Underground Storage Tank Closure Report

Prepared for:
U.S. Army Corps of Engineers
New York District
1900 Hempstead Turnpike, Suite 316
East Meadow, New York 11554

Site:
Building No. 404
UST No. 404-1
Sievers-Sandberg United States Army Reserve Center
Pedricktown, New Jersey

Prepared by:
Earth Tech, Inc.
2229 Tomlynn Street
Richmond, Virginia 23230

August 1, 1997

Contract No. DACW31-95-D-0097
Delivery Order No. 0015
ET Job No. 21574

Client: United States Army Corps of Engineers
Project Name: Sievers-Sandberg United States Army Reserve Center, Building 413
Earth Tech Job No.: 21574

This document has been reviewed for technical content and quality, clarity, and style in accordance with the internal QA/QC procedures of Earth Tech, Inc.

Acknowledgments:

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EXECUTIVE SUMMARY

This report details the closure of an underground storage tank (UST) and fulfills the requirements of Earth Tech, Inc.'s (Earth Tech's) site investigation reporting as detailed in the New Jersey Department of Environmental Protection (NJDEP) Technical Requirements for Site Remediation (NJAC 7:26E - 3.10).

Earth Tech was contracted by the U.S. Army Corps of Engineers (USACE), Baltimore District, to remove a 110-gallon, gasoline UST located at Building No. 404 of the Sievers-Sandberg United States Army Reserve Center (USARC), in Pedricktown, New Jersey. The work was conducted under Contract No. DACW31-95-D-0097, Delivery Order No. 0015.

The UST was empty prior to tank closure. Tank closure was conducted on May 12, 1997. The UST was excavated and removed by Earth Tech, a NJDEP-approved UST closure contractor (Registration No. US00537). Upon removal, the UST condition was examined by a NJDEP-licensed UST Subsurface Evaluator (License No. US00516). The UST was constructed of single-walled, light gauge steel. No visible holes were observed in the UST. Earth Tech cut and cleaned the UST, which was then transported to Camden Iron to be recycled as scrap. The waste generated from tank cleaning activities was drummed and stored on site pending analytical results for disposal.

No soil staining was observed beneath the former base of the UST or beneath the piping. Petroleum odors were encountered within the excavation; however, photoionizaton detector (PID) field screening in the excavation indicated volatile organic vapor levels below 5 parts per million (ppm). The excavated soils were used as backfill material.

All sampling and analysis was performed in accordance with NJDEP Post-Remedial Requirements (NJAC 7:26E - 6.4). Three confirmatory soil samples were collected from the excavation base and sidewalls and analyzed by a NJDEP-certified laboratory for volatile organic compounds (VOCs) and lead using Methods 8260/624 and 3050, respectively. Two of the collected soil samples had VOC concentrations below the detection limits. The third soil sample contained individual identified VOCs ranging in concentrations from 62.2 milligrams per kilogram (mg/Kg) to 308 mg/Kg, with a total VOC concentration of 3,067.8 mg/Kg. The total VOC concentration (3,067.8 mg/Kg) and the naphthalene concentration (308.0 mg/Kg) for this sample were above the NJDEP Soil Cleanup Criteria of 100 mg/Kg for naphthalene and 1,000 mg/Kg for total VOCs in soil. Concentrations of total lead in the soils sampled ranged from 3.07 mg/Kg to 17.6 mg/Kg, which are below the most stringent cleanup level of 400 mg/Kg for lead in soils.

Based on analytical results, a release to the subsurface has occurred. Earth Tech personnel reported the release to the NJDEP. Case number 97-6-30-1600-08 was assigned to the site on June 30, 1997.

Based on field observations and analytical data, Earth Tech recommends further action relative to the former UST at Building 404.

1.0 INTRODUCTION

Earth Tech, Inc. (Earth Tech) has been contracted by the United States Army Corps of Engineers (USACE), Baltimore District, for the removal of underground storage tanks (USTs) at the Sievers-Sandberg United States Army Reserve Center (USARC), Pedricktown, New Jersey, under Contract No. DACW31-95-D-0097, Delivery Order No. 0015. This report details the closure of an UST located at Building No. 404 of the USARC. A Site Location Map is included as Figure 1 in Appendix A. This report fulfills the requirements of Site Investigation reporting as detailed in the New Jersey Technical Requirements for Site Remediation (NJAC 7:26E-3.10). This report provides an overview of the site investigation, analytical results and recommendations.

