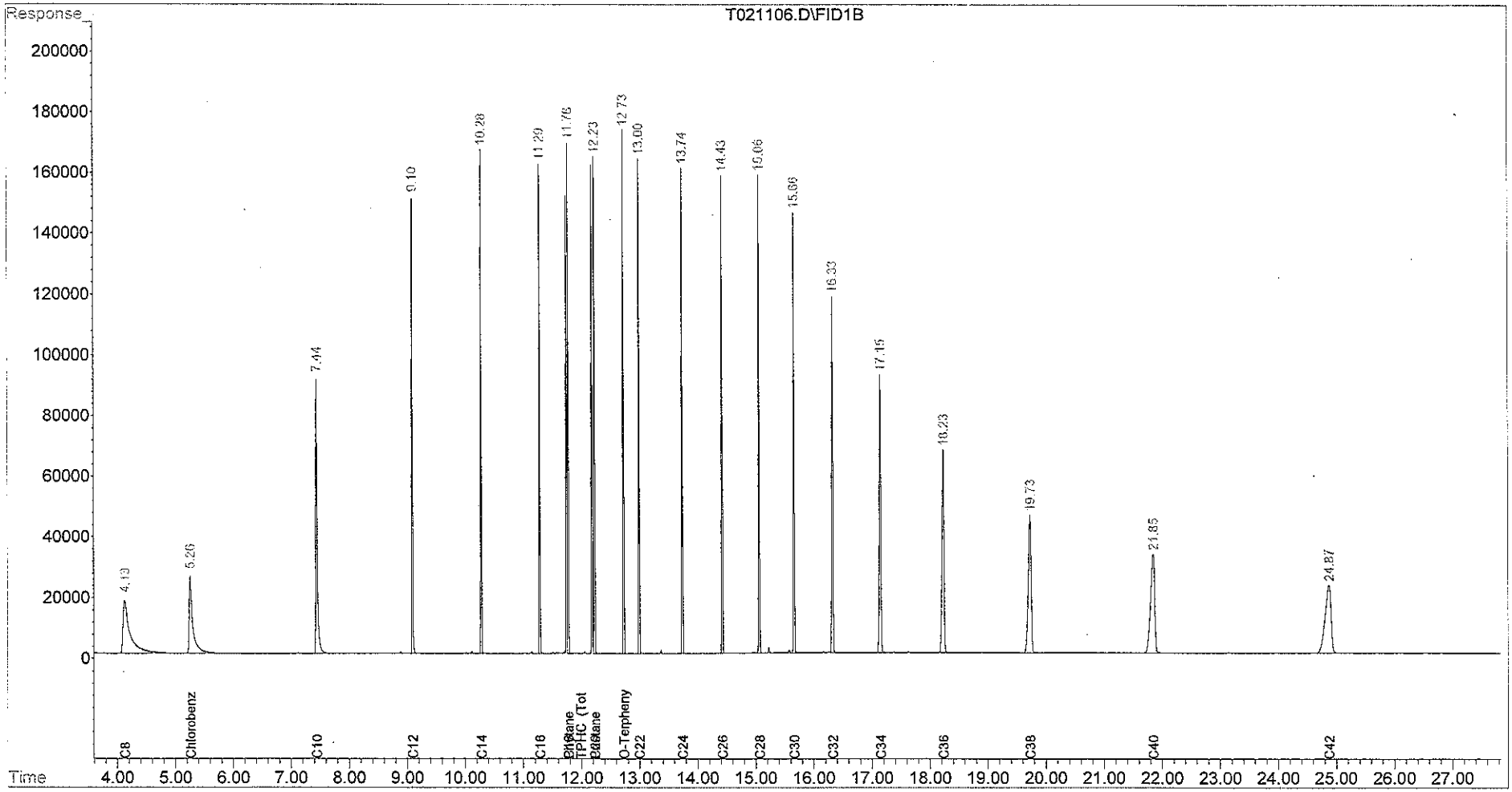
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\090519\T021106.D Vial: 19
Acq On : 20 May 2009 12:35 am Operator: ROBERTS
Sample : CCV022-50 Inst : TPHC
Misc : TPHC 5/19/09 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 20 10:08 2009 Quant Results File: TPHC022A.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC022A.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed May 20 10:07:46 2009
Response via : Multiple Level Calibration
DataAcq Meth : TPHC022.M

Volume Inj. :
Signal Phase :
Signal Info :



000013

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\090519\T021118.D Vial: 31
Acq On : 20 May 2009 7:58 am Operator: ROBERTS
Sample : CCV022-50 Inst : TPHC
Misc : TPHC 5/19/09 Multiplr: 1.00
IntFile : EVENTS.E

