United States Army

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Fort Monmouth, New Jersey

Underground Storage Tank Closure and Site Investigation Report

Building 209 Main Post Area

NJDEP UST Registration No. 081533-7 NJDEP Closure Approval No. C-93-2611

July 1995



UNDERGROUND STORAGE TANK CLOSURE AND SITE INVESTIGATION REPORT

BUILDING 209

MAIN POST AREA NJDEP UST REGISTRATION NO. 081533-7 NJDEP CLOSURE APPROVAL NO. C-93-2611

JULY 1995

PROJECT NO.: 09-5004-01 CONTRACT NO.: DACA51-94-D-0014

PREPARED FOR:

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

PREPARED BY:

BCM ENGINEERS/ SMITH ENVIRONMENTAL TECHNOLOGIES CORPORATION BROMLEY CORPORATE CENTER THREE TERRI LANE BURLINGTON, NEW JERSEY 08016



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EXECUTIVE SUMMARY

UST Closure

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On January 14, 1994, a fiberglass underground storage tank (UST) was closed by removal in accordance with Closure Approval No C-93-2611 at US Army Fort Monmouth, Fort Monmouth, New Jersey The UST, New Jersey Department of Environmental Protection (NJDEP) Registration No 081533-7, was located immediately adjacent to Building 209 in the Main Post area of US Army, Fort Monmouth UST No 081533-7 was a 6,000-gallon No 2 fuel oil UST The UST fill port was located directly above the tank The tank closure was performed by Cleaning Up The Environment Inc (CUTE)

Site Assessment

The site assessment was performed by US Army personnel in accordance with the NJDEP *Technical Requirements for Site Remediation* (NJAC 7 26E) Soils surrounding the tank were screened visually and with air monitoring instruments for evidence of contamination Following removal, the UST was inspected for holes No holes were noted in the UST and no potentially contaminated soils were observed surrounding the tank

On January 14, 1994, following removal of the UST, post-excavation soil samples No 1 through 9 were collected from a total of nine (9) locations along the base and sidewalls of the excavation All samples were analyzed for total petroleum hydrocarbons (TPHC)

<u>Findings</u>

All post-excavation soil samples collected from the UST excavation and from below piping associated with the former UST at Building 209 contained TPHC concentrations below the NJDEP residential direct contact total organic contaminants soil cleanup criteria of 10,000 milligrams per kilogram (mg/kg) (N J A C 7 26D and revisions dated February 3, 1994) Sample No 1, 6, 10, and 11, contained levels of TPHC ranging in concentration from 10 9 mg/kg to 39 9 mg/kg All other samples contained non-detectable concentrations of TPHC

Site Restoration

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



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Conclusions and Recommendations

Based on the post-excavation soil sampling results, soils with TPHC concentrations exceeding the NJDEP soil cleanup criteria for total organic contaminants of 10,000 mg/kg do not remain in the former location of the UST or associated piping

No further action is proposed in regard to the closure and site assessment of UST No 081533-7 at Building 209



1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 OVERVIEW

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 081533-7, was closed at Building 209 at U.S. Army Fort Monmouth, Fort Monmouth, New Jersey on January 14, 1994. Refer to site location map on Figure 1. This report presents the results of the DPW's implementation of the UST Decommissioning/Closure Plan submitted to the NJDEP on June 6, 1993. The plan was approved on July 12, 1993 and assigned TMS No. C-93-2611. The UST was a single-walled, fiberglass, 6,000-gallon tank containing No. 2 fuel oil.

Decommissioning activities for UST No. 081533 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. All permits including but not limited to the NJDEP-approved Decommissioning/Closure Plan were posted onsite for inspection. CUTE Inc., the contractor that conducted the decommissioning activities, is registered and certified by the NJDEP for performing UST closure activities. Closure of UST No. 081533-7 proceeded under the approval of the NJDEP Bureau of Underground Storage Tanks (NJDEP-BUST). The NJDEP-BUST closure approval and signed certifications for UST No. 081533-7 are included in Appendices A and B, respectively.

Based on an inspection of the UST, field screening of subsurface soils and analytical results of collected soil samples, the DPW has concluded that no significant historical discharges are associated with the UST or associated piping.

This UST Closure and Site Investigation Report has been prepared by BCM Engineers/Smith Environmental Technologies Corporation, to assist the United States Army Directorate of Public Works (DPW) in complying with the NJDEP Bureau of Underground Storage Tanks (NJDEP-BUST) regulations. The applicable NJDEP-BUST regulations at the date of closure were the *Interim Closure Requirements for Underground Storage Tank Systems* (N.J.A.C. 7:14B-1 et seq. September 1990 and revisions dated November 1, 1991).

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

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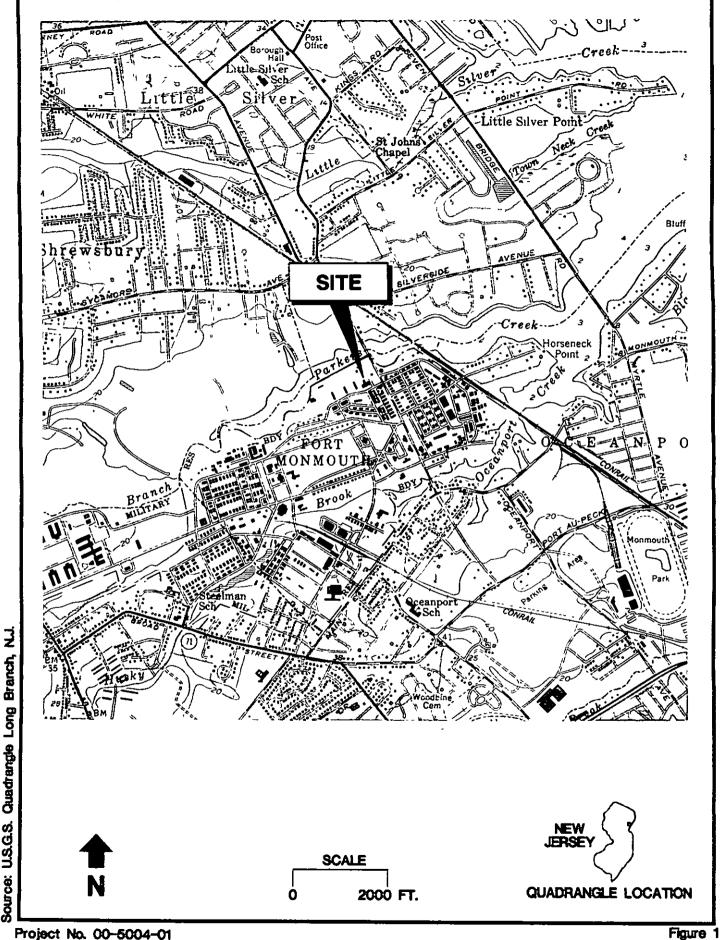
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Source:

U.S. Army Department of Public Works Fort Monmouth, New Jersey



Site Location Map

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1.2 SITE DESCRIPTION

Building 209 is located in the northern portion of the Main Post area of Fort Monmouth as shown on Figure 1 UST No 081533-7 was located northeast of Building 209 and appurtenant piping ran approximately 20 feet southeast to the fill port area A site map is provided on Figure 2 The fill port area was located directly above the UST

1.2.1 Geological/Hydrogeological Setting

The following is a description of the geological/hydrogeological setting of the area surrounding Building 209 Included is a description of the regional geology of the area surrounding Fort Monmouth as well as descriptions of the local geology and hydrogeology of the Main Post area

Regional Geology

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

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

The formations record several major transgressive/regressive cycles and contain units which are generally thicker to the southeast and reflect a deeper water environment Over 20 regional geologic units are present within the sediments of the Coastal Plain Regressive, upward coarsening deposits are usually aquifers (e.g., Englishtown and Kirkwood Formations, and the Cohansey Sand) while the transgressive deposits act as confining units (e.g., the Merchantville, Marshalltown, and Navesink Formations) The individual thicknesses for these units vary greatly (i.e., from several feet to several hundred feet) The Coastal Plain deposits thicken to the southeast from the Fall Line to greater than 6,500 feet in Cape May County (Brown and Zapecza, 1990)

Local Geology

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

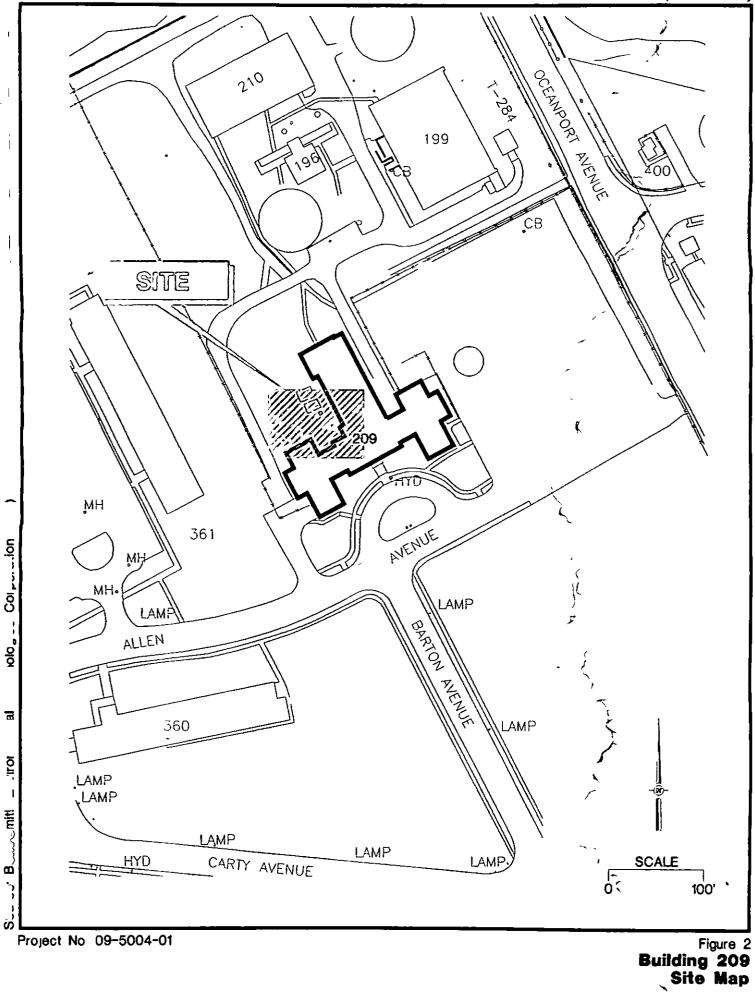
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U.S. Army Department of Public Works Fort Monmouth, New Jersey





(Jablonski) The lower member (Sandy Hook) is a dark gray to black, medium-to-fine grained sand with abundant clay, mica, and glauconite

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

Hydrogeology

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

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

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

1.3 HEALTH AND SAFETY

Before, during, and after all decommissioning activities, hazards at the work site which may have posed a threat to the Health and Safety of all personnel who were involve with, or were affected by, the decommissioning of the UST system were minimized All areas which posed, or may have been suspected to pose a vapor hazard were monitored by a qualified individual utilizing an organic vapor analyzer (OVA) The individual ascertained if the area was properly vented to render the area safe, as defined by OSHA

1.4 REMOVAL OF UNDERGROUND STORAGE TANKS

1.4.1 General Procedures

• All underground obstructions (utilities, etc.) were marked out by the contractor performing the closure prior to excavation activities



- All activities were carried out with the greatest regard to safety and health and the safeguarding of the environment
- All excavated soils were visually examined and screened with an OVA for evidence of contamination Potentially contaminated soils were identified and logged during closure activities
- Surface materials (i e, asphalt, concrete, etc) were excavated and staged separately from all soil and recycled in accordance with all applicable regulations and laws
- A Sub-Surface Evaluator from the DPW was present during all closure activities

1.4.2 Underground Storage Tank Excavation and Cleaning

Prior to UST decommissioning activities, surficial soil was removed to expose the UST and associated piping. All free product present in the piping was drained into the UST, and the UST was purged to remove vapors prior to cutting and removal of the piping. After removal of the associated piping, a manway was made in the UST to allow for proper cleaning. The UST was completely emptied of all liquids prior to removal from the ground. A total of 684 gallons of liquid were transported by Freehold Cartage Inc. to Lionetti Oil Recovery Co. Inc., a NJDEP-approved petroleum recycling and disposal facility located in Old Bridge, New Jersey. Refer to Appendix C for waste manifest (No. NJA-1603206).