The Sievers-Sandberg USARC property was acquired by the USACE in 1917, and the Delaware Ordinance Depot was established at Pedricktown in 1918. The depot became the backup storage facility for the Picatinny and Frankfort Arsenals and the Aberdeen Proving Ground. In 1960, the Pedricktown facility became the headquarters for the 42nd and 43rd Artillery, which commanded the Nike Missile Sites in the Philadelphia area. In 1965, the Salem County Technical Institute gained control of the site. In the late 1960s, the 79th Army Reserve Command and the 21st Corps were replaced by the 78th Division of the Army reserves, which is still stationed at the facility. The eastern portion of the property is currently leased by the Salem Community College.

Building No. 404 was previously used as a motor pool. A 110-gallon steel UST at the site was used to store gasoline fuel for a backup generator. This UST was a regulated tank (per NJAC 58:10); therefore, the UST was registered with and an UST Closure Plan submitted to the New Jersey Department of Environmental Protection (NJDEP) prior to initiating closure activities. The NJDEP UST Closure Approval is included in Appendix B. Based on analytical results a release has occurred at the site. Earth Tech personnel reported the release to the NJDEP. New Jersey Case No. 97-6-30-1600-08 was assigned to the site on June 30, 1997.

2.0 SITE ASSESSMENT

On May 12, 1997, Earth Tech, a NJDEP-approved UST Closure Contractor (Certification No. US00537), removed one 110-gallon steel gasoline UST at the site. Figure 2 in Appendix A shows the general site layout and the location of the UST. Photographs of site activities were taken; however, the film was damaged during the development process. The UST was oriented parallel to the east side of Building No. 404. No utility lines were located in the vicinity of the UST.

Earth Tech personnel screened the UST with a lower explosive limit (LEL) meter. Readings were taken before excavating and cutting the tank for cleaning. The LEL level registered 4 percent prior to excavating and cleaning the UST. Oxygen levels before excavation and before cleaning were 19.5 and 20 percent, respectively. The tank was not purged prior to initiating tank closure activities based on the low vapor readings.

Upon tank removal, Mr. Julian Canuso, Jr., a NJDEP-licensed UST Subsurface Evaluator (License No. US00516), examined the UST. No holes were observed in the UST. The UST measured approximately 3.5 feet long by 2.5 feet in diameter. Earth Tech personnel cut the UST at both ends to provide ventilation and access for tank cleaning. The tank was then cleaned using dry methods. The absorbent waste generated during tank cleaning activities was drummed and stored on site for later disposal pending analytical results. The tank disposal certificate is included in Appendix C.

Earth Tech personnel examined the UST excavation after removing the tank and the associated piping. No soil staining was observed beneath the former UST or piping. Petroleum odors were noted within the excavation; however, photoionizaton detector (PID) field screening in the excavation indicated volatile organic vapor levels below 5 parts per million (ppm). Groundwater was not encountered in the excavation.

Confirmatory soil samples were collected in accordance with NJAC 7:26E-6.4. Earth Tech personnel collected a total of 3 soil samples, one from the bottom of the excavation (PED-B404-1-SS-01) and two from the excavation sidewalls (PED-B404-1-SS-02 and PED-B404-1-SS-03). PID field screening of the soil samples indicated volatile vapor levels ranging from 2 ppm to 5 ppm. Figure 2 in Appendix A depicts the soil sample locations. Soil samples were analyzed for Volatile Organic Compounds (VOCs) using United States Environmental Protection Agency (EPA) Method 8260/624 and lead using EPA Method 3050. The soil samples were analyzed by Toxikon Corporation, a NJDEP-certified laboratory.

Analytical results of soil samples PED-B404-1-SS-02 and PED-B404-1-SS-03 indicate VOC