Method : C:\HPCHEM\1\METHODS\TPHC022A.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed May 20 10:07:46 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	T	C8	30.988	35.020 E3	-13.0	110	0.00
2	T	C10	31.726	35.846 E3	-13.0	108	0.00
3	T	C12	31.741	35.919 E3	-13.2	108	0.00
4	T	C14	31.525	35.485 E3	-12.6	108	0.00
5	T	C16	31.602	35.351 E3	-11.9	108	0.00
6	T	C18	32.159	35.449 E3	-10.2	108	0.00
7	T	C20	33.924	37.610 E3	-10.9	108	0.00
8	T	C22	33.370	37.412 E3	-12.1	108	0.00
9	T	C24	33.163	37.316 E3	-12.5	108	0.00
10	T	C26	33.034	37.246 E3	-12.8	109	0.00
11	T	C28	32.998	37.321 E3	-13.1	109	0.00
12	T	C30	33.028	37.309 E3	-13.0	109	0.00
13	T	C32	32.899	37.008 E3	-12.5	109	0.00
14	T	C34	33.898	38.504 E3	-13.6	110	0.00
15	T	C36	33.636	38.208 E3	-13.6	109	0.00
16	T	C38	32.687	37.157 E3	-13.7	109	0.00
17	T	C40	33.886	38.114 E3	-12.5	110	0.00
18	T	C42	32.675	38.109 E3	-16.6	111	0.01
19	T	Phytane	32.159	35.449 E3	-10.2	108	0.00
20	T	Pristane	33.924	37.610 E3	-10.9	108	0.00
21	H	TPHC (Total)	32.989	37.156 E3	-12.6	109	0.00
22	S	Chlorobenzene (SURR.)	23.296	26.509 E3	-13.8	110	0.00
23	S	O-Terphenyl (SURR.)	35.248	39.300 E3	-11.5	108	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\090519\T021118.D Vial: 31
Acq On : 20 May 2009 7:58 am Operator: ROBERTS
Sample : CCV022-50 Inst : TPHC
Misc : TPHC 5/19/09 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 20 10:08 2009 Quant Results File: TPHC022A.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC022A.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed May 20 10:07:46 2009
Response via : Initial Calibration
DataAcq Meth : TPHC022.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
22) S Chlorobenzene (SURR.)	5.27	1325428	56.896 mg/L
Spiked Amount 50.000		Recovery =	113.79%
23) S O-Terphenyl (SURR.)	12.73	1965016	55.748 mg/L
Spiked Amount 50.000		Recovery =	111.50%
Target Compounds			
1) T C8	4.14	1751016	56.507 mg/L
2) T C10	7.45	1792282	56.492 mg/L
3) T C12	9.10	1795969	56.582 mg/L
4) T C14	10.29	1774261	56.281 mg/L
5) T C16	11.29	1767541	55.931 mg/L
6) T C18	11.78	1772471	55.116 mg/L
7) T C20	12.24	1880487	55.432 mg/L
8) T C22	13.00	1870583	56.056 mg/L
9) T C24	13.75	1865801	56.261 mg/L
10) T C26	14.43	1862325	56.376 mg/L
11) T C28	15.07	1866027	56.550 mg/L
12) T C30	15.67	1865474	56.482 mg/L
13) T C32	16.33	1850393	56.245 mg/L
14) T C34	17.16	1925176	56.794 mg/L
15) T C36	18.25	1910391	56.795 mg/L
16) T C38	19.75	1857875	56.839 mg/L
17) T C40	21.87	1905715	56.239 mg/L
18) T C42	24.91	1905468	58.316 mg/L
19) T Phytane	11.78	1772471	55.116 mg/L
20) T Pristane	12.24	1880487	55.432 mg/L
21) H TPHC (Total)	12.00	37155509	1126.305 mg/L

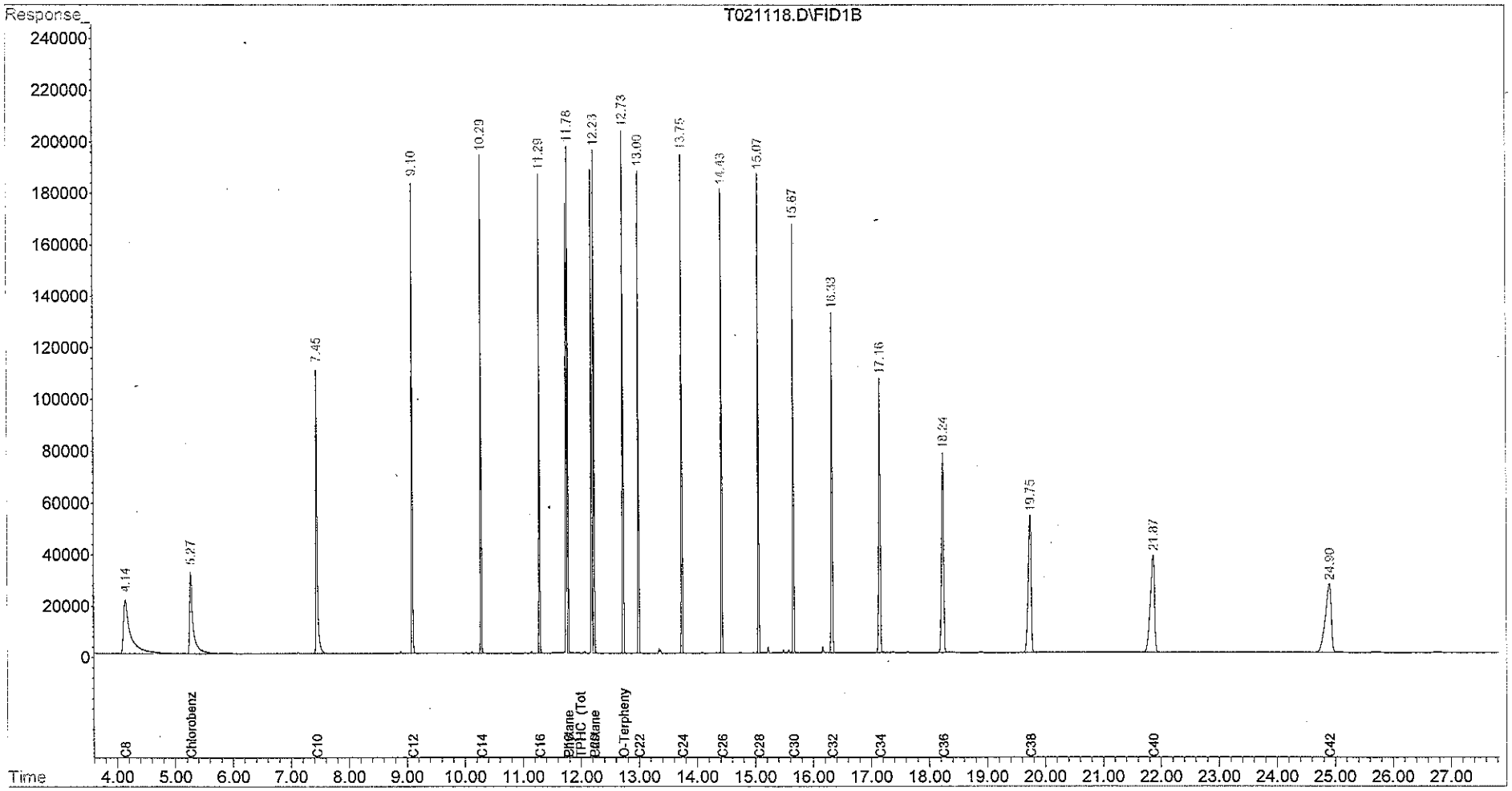
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\090519\T021118.D Vial: 31
Acq On : 20 May 2009 7:58 am Operator: ROBERTS
Sample : CCV022-50 Inst : TPHC
Misc : TPHC 5/19/09 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 20 10:08 2009 Quant Results File: TPHC022A.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC022A.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed May 20 10:07:46 2009
Response via : Multiple Level Calibration
DataAcq Meth : TPHC022.M