The UST was cleaned prior to removal from the excavation in accordance with NJDEP-BUST regulations After the UST was removed from the excavation, it was staged on polyethylene sheeting and examined for holes No cracks or punctures were observed during the inspection by the Sub-Surface Evaluator Soils surrounding the UST were screened visually and with an OVA for evidence of contamination No evidence of contamination was noted

Soil screening was also performed along the piping associated with the UST No contamination was noted anywhere along the piping length

1.5 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The tank was transported by Freehold Cartage Inc, to Tinton Falls Reclamation Center for disposal in compliance with all applicable regulations and laws See Appendix D for UST Disposal Certificate

The Subsurface Evaluator labeled the UST prior to transport with the following information

- site of origin
- contact person

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- NJDEP UST Facility ID number
- name of transporter/contact person
- destination site/contact person

1.6 MANAGEMENT OF EXCAVATED SOILS

Based on OVA air monitoring and TPHC analysis results from the post-excavation soil samples, no soils exhibited signs of contamination Therefore, the excavated soils were used as backfill following removal of the UST

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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 U.S. Army, Fort Monmouth Environmental Laboratory, a NJDEP-certified testing laboratory. All sampling was performed under the direct supervision of a NJDEP Certified Sub-Surface Evaluator according to the methods described in the NJDEP *Field Sampling Procedures Manual* (1992). Sampling frequency and parameters analyzed complied with the NJDEP-BUST document *Interim Closure Requirements for Underground Storage Tank Systems* (September 1990 and revisions dated November 1, 1991) which was the applicable regulation at the date of the closure. All records of the Site Investigation activities are maintained by the Fort Monmouth DPW Environmental Office.

The following Parties participated in Closure and Site Investigation Activities:

- Closure Contractor: Cleaning Up The Environment Inc., (CUTE) Contact Person: Nancy Williams Phone Number: (201) 427-2881 NJDEP Company Certification No.: 0200128
- Subsurface Evaluator: Dinkerrai M. Desai Employer: U.S. Army, Fort Monmouth Phone Number: (908) 532-1475
 NJDEP Certification No.: E0002266
- Analytical Laboratory: U.S. Army Fort Monmouth Environmental Laboratory Contact Person: Brian K. McKee Phone Number: (908) 532-4359
 NJDEP Company Certification No.: 13461
- Hazardous Waste Hauler: Freehold Cartage Inc. Contact Person: Barry Olsen Phone Number: (908) 462-1001 NJDEP Hazardous Waste Hauler No.: 2265

2.2 FIELD SCREENING/MONITORING

Field screening was performed by a NJDEP certified Sub-Surface Evaluator using an OVA and visual observations to identify potentially contaminated material. Soil excavated from around the tank and appurtenant piping, as well as the UST excavation sidewalls and bottom, were found to be free of potential contamination.

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2.3 SOIL SAMPLING

On January 14, 1994, post-excavation soil samples Nos 1 through 9, were collected from a total of twelve (12) locations along the base and sidewalls of the UST excavation Post-excavation soil samples No 10, 11, and 12 were collected from three (3) locations immediately below the former location of piping associated with the UST Refer to soil sampling location map on Figure 3 All samples were analyzed for total petroleum hydrocarbons (TPHC) Because none of the post-excavation soil samples exhibited a TPHC concentration exceeding 1,000 milligrams per kilogram (mg/kg), none were analyzed for volatile organic compounds with a forward library search for 15 tentatively identified compounds (VOCs)

The site assessment was performed by US Army personnel in accordance with the NJDEP *Technical Requirements* and the NJDEP *Field Sampling Procedures Manual* A summary of sampling activities including parameters analyzed is provided in Table 1. The post-excavation soil samples were collected using polystyrene scoops. Actual soil TPHC values may be higher than reported due to sampling utensil absorbency. If absorbency resulted in reducing the actual soil TPHC concentration by 50 %, the highest soil contaminant would have been approximately 80 mg/kg, still below the applicable NJDEP cleanup standard for total organic contaminants of 10,000 mg/kg. Following soil sampling activities, the samples were chilled and delivered to U S Army Fort Monmouth Environmental Laboratory located in Fort Monmouth, New Jersey, for analysis

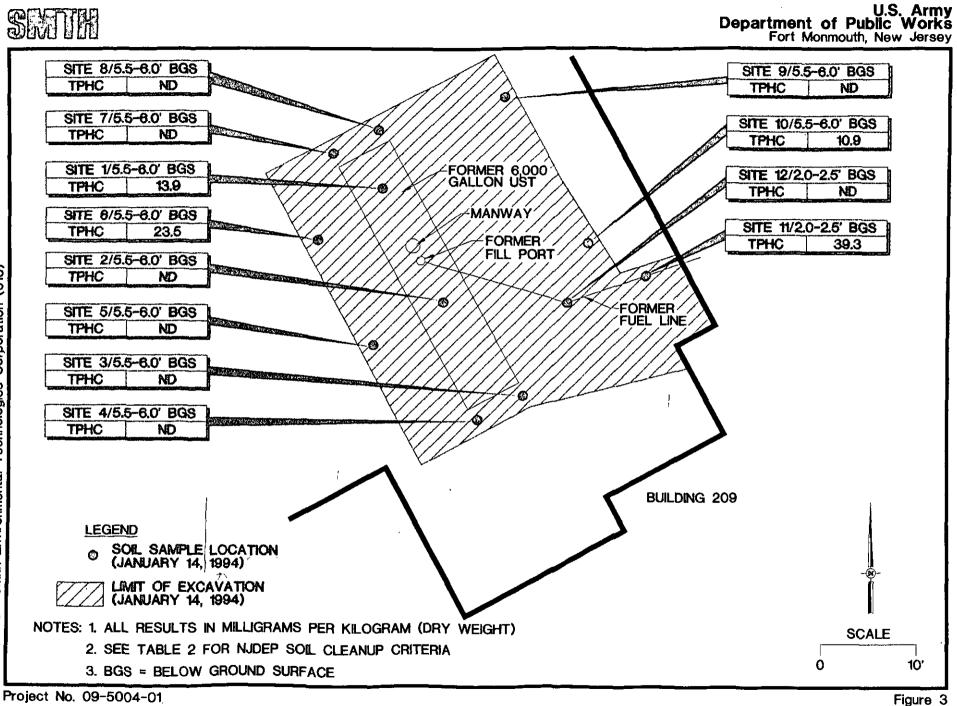
TABLE 1

SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES BUILDING 209, MAIN POST FORT MONMOUTH, NEW JERSEY

Sample ID	Date of Collection	Date Analysis Started	Matrix	Sample Type	Analytical Parameters (and USEPA Methods)*	Sampling Method
1	1/14/94	1/14/94	Soil	Post-Excavation	ТРНС	Polystyrene Scoop
2	1/14/94	1/14/94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
3	1/14/94	1/14/94	Soil	Post-Excavation	ТРНС	Polystyrene Scoop
4	1/14/94	1/14/94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
5	1/14/94	1/14/94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
6	1/14/94	1/14/94	Soil	Post-Excavation	ТРНС	Polystyrene Scoop
7	1/14/94	1/14/94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
8	1/14/94	1/14/94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
9	1/14/94	1/14/94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
10	1/14/94	1/14/94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
11	1/14/94	1/14/94	Soil	Post-Excavation	TPHC	Polystyrene Scoop
12	1/14/94	1/14/94	Soil	Post-Excavation	TPHC	Polystyrene Scoop