Volume Inj. :
Signal Phase :
Signal Info :



000016

Surrogate Recovery Report
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:** **ECP:** **Work Order:**	08-155522 BLDG. 1203 (FBI)
Analysis:	OQA-QAM-025	**Date Received:**	15-May-09
Matrix:	Soil	**Date Extracted:**	18-May-09
Inst. ID:	GC TPHC INST. #1	**Extraction Method:**	Shake
Column Type:	RTX-5, 0.32mm ID, 30 m	**Analysis Complete:**	19-May-09
Injection Volume:	1 uL	**Analyst:**	Robert Szot

Lab ID	Surrogate spiked (ppm)	Dilution Factor	Chlorobenzene recovered (ppm)	% Recovery	o-Terphenyl recovered (ppm)	% Recovery
MB05180901	10.00	1.00	10.824	*108.24*	11.222	*112.22*
LCS05180901	10.00	1.00	10.041	*100.41*	10.885	*108.85*
9019701	10.00	1.00	6.372	*63.72*	8.775	*87.75*
9019702	10.00	1.00	8.648	*86.48*	9.574	*95.74*
9019703	10.00	1.00	8.710	*87.10*	9.933	*99.33*
9019704	10.00	1.00	8.672	*86.72*	10.023	*100.23*
9019705	10.00	1.00	7.016	*70.16*	8.947	*89.47*
9019705MS	10.00	1.00	8.902	*89.02*	10.762	*107.62*
9019705MSD	10.00	1.00	8.875	*88.75*	10.333	*103.33*

Surrogate Recovery Limits

Surrogate		Lower Control Limit %	Upper Control Limit %
Chlorobenzene		*60*	*130*
o-Terphenyl		*62*	*133*

000017

Matrix Spike/Matrix Spike Duplicate Recovery Report
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:** **ECP:** **Work Order:**	08-155522 BLDG. 1203 (FI
Analysis:	OQA-QAM-025	**Date Received:**	15-May-09
Matrix:	Soil	**Date Extracted:**	18-May-09
Inst. ID:	GC TPHC INST. #1	**Extraction Method:**	Shake
Column Type:	RTX-5, 0.32mm ID, 30 m	**Analysis Complete:**	19-May-09
Injection Volume:	1 uL	**Analyst:**	Robert Szot

Lab ID	Spike Amount (ppm)	Sample Amount (ppm)	Matrix Spike Amount (ppm)	Percent Recovery	QC Limits (%)
9019705MS	1000.00	0.00	1053.08	105.31	55 -129
9019705MSD	1000.00	0.00	1048.55	104.85	55 -129
			RPD	**0.43**	**20**

Laboratory Control Standard Summary
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:** **ECP:** **Work Order:**	08-155522 BLDG. 1203 (FE
Analysis:	OQA-QAM-025	**Date Received:**	15-May-09
Matrix:	Soil	**Date Extracted:**	18-May-09
Inst. ID:	GC TPHC INST. #1	**Extraction Method:**	Shake
Column Type:	RTX-5, 0.32mm ID, 30 m	**Analysis Complete:**	19-May-09
Injection Volume:	1 uL	**Analyst:**	Robert Szot

Lab ID	Date Extracted	Spike Amount (ppm)	Amount Recovered (ppm)	Percent Recovery	QC Limits (%)
LCS05180901	18-May-09	1000.00	1040.81	104.08	55 - 129

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\090519\T021109.D Vial: 22
Acq On : 20 May 2009 2:25 am Operator: ROBERTS
Sample : MB05180901 Inst : TPHC
Misc : TPHC 5/19/09 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 20 8:46 2009 Quant Results File: TPHC022.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC022.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed May 20 08:39:34 2009
Response via : Initial Calibration
DataAcq Meth : TPHC022.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
22) S Chlorobenzene (SURR.)	5.27	252149	10.824 mg/L
Spiked Amount 10.000		Recovery =	108.24%
23) S O-Terphenyl (SURR.)	12.73	395558	11.222 mg/L
Spiked Amount 10.000		Recovery =	112.22%
Target Compounds			

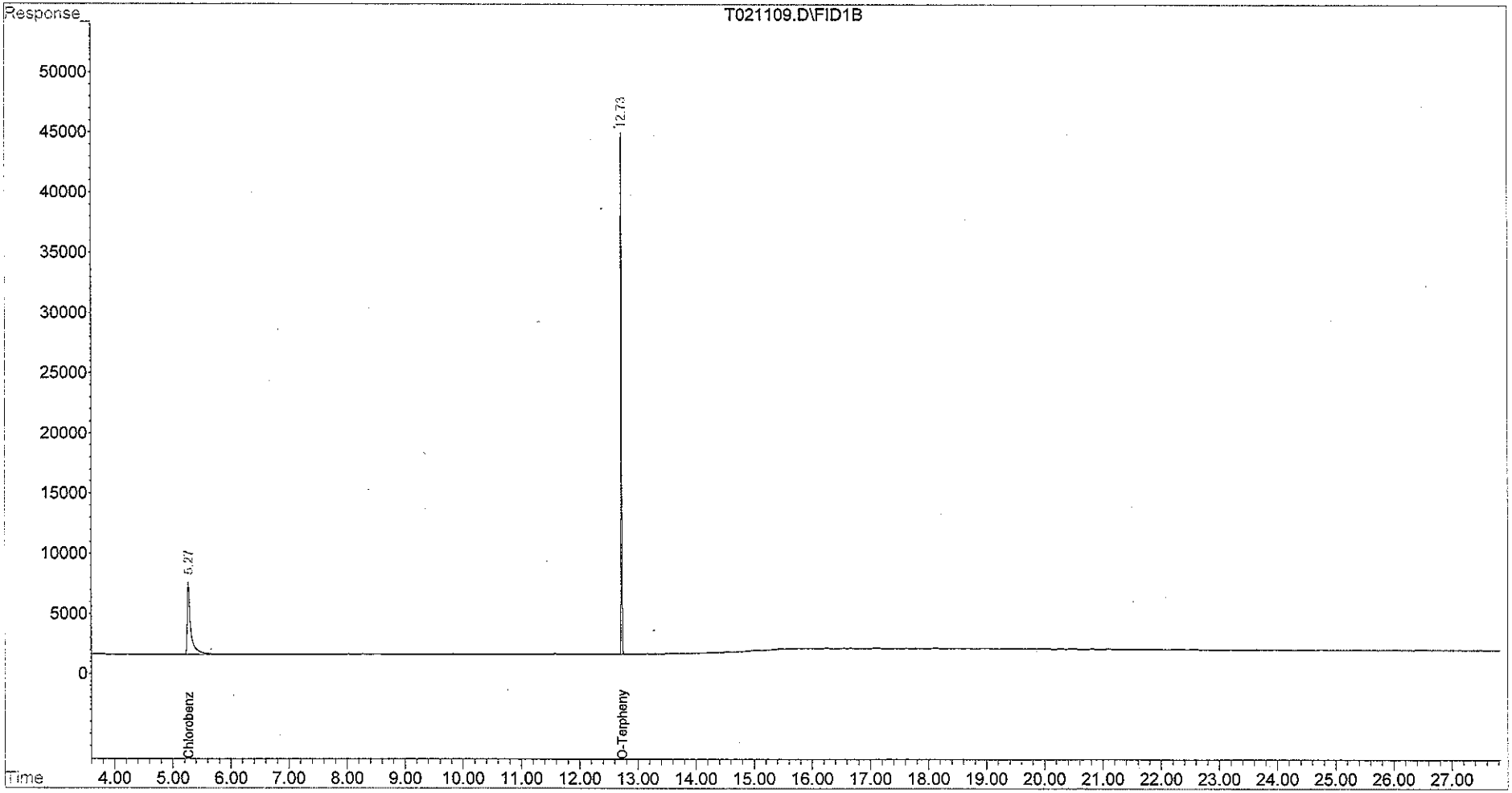
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\090519\T021109.D Vial: 22
Acq On : 20 May 2009 2:25 am Operator: ROBERTS
Sample : MB05180901 Inst : TPHC
Misc : TPHC 5/19/09 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 20 8:46 2009 Quant Results File: TPHC022.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC022.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed May 20 08:39:34 2009
Response via : Multiple Level Calibration
DataAcq Meth : TPHC022.M

Volume Inj. :
Signal Phase :
Signal Info :



000021

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\090519\T021111.D Vial: 24
Acq On : 20 May 2009 3:39 am Operator: ROBERTS
Sample : 9019701 Inst : TPHC
Misc : TPHC 5/19/09 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 20 8:47 2009 Quant Results File: TPHC022.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC022.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed May 20 08:39:34 2009
Response via : Initial Calibration
DataAcq Meth : TPHC022.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
22) S Chlorobenzene (SURR.)	5.27	148450	6.372 mg/L
Spiked Amount 10.000		Recovery =	63.72%
23) S O-Terphenyl (SURR.)	12.73	309314	8.775 mg/L
Spiked Amount 10.000		Recovery =	87.75%
Target Compounds			

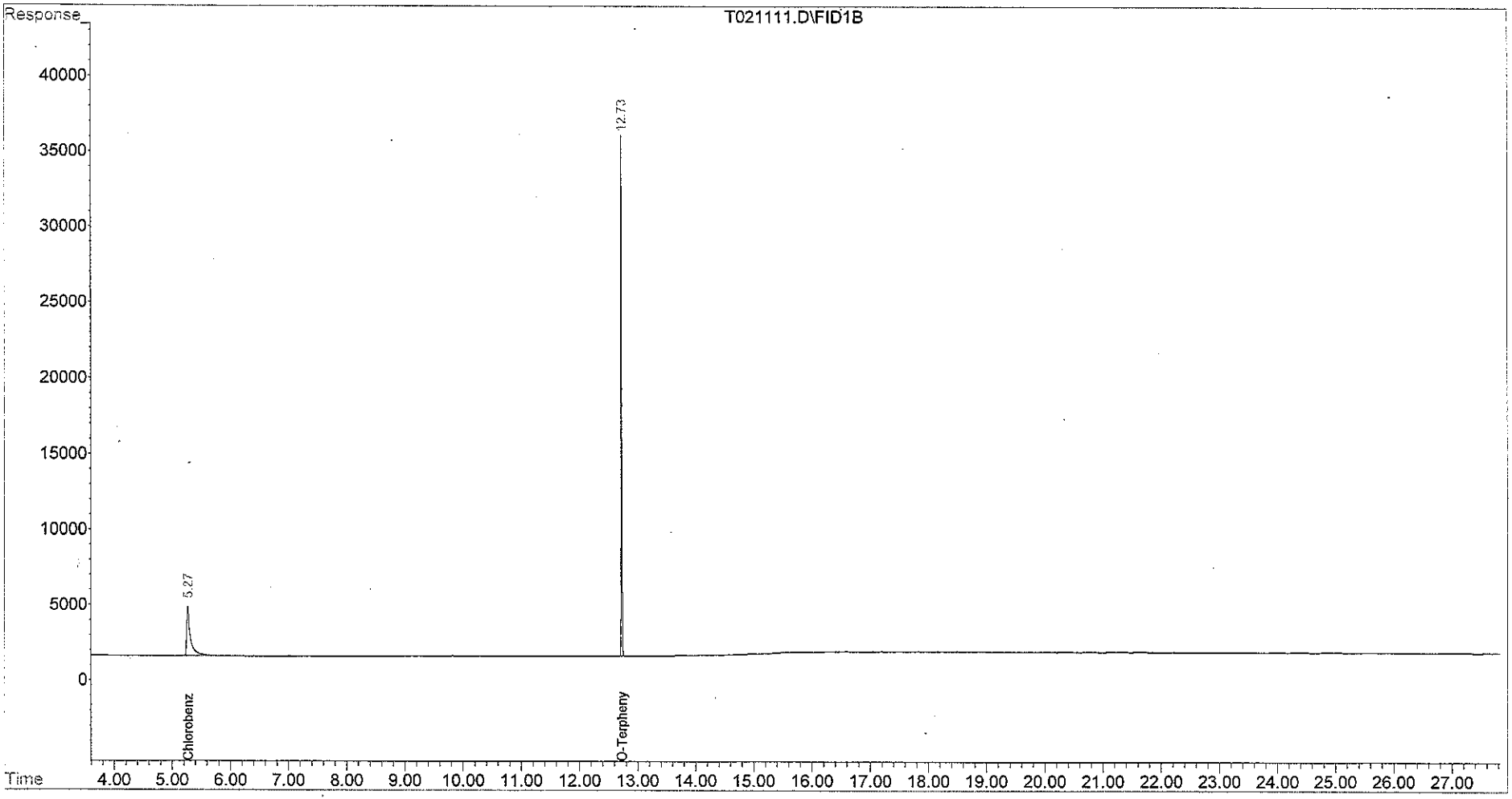
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\090519\T021111.D Vial: 24
Acq On : 20 May 2009 3:39 am Operator: ROBERTS
Sample : 9019701 Inst : TPHC
Misc : TPHC 5/19/09 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 20 8:47 2009 Quant Results File: TPHC022.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC022.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed May 20 08:39:34 2009
Response via : Multiple Level Calibration
DataAcq Meth : TPHC022.M