Note:

* TPHC Total Petroleum Hydrocarbons (Method 418.1 / soil and aqueous)



Building 209 Soil Sampling Results ł

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 SOIL SAMPLING RESULTS

To evaluate soil conditions following removal of the UST and associated piping, post-excavation soil samples were collected from a total of twelve (12) locations on January 14, 1994 All samples were analyzed for TPHC The post-excavation soil sample results were compared to the NJDEP residential direct contact total organic contaminants soil cleanup criteria of 10,000 mg/kg (N J A C 7 26D and revisions dated February 3, 1994) A summary of the analytical results and comparison to the NJDEP soil cleanup criteria is provided in Table 2 and the soil sampling results are shown on Figure 3 The analytical data package is provided in Appendix E

All post-excavation soil samples collected on January 14, 1994, from the UST excavation and from below piping associated with the UST contained either non-detectable concentrations of TPHC or concentrations below the NJDEP soil cleanup criteria Samples No 1, 6, 10, and 11, contained levels of TPHC ranging in concentration from 10 9 mg/kg to 39 3 mg/kg All other samples contained a non-detectable concentration of TPHC

3.2 CONCLUSIONS AND RECOMMENDATIONS

The analytical results for all post-excavation soil samples collected from the UST closure excavation at Building 209 were below the NJDEP soil cleanup criteria for total organic contaminants

Based on the post-excavation soil sampling results, soils with TPHC concentrations exceeding the NJDEP soil cleanup criteria of 10,000 mg/kg do not remain in the former location of the UST or associated piping

No further action is proposed in regard to the closure and site assessment of UST No 081533-7 at Building 209

TABLE 2

POST-EXCAVATION SOIL SAMPLING RESULTS BUILDING 209, MAIN POST FT. MONMOUTH, NEW JERSEY

Page 1 of 2

Sample ID/Depth	Sample Laboratory ID	Sample Date	Analysis Date	Analytical Method Used	Sample Quantitation Limit (mg/kg)	Compound of Concern	Result (mg/kg) *	NJDEP Soil Cleanup Criteria ** (mg/kg)	Exceeds Cleanup Criteria
1/5.5-6.0'	1369.1	1-14-94	1-14-94	Total Solid			88%		
				TPHC	3.3	yes	13.9	10,000	
2/5.5-6.0'	1369.2	1-14-94	1-14-94	Total Solid			86%		
				TPHC	3.3	yes	ND	10,000	
3/5.5-6.0'	1369.3	1-14-94	1-14-94	Total Solid			86%		
				TPHC	3.3	yes	ND	10,000	
4/5.5-6.0'	1369.4	1-14-94	1-14-94	Total Solid			85%		
				TPHC	3.3	yes	ND	10,000	
5/5.5-6.0'	1369.5	1-14-94	1-14-94	Total Solid			88%		
				TPHC	3.3	yes	ND	10,000	
6/5,5-6.0'	1369.6	1-14-94	1-14-94	Total Solid			87%		
				TPHC	3.3	yes	23.5	10,000	
7/5.5-6.0'	1369.7	1-14-94	1-14-94	Total Solid			84%		
			-	TPHC	3.3	yes	ND	10,000	
8/5.5-6.0'	1369.8	1-14-94	1-14-94	Total Solid			91%		
				TPHC	3.3	yes	ND	10,000	
9/5.5-6.0'	1369.9	1-14-94	1-14-94	Total Solid			89%		
				TPHC	3.3	yes	ND	10,000	

TABLE 2

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POST-EXCAVATION SOIL SAMPLING RESULTS BUILDING 209, MAIN POST FT. MONMOUTH, NEW JERSEY

Page 2 of 2

Sample ID/Depth	Sample Laboratory ID	Sample Date	Analysis Date	Analytical Method Used	Sample Quantitation Limit (mg/kg)	Compound of Concern	Result (mg/kg) *	NJDEP Soil Cleanup Criteria ** (mg/kg)	Exceeds Cleanup Criteria
10/5.5-6.0'	1369.10	1-14-94	1-14-94	Total Solid			88%		
				TPHC	3.3	yes	10.9	10,000	
11/2.0-2.5'	1369.11	1-14-94	1-14-94	Total Solid			· 90%		
				TPHC	3.3	yes	39.3	10,000	
12/2.0-2.5'	1369.12	1-14-94	1-14-94	Total Solid			87%		
				TPHC	3.3	yes	ND	10,000	

Note:

* Unless noted otherwise

.

** NJDEP Residential Direct Contact soil cleanup criteria for total organics

-- Not applicable / does not exceed criteria

TPHC Total Petroleum Hydrocarbons

BCM Engineers Inc. (BCM Project No. 09-5004-01)

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APPENDIX A

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APPENDIX A

NJDEP BUST CLOSURE APPROVAL

UNDERGHOUND STORAGE TANK SYSTEM

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND ENERGY

DIVISION OF RESPONSIBLE PARTY SITE REMEDIATION BUREAU OF UNDERGROUND STORAGE TANKS CN-029, TRENTON, NJ 08625-0029

UST #

TMS #

C-93-2611

US Army Fort Monmouth DEH Bldg. 209 Ft. Monmouth, NJ

Monmouth

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

Removal of: one 6,000 gallon #2 diesel UST(s) and appurtenant piping.

SITE ASSESSMENT: Soil samples will be taken every five (5) feet along the center line of each tank and one (1) soil sample for every 15 feet along all associated piping. Two (2) additional samples will be taken from around the tank and biased to the areas of highest field screened readings. Samples will be analyzed for TPHC. If sample results are greater than 1,000ppm than samples will be analyzed for VO+10.

ON-SITE MANAGER:

C. Appleby

908-532-1475 TELEPHONE:

OWNER:

TELEPHONE:

00815±

0081533 02

EFFECTIVE DATE: JUL 12 1993

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

KEVIN F. KRATINA, BUREAU CHIEF BUREAU OF UNDERGROUND STORAGE TANKS

COPY. TMC

APPENDIX B

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APPENDIX B

CERTIFICATIONS

<u>FOR STATE</u>	USE ONLY
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UST-01	4
2/91	



UST #			_
Date Rec'd			_
TMS #			
Staff	<u> </u>		
	<u> </u>	_	_

State of New Jersey Department of Environmental Protection and Energy Division of Responsible Party Site Remediation CN 029 Trenton, NJ 08625-0029

Tel. # 609-984-3156 Fax. # 609-292-5604

UNDERGROUND STORAGE TANK SITE ASSESSMENT SUMMARY

Karl J. Delaney Director

Scott A. Weiner -Commissioner

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

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

INSTRUCTIONS:

Please print legibly or type.

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

0 1 AUG 1995

Date of Submission____

Building 209

0081533-7 FACILITY REGISTRATION #

I. FACILITY NAME AND ADDRESS

U.S. Army Fort Monmouth New Jersey

Directorate of Engineering and Hous	sina Buildina 167
Fort Monmouth New Jersey 07703	County Monmouth
Telephone No. 908-532-6224	

OWNER'S NAME AND ADDRESS, if different from above

Telephone No.

UST-014 2/91

II. DISCHARGE REPORTING REQUIREMENTS

- A. Was contamination found? ____Yes X_No If Yes, Case No._____ (Note: All discharges must be reported to the Environmental Action Hotline (609) 292-7172)
- B. The substance(s) discharged was(were) _____N/A__
- C. Have any vapor hazards been mitigated? ____Yes ____No X_N/A
- III. DECOMMISSIONING OF TANK SYSTEMS

Closure Approval No. <u>C-93-2611</u>

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

IV. SITE ASSESSMENT REQUIREMENTS

A. Excavated Soil

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

B. Scaled Site Diagrams

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

C. Soil samples and borings (check appropriate answer)

- 1. Were soil samples taken from the excavation as prescribed? X Yes No N/A
- 2. Were soil borings taken at the tank system closure site as prescribed? _____Yes ____ No __X NA

3. Attach the analytical results in tabular form and include the following information about each sample:

- a. Customer sample number (keyed to the site map)
- b. The depth of the soil sample
- c. Soil boring logs
- d. Method detection limit of the method used
- e. QA/QC Information as required

D. Ground Water Monitoring

0 1. Number of ground water monitoring wells installed

- 2. Attach the analytical results of the ground water samples in tabular form. Include the following information for each sample from each well:
 - a. Site diagram number for each well installed
 - b. Depth of ground water surface
 - c. Depth of screened interval
 - d. Method detection limit of the method used
 - e. Well logs
 - f. Well permit numbers
 - g. QA/QC Information as required

V. SOIL CONTAMINATION

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

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

- N/A ___pob total BTEX, ____ <u>N/A</u>___ppb total non-targeted VOC 1.
 - N/A N/A ____ppb total non-targeted B/N _ppb total B/N, ___
- 2. 39.3 ppm TPHC 3.
- N/A _____ (for non-petroleum substance) ppb 4.

C. Remediation of free product contaminated soils

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

D. Was the vertical and horizontal extent of contamination determined? _____Yes _____No _X_N/A

E. Does soil contamination intersect ground water? ____Yes ____No _X_N/A

- VI. GROUND WATER CONTAMINATION N/A
 - A. Was ground water contamination found? ____Yes ____No If "Yes", please answer Questions B-G. If "No", please answer only Question B.
 - B. The highest ground water contamination at any 1 sampling location and at any 1 sampling event to date has been determined to be:
 - 1. __ppb total BTEX, _ ppb total non-targeted VOC
 - _____ppb total B/N, ____ ____ppb total non-targeted B/N
 - _____ppb total MTBE, _____ ____ ppb total TBA 3.
 - 4. _ppb_ (for non-petroieum substance)

5. greatest thickness of separate phase product found

- 6. separate phase product has been delineated ____Yes ___ N/A No
- C. Result(s) of well search
 - 1. A well search (including a review of manual well records) indicates that private, municipal or commercial wells do exist within the distances specified in the Scope of Work. ____Yes ____No ____N/A
 - The number of these wells identified is _____

- D. Proximity of wells and contaminant plume
 - The shallowest depth of any well noted in the well search which may be in the horizontal or vertical
 potential path(s) of the contaminant plume(s) is ______feet below grade (consideration has been given
 for the effects of pumping, subsurface structures, etc. on the direction(s) of contaminant migration).
 This well is ______feet from the source and its screening begins at a depth of ______feet.
 - The shallowest depth to the top of the well screen for any well in the potential path of the plume(s) (as described in D1 above) is ______feet below grade. This well is located ______feet from the source.
 - 3. The closest horizontal distance of a private, commercial or municipal well in the potential path of the plume (as determined in D1) is ______feet from the source. This well is ______feet deep and screening begins at a depth of ______feet.
- E. A plan for separate phase product recovery has been included. ____Yes ____No ____N/A
- F. A ground water contour map has been submitted which includes the ground water elevations for each well. Yes _____No ____N/A

G. Delineation of contamination

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

VII. SITE ASSESSMENT CERTIFICATION [preparer of site assessment plan - N.J.A.C. 7:14B-6.3(b) &9.5(a)3]

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

"I certify under penalty of law that the information provided in this document is true, accurate, and complete and was obtained by procedures in compliance with NJA.C. 7:14B-8 and 9.1 am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment."

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+ NAME (Print or Type	•)	SIGNATURE 5
COMPANY NAME	U.S. Army Fort Monmouth (Preparer of Site Assessment Plan)	DATE/2.7/5/
CERTIFYING ORGANIZATION	NJDEP	CERTIFICATION NUMBER E0002266

UST-014 2/91

VIII. <u>TANK_DECOMMISSIONING_CERTIFICATION</u> [person performing tank decommissioning portion of closure plan - N.J.A.C. 7:14B-9.5(a)4]

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

DATE

COMPANY NAME

(Performer of Tank Decommissioning)

IX. <u>CERTIFICATIONS BY THE RESPONSIBLE PARTY(IES) OF THE FACILITY</u>

A. The following certification shall be signed by the highest ranking individual with overall responsibility for that facility [N.J.A.C. 7:148-2.3(c)11].

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

NAME (Print or Type) James Ott	SIGNATURE AMALS OLT
COMPANY NAME U.S. Army Fort Monmouth	DATE 2/27/95

- B. The following certification shall be signed as follows [according to the requirements of N.J.A.C. 7:14B-2.3(C)2i]:
 - 1. For a corporation, by a principal executive officer of at least the level of vice president.
 - 2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
 - 3. For a municipality, State, Federal or other public agency by either the principal executive officer or ranking elected official.
 - 4. In cases where the highest ranking corporate partnership, governmental officer or official at the facility as required in A above is the same person as the official required to certify in B, only the certification in A need to be made. In all other cases, the certifications of A and B shall be made.