Volume Inj. :
Signal Phase :
Signal Info :



000023

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\090519\T021112.D Vial: 25
Acq On : 20 May 2009 4:16 am Operator: ROBERTS
Sample : 9019702 Inst : TPHC
Misc : TPHC 5/19/09 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 20 8:47 2009 Quant Results File: TPHC022.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC022.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed May 20 08:39:34 2009
Response via : Initial Calibration
DataAcq Meth : TPHC022.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
22) S Chlorobenzene (SURR.)	5.27	201468	8.648 mg/L
Spiked Amount 10.000		Recovery =	86.48%
23) S O-Terphenyl (SURR.)	12.73	337473	9.574 mg/L
Spiked Amount 10.000		Recovery =	95.74%
Target Compounds			

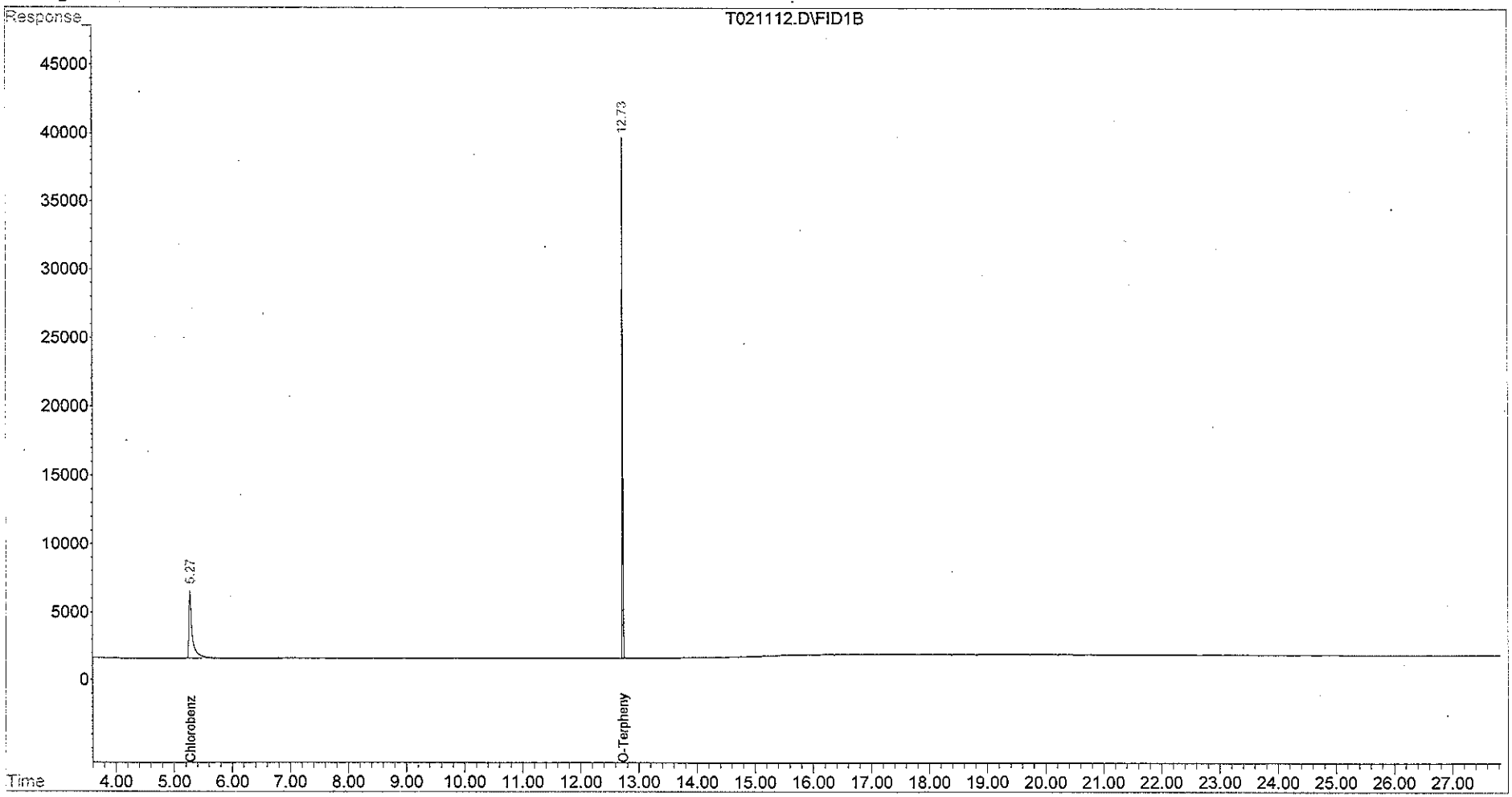
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\090519\T021112.D Vial: 25
Acq On : 20 May 2009 4:16 am Operator: ROBERTS
Sample : 9019702 Inst : TPHC
Misc : TPHC 5/19/09 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 20 8:47 2009 Quant Results File: TPHC022.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC022.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed May 20 08:39:34 2009
Response via : Multiple Level Calibration
DataAcq Meth : TPHC022.M

Volume Inj. :
Signal Phase :
Signal Info :