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

NAME (Print or Type)		the
COMPANY NAME	DATE	7/27/52

UNDERGROUND STORAGE TANK (UST) CLOSURE CERTIFICATION

BUILDING NO. 209	
NJDEP UST REGISTRATION NO. 81533-7	
DATE TANK REMOVED Jan 13, 1994	
1JO / CONTRACT NUMBER 93-1017	

*

I CERTIFY UNDER PENALTY OF LAW THAT TANK DECOMMISSIONING ACTIVITIES WERE PERFORMED IN COMPLIANCE WITH NJAC 7:14B-9.2(b)3. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE, INACCURATE, OR INCOMPLETE INFORMATION, INCLUDING FINES AND/OR IMPRISONMENT.

NAME (Print or Type) John Lonergan
SIGNATURE
NJDEP UST CLOSURE CERTIFICATE NO. 0003248
COMPANY PERFORMING TANK DECOMMISSIONING CUTE Inc.
NJDEP UST CLOSURE CORPORATE CERTIFICATE NO0200128
DATE OF SUBMITTAL2/20/95

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FAX NO. 1908 636 7816

APPENDIX C

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APPENDIX C

WASTE MANIFEST

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lease type or print in block letters. (Form d	esigned for use on elite (12-pil	ch) typewriter.)	<u> </u>	Form Appr 2, Page 1	-	50-0039. Expires 9-3
WASTE MANIFEST 3. Generator s Name and Mailing Addre	NJ3210	020597		of 1		ed by Federal law.
Command, c/o James Shin	ghio, Bldg 2504,	ATTN: SELFM-DL-	-EM-MS		JA 16	<u>03206</u>
East Massauth NI 077(32-6223	Main Post		B. Sate Ge	nerator's ID	210
5. Transporter 1 Company Name	6.	US EPA ID Number		Main		
Freehold Cartage In Transponer 2 Company Name	<u>nc. N </u> 8.	JI DI OI 5I 4I 1 21 0 US EPA ID Number				<u>2</u> 8 462-1001
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9. Designated Facility Name and Site A Lionetti Oil Recov	ery Co., Inc.	US EPA ID Number	r	F. Transpor	ter's Phone (
Runyon & Cheesequa	e 7	•-		G. State Fa	cility's ID	
Old.Bridge, NJ 088	57 <u> N </u>	<u>j id 10 18 14 io 14 14</u>	10 16 14		Phone (908)7	
11. US ECT Description (Including Prope	r Shioping Name, Hazard Class	. and ID Numper)			Total Uni Duanctv WtV	it I Warte No
X. Petroleum Oil N			;			
Combustible Liquid	UN 1270 PG 111		0:0:1	ттх	6846	X 7 2
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J. Additional Descriptions for Materials T,L Petroleum Oil				K. Handlin	g Codes for Waste	as Listed Above
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The Actropean Bil			÷			· 1 · 4 ·
b. Water 2076 15. Special Hancling Instructions and Ad	d. Iditional Information	-		b. 1		UST # 815 33 -
Not EPA regulated,	regulated as haz		h NJ J_{1}	fa. B.	leg 209	C-93-26
24 hour Emergency NJ Decal# 5542		1-2881 1/- 12/4/ ERG# 2	27 11	6 (37dg 210	/5T# \$1533 /- 17-244
16. GENERATOR'S CERTIFICATION: I	hereby declare that the contents	of this consignment are full	ly and accurat			
classified, packed, marked, and lab government regulations.			• -			
If I am a large quantity generator, I c economically practicable and that I h future threat to human health and the	ave selected the practicable meti	nod of treatment, storage, or	r disposal curr	rently availab	le to me which mir	nimizes the present a
the best waste management method		I can afford.				
Printed/Typen lame	1. Fallon	Signature	ah	m. 5	Frum	Month Day Y
17. Transporter 1 Acknowledgement of F	Receipt of Materials	10	ζ			
Printed/Typed Name	Smith	Signature		7-1-1	m (A)	Month Day Y
18. Transporter 2 Acknowledgement of F	Receipt of Materials					
Printed/Typed Name		Signature				Month Day Y
19. Discrepancy Indication Space						<u> ! ! ! !</u>
20. Facility Owner or Operator: Certificat	ion of receipt of nazaroous mate		est except as	noted in Item	1 19.	-
Printec/Typed Name	Ŧ	Signature				Month Day Y
EPA Form 6700-22 (Rev. 9/88) Previous ecitions ar	e obsolete.	SIGNATURE AND	INFORMA	TION MUS	7 BE LEGIBLE	ON ALL COPIE

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APPENDIX D

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APPENDIX D

UST DISPOSAL CERTIFICATE

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APPENDIX E

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APPENDIX E

SOIL ANALYTICAL DATA PACKAGE

Report of Analysis

U.S. Army, Fort Monmouth Environmental Laboratory NJDEPE Certification # 13461

Client: U.S. Army DEH, SELFM-EH-EV Bldg. 167 Ft. Monmouth, NJ 07703 Lab. ID #: 1369.1-.12 Sample Rec'd: 01/14/94 Analysis Start: 01/14/94 Analysis Comp: 01/14/94

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Analysis: 418.1 (TPH) Matrix: Soil Analyst: S. Hubbard Ext. Meth: Sonc.

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NJDEPE UST Reg.#: 81533-07 TMS #: NJDEPE Case #: Location #: 209

Lab ID.	Description		%Solid	Result (mg/H	
1369.1	Bottom North	hNu=ND	88	13.9	3.3
1369.2	Bottom South	hNu=ND	86	ND	3.3
1369.3	South end East	hNu=ND	86	ND	3.3
1369.4	South end West	hNu=ND	85	ND	3.3
1369.5	West Side South	hNu=ND	. 88	ND	3.3
1369.6	West Side North	hNu=ND	87	23.5	3.3
1369.7	North end West	hNu=ND	84	ND	3.3
1369.8	North end East	hNu=ND	91	ND	3.3
1369.9	East side South	hNu=ND	89	ND	3.3
1369,10	East side North	hNU=ND	88	10.9	3.3
1369.11	Supply 1' off Bldg.	hNu=ND	90	39.3	3.3
1369.12	Lower eblow:vent	hNu=ND	87	ND	3.3
M. Bl.	Method Blank		100	ND	3.3

1369.1 Dup.=112% 1369.1 Spike= 94%, 1369.1 Spike Dup.= 88%, RPD=4%

Brian K. McKee Laboratory Director

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

Client: U.S. Army

DEH, SELFM-EH-EV Bldg. 167 Ft. Monmouth, NJ 07703 Lab. ID #: 1369.1-.12 Sample Rec'd: 01/14/94 Analysis Start: 01/14/94 Analysis Comp: 01/14/94