000025

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\090519\T021113.D Vial: 26
Acq On : 20 May 2009 4:52 am Operator: ROBERTS
Sample : 9019703 Inst : TPHC
Misc : TPHC 5/19/09 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 20 8:47 2009 Quant Results File: TPHC022.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC022.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed May 20 08:39:34 2009
Response via : Initial Calibration
DataAcq Meth : TPHC022.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
22) S Chlorobenzene (SURR.)	5.27	202912	8.710 mg/L
Spiked Amount 10.000		Recovery =	87.10%
23) S O-Terphenyl (SURR.)	12.73	350105	9.933 mg/L
Spiked Amount 10.000		Recovery =	99.33%
Target Compounds			

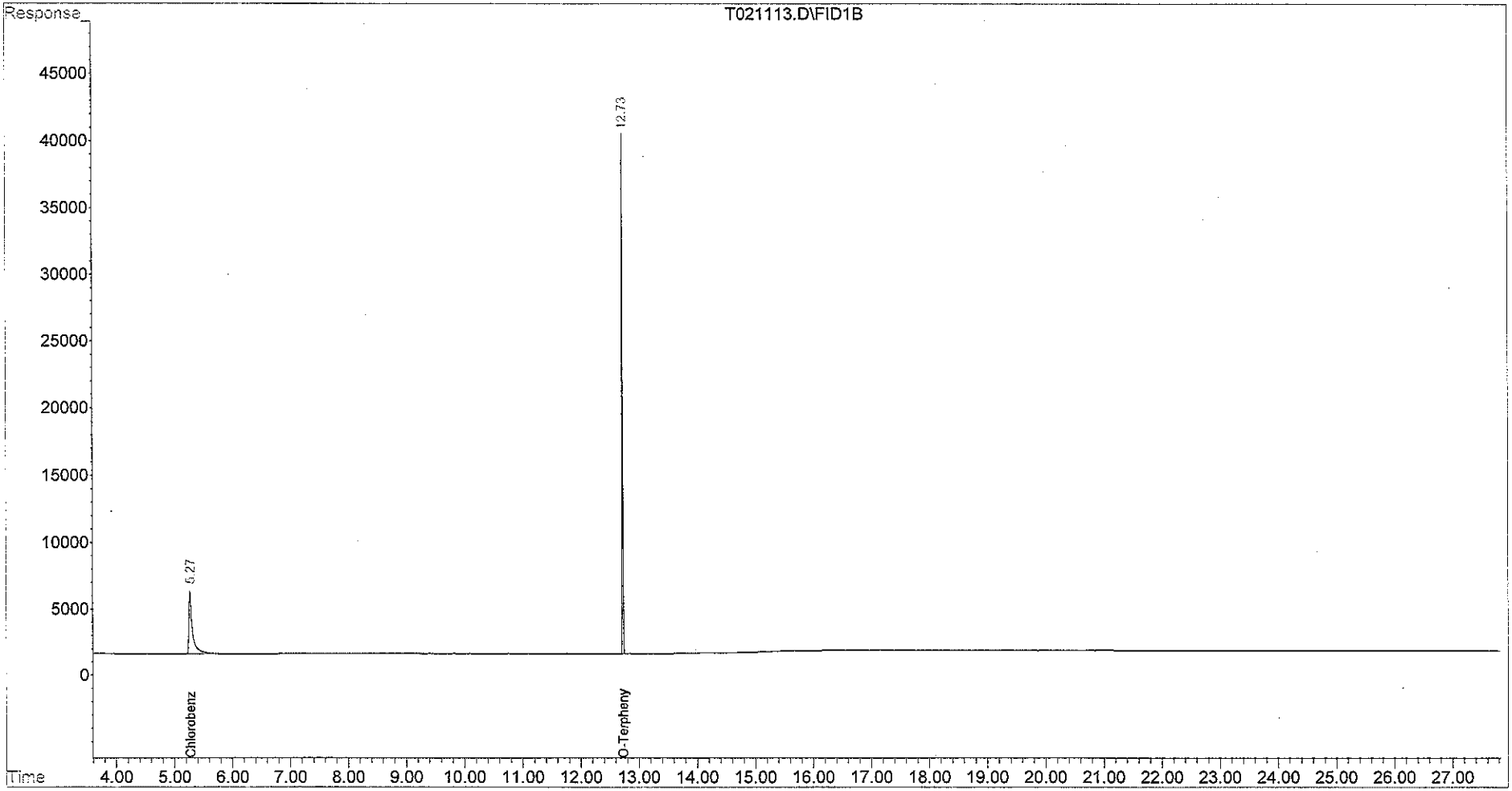
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\090519\T021113.D Vial: 26
Acq On : 20 May 2009 4:52 am Operator: ROBERTS
Sample : 9019703 Inst : TPHC
Misc : TPHC 5/19/09 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 20 8:47 2009 Quant Results File: TPHC022.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC022.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed May 20 08:39:34 2009
Response via : Multiple Level Calibration
DataAcq Meth : TPHC022.M

Volume Inj. :
Signal Phase :
Signal Info :



000027

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\090519\T021114.D Vial: 27
Acq On : 20 May 2009 5:29 am Operator: ROBERTS
Sample : 9019704 Inst : TPHC
Misc : TPHC 5/19/09 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 20 8:47 2009 Quant Results File: TPHC022.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC022.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed May 20 08:39:34 2009
Response via : Initial Calibration
DataAcq Meth : TPHC022.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
22) S Chlorobenzene (SURR.)	5.28	202012	8.672 mg/L
Spiked Amount 10.000		Recovery =	86.72%
23) S O-Terphenyl (SURR.)	12.73	353305	10.023 mg/L
Spiked Amount 10.000		Recovery =	100.23%
Target Compounds			

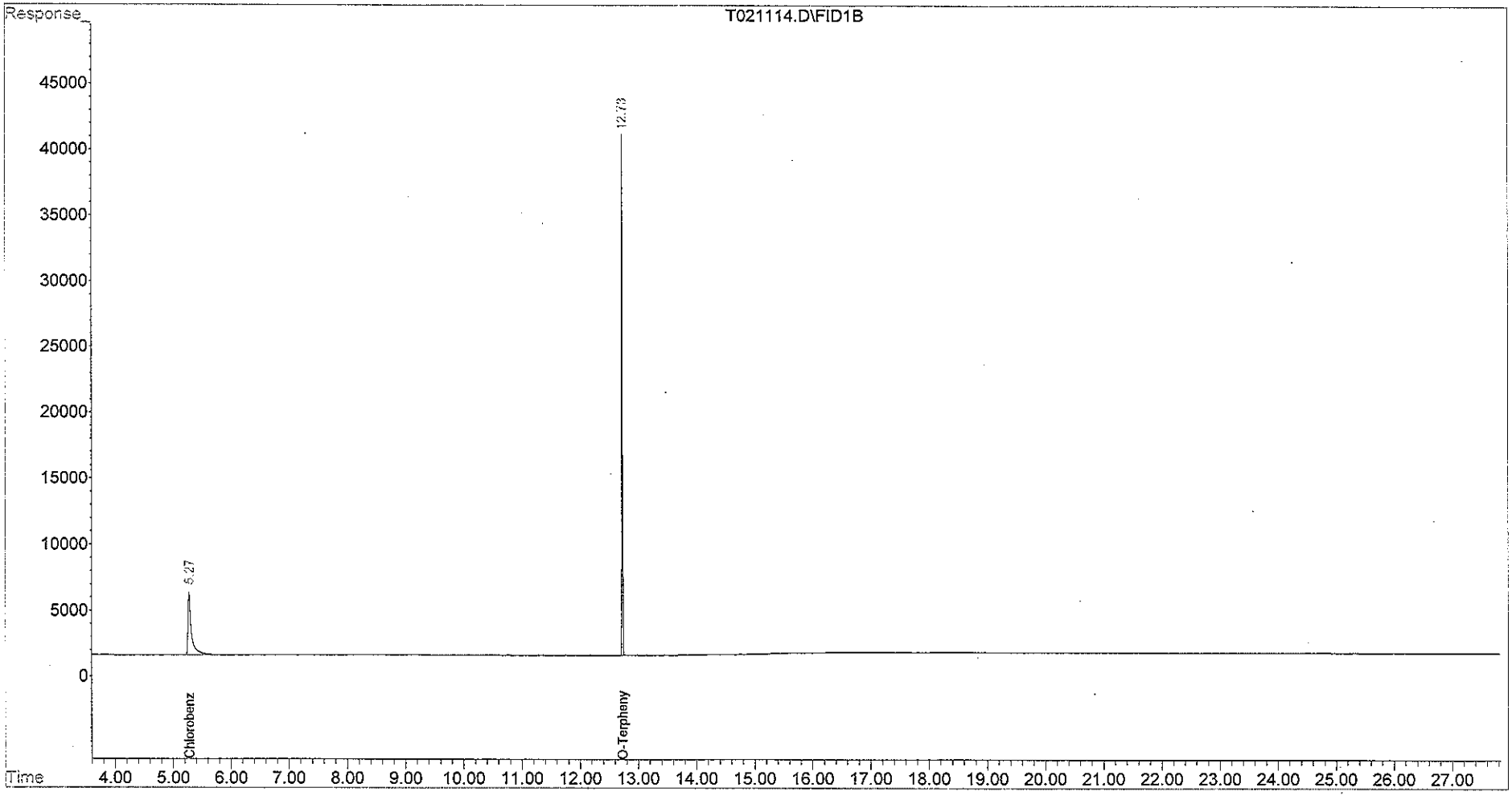
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\090519\T021114.D Vial: 27
Acq On : 20 May 2009 5:29 am Operator: ROBERTS
Sample : 9019704 Inst : TPHC
Misc : TPHC 5/19/09 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 20 8:47 2009 Quant Results File: TPHC022.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC022.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed May 20 08:39:34 2009
Response via : Multiple Level Calibration
DataAcq Meth : TPHC022.M

Volume Inj. :
Signal Phase :
Signal Info :



000029

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\090519\T021115.D Vial: 28
Acq On : 20 May 2009 6:07 am Operator: ROBERTS
Sample : 9019705 Inst : TPHC
Misc : TPHC 5/19/09 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 20 8:47 2009 Quant Results File: TPHC022.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC022.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed May 20 08:39:34 2009
Response via : Initial Calibration
DataAcq Meth : TPHC022.M

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
22) S Chlorobenzene (SURR.)	5.27	163445	7.016 mg/L
Spiked Amount 10.000		Recovery =	70.16%
23) S O-Terphenyl (SURR.)	12.73	315365	8.947 mg/L
Spiked Amount 10.000		Recovery =	89.47%
Target Compounds			

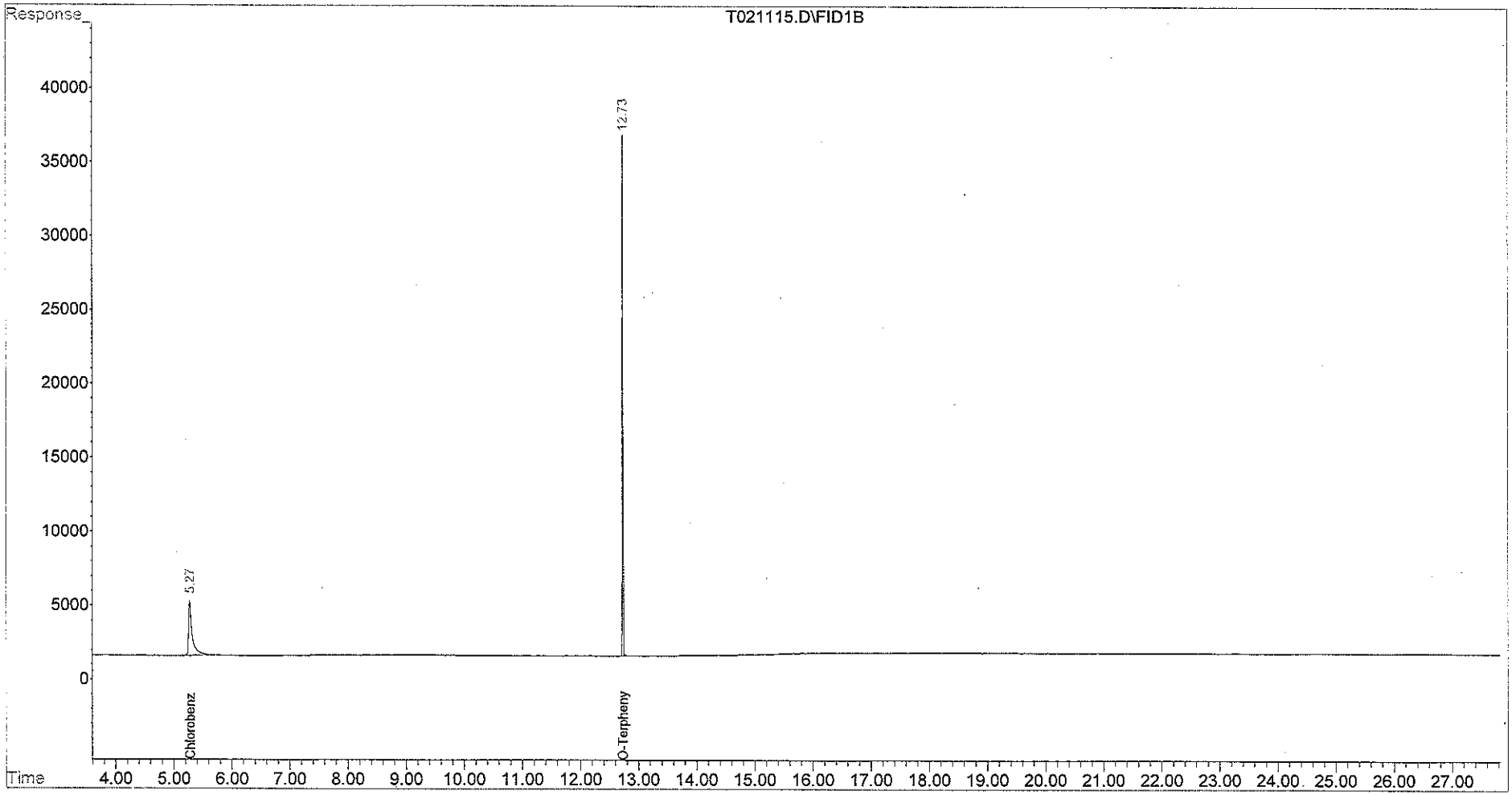
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : C:\HPCHEM\1\DATA\090519\T021115.D Vial: 28
Acq On : 20 May 2009 6:07 am Operator: ROBERTS
Sample : 9019705 Inst : TPHC
Misc : TPHC 5/19/09 Multiplr: 1.00
IntFile : EVENTS.E
Quant Time: May 20 8:47 2009 Quant Results File: TPHC022.RES

Quant Method : C:\HPCHEM\1\METHODS\TPHC022.M (Chemstation Integrator)
Title : GC TPH Method
Last Update : Wed May 20 08:39:34 2009
Response via : Multiple Level Calibration
DataAcq Meth : TPHC022.M

Volume Inj. :
Signal Phase :
Signal Info :



000031

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

Laboratory Manager or Environmental Consultant's Signature [signature]
Date: 05/21/09

Laboratory Certification # 13461

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

Laboratory Authentication Statement

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

Jacqueline Hamer
QA/QC Supervisor

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 11, 2013

Mr. William Simmons
Monmouth County Board of Health
Environmental Heath Coordinator
3435 Highway 9
Freehold, NJ 08625

Subject: **Fort Monmouth, NJ**
Phase 1 Property
Transfer Finding of Suitability to Transfer Comments

Dear Mr. Simmons:

The Army received your comments dated April 26, 2013 on the draft Finding of Suitability to Transfer (FOST) for the Phase 1 Property at Fort Monmouth. Your letter provided a significant amount of background information and also included two specific comments/questions. The Army's responses to those questions are as follows:

Comment/Question 1: How will the Army respond should more extensive sampling in the future of the soil or sediment indicate levels of heavy metals that will necessitate remediation due to historic practices?

Army Response: Should future sampling of soil or sediment indicate that levels of heavy metals necessitate remediation and that such contamination is due to Army's activities, use and ownership of the property, the Army would conduct all necessary remedial action consistent with applicable law and deed provisions.

Comment/Question 2: Can FM provide whatever guidelines and standards FM used regarding the land application of sludge during the operation of the CWA STP from 1942 to 1975? What were the permissible levels of metals in the sludge that was used as fill or soil conditioner; and what were the land application practices regarding rain and the prevention of sludge runoff to the freshwater pond on the golf course, upstream of Wampum Lake.

Army Response: Historic records of the Charles Wood Area (CWA) sewage treatment plant (STP) do not show any standard operating procedures regarding the application of the treated sludge to the golf course. A sludge dump (CW-9), as identified in the 1980 IA report (USAEC), was located in the southwest section of the Charles Wood golf course, south and southeast of Bldg. 2070 and west of Green 11 and Tee 12. Since the 1940s, sludge generated from both the Main Post and Charles Wood STPs were stored in this area before being used as a soil conditioner and fertilizer on the golf course. Sludge piles are visible on aerial photographs dating from 1957 through 1981. Under the SI phase, two monitoring wells were installed, one subsurface soil sample

and nine surface soil samples were collected to evaluate the impact to ground water and soil as a result of past site activities. All samples were analyzed for TCL + 30 parameters and TAL metals. No compounds of concern were detected above NJDEP Direct Contact Soil Cleanup Criteria or Ground Water Quality Standards. A "No Further Action" determination was approved by NJDEP. In addition, as part of the SI Phase, sampling was conducted at the CWA Former Sanitary Treatment Plant (CW-5). The sampling included two soil samples collected in the area of the sludge drying beds and one sediment sample collected from the former wastewater discharge point. All three samples were analyzed for TCL + 30 parameters, TAL metals and cyanide. No compounds of concern were detected above NJDEP Direct Contact Soil Cleanup Criteria or Sediment Criteria.

Your comments and the Army's response will be included in the final FOST. Please let me know if further clarification to the questions posed in the April 26, 2013 letter is needed. I can be reached at 732-380-7064 or via e-mail at Wanda.S.Green2.civ@mail.mil.

Sincerely

Wanda Green

Wanda Green
BRAC Environmental Coordinator

Cc: James Briggs, BRAC HQ