Analysis: Munsel o

Lab ID#	Soil Color	
1369.1	2.5Y 5/4 Light Olive Brown	
	2.5Y 5/4 Light Olive Brown	
1369.2		
1369.3	2.5Y 5/3 Light Olive Brown 2.5Y 5/4 Light Olive Brown	
1369.4		
1369.5	2.5Y 4/4 Olive Brown	
1369.6	2.5Y 4/4 Olive Brown	-
1369.7	2.5Y 5/5 Light Olive Brown	-
1369.8	2.5Y 4/4 Olive Brown	
1369.9	2.5Y 5/4 Light Olive Brown	
1369.10	2.5Y 5/4 Light Olive Brown	
1369.11	2.5Y 4/3 Olive Brown	
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Brian K. McKee Laboratory Director

1/18/94 10:15 AM

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Phone:		<u></u>	- 057#0081533-0	1	ł	ф -Н				Prese	rvation Method
Lab Sample ID Number	Date,	/Time	Customer Sample Location/ID Number	Sample Matrix	# of Bottles	/č/			HNU .	Remarks]
1369.1	1-14	6917	1 Bton North	Soil	1	*			NID	0-20	
1.2		0918	2 Bin South		1	X			No		
.3		STRA	3 South End East		1	, X			NID		<u> </u>
.4		1190	4 South End west		1				<u></u>		
.5		0920	5 West Side South		1	×			NID		<u></u>
.6		0923	6 west Side Walty		1	×			- DID		
.7		0925			1	\times			UID		
.8		0930	8 North end East		1	$\left \right\rangle$			ilo		
.9		0931	9 East Side South		••,	×			NID		
10		0933			/	X			NID		
1 11	11	1	11 - Supply line - I'west of 614		1	X			NO	V	
Relinquished	By (s				y (signa	ature)	Shipped	d By:			
Relinquished	By (s	signatu	re) Date / Time Red	çeived f	or Lab b	l	nature);	υ	ate / Tim	e	
Enbles	- 4	-	1-14 1 1015	Aush	Q	Lould	and	11.	14-94 101	5	
lote: A draw of cust	ing de tody.	pictin	g sample location show		t ached	or draw	un ori thi			·	əin —
AI-ENV COC H	Form C	01	Page /	of	2	Pages	s Ri	≥v. A	Date: Q2	Арт 93	

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	SERVªRIR INC. An E-SYSTEMS Company				<u>چ</u> ن									
			P.0.	#: 4 2;					·				Chain of	^r Custo
^p ro iect	 #:	S	ampler:	······	• .•		Da	ate / 1	Time	Analı	Jsis	;		Sta

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				P.0.	#: <i>4</i> 2;							Chain of Custody							
Project #:		<u> </u>	Samp	ler:	Rochik			Date .		me	A Pa	naly rame	sis ter	5	;		,,,	Star	 t. :
Customer:	Customer:			Name:					. /			7/ 1.1.						Finish:	
Phone:			· UST #0081533-7				#			P				/ /		,	Preservatio Metho		
Lab Sample ID Number	Date.	/Time	Cı. Loca	stomer ition/I	Sample D Numbe	⊋ 217	Sample Matrix	# of Bottles] ,	c				/.		0.20	Rem	arks	
1369.12	1-14	0537	5*)	2 Cours	r Elbow	/ve_t	50.1			\times						NID	,		
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Relinquished	l By (≤	ignatur	-e)	Date .	/ Time	Re	ceived E	ly (signa	ll stur	e)		 ippeo	L 3 Bi	L J :	<u> </u>	I			<u></u>
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Note: A drawi of cust	ng de ody.	picting	g Sàin	ple lo	ation	مرحد روداد	Id be a	LEACTIEN	01	drau	JI'I QI	1 ET1	e re	Vγ ⊋∨ver	- <i></i> -50	side o	e th	is ch	ain
SAI-ENV COC f	nra (11			Page	Z		. 7/	P	anes		Pe	 >\	 A	nat	e: (12)	<u> </u>	93	

PHC Conformance/Non-conformance Summary Report

<u>No Yes</u>

1. Blank Contamination - If yes, list the sample and the corresponding concentrations in each blank

2. Matrix Spike/Matrix Sp Dup. Recoveries Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range)

3. IR Spectra submitted for standards, blanks, & samples

- 4. Chromatograms submitted for standards, blanks, and samples if GC fingerprinting was conducted.
- 5. Extraction holding time met. (If not met, list number of days exceeded for each sample)

6. Analysis holding time met. (If not met,list number of days exceeded for each sample)

Comments:____

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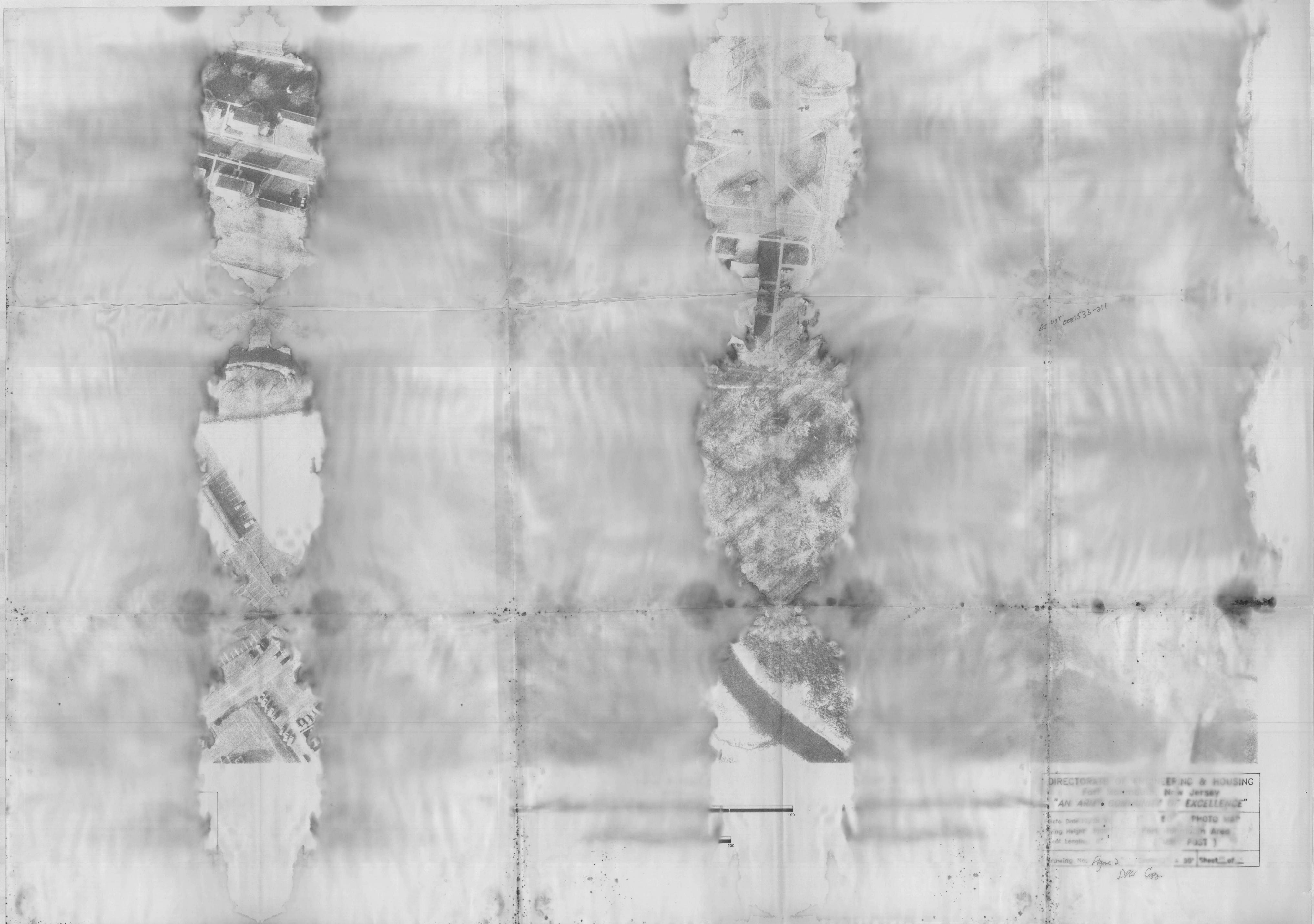
Laboratory Authentication Statement

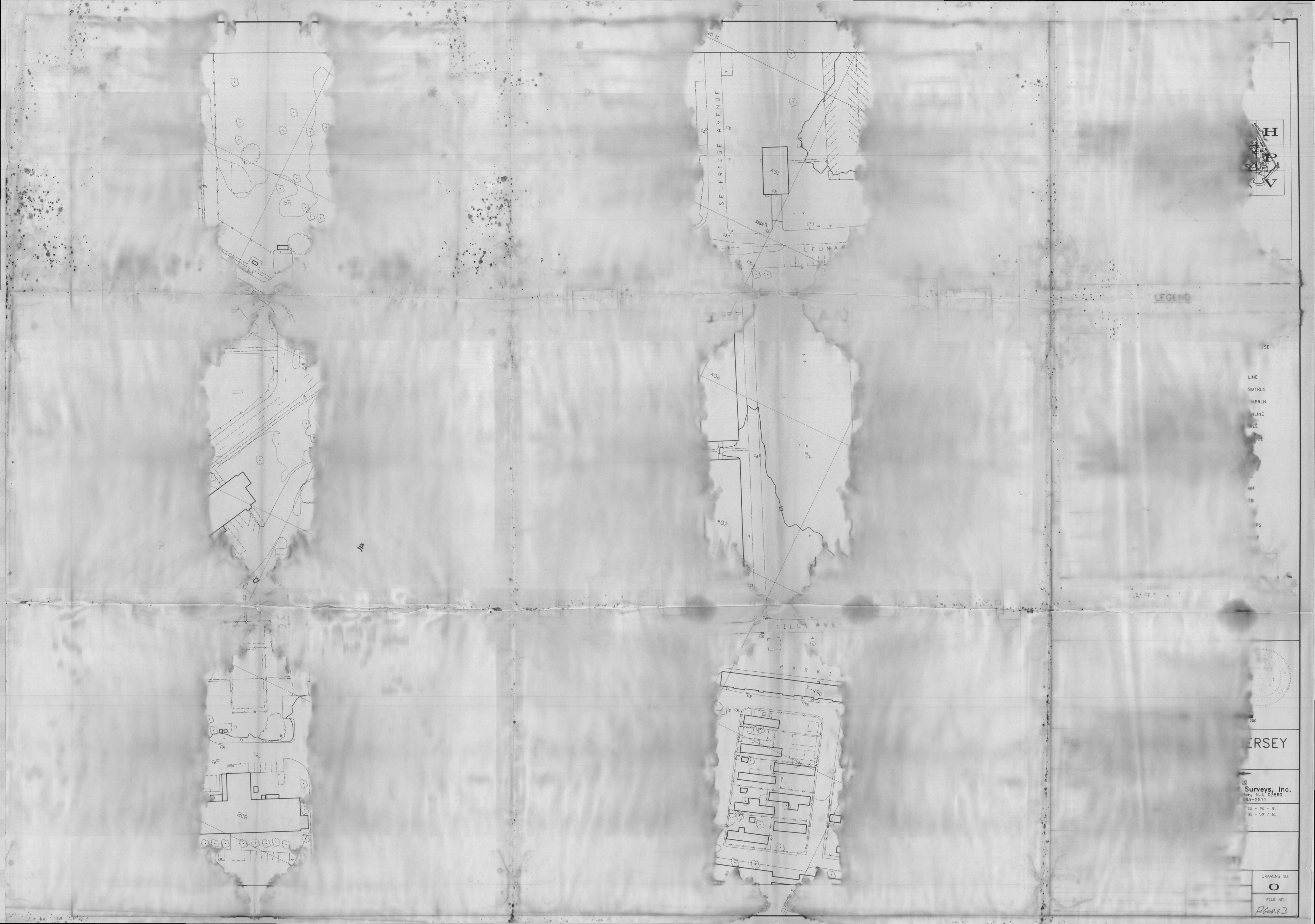
I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW 846 for Solid Waste Analysis. I have personally examined the information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

Need to have this Spot sheet.

Brian K. McKee

Laboratory Manager





ADMINISTRATIVE CHECK LIST UNDERGROUND STORAGE TANK CLOSURE

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ہ Submission an	d/or Activity	COMPLETED YES NO	SUBMITTED(NJI YES NO)EPE)
UST				>
Registration		1	··	
	ion(Preliminary).		···	
- :	s (Closure)	<u> </u>	··	
Closure Plan Approval Applic	cation		Set 6/10/93	<u>C</u> g
· Fees (\$17	70)		••• <u></u>	
	tation Schedule		··	
Site Asse Plan	essment		··	
Decommis v Plan		<u> </u>	_ ••	
Site Map		- 1 6	- la Cot	
DISCHARGE REI	O PORTED TO NIDEPE	Renousl	1/13/94 forto	
Standard	(Closure)	2-1-94	Ct: 2-2-74	Sent Co
TPHC An Results(S	alytical Soil)		······································	
	Analytical Soil)		··	
	al Results OUND ONE		·····	
Analytica (M-Well R	k Results OUND TWO	<u> </u>		
UST Site Asses Summary		8-1-95	U\$.	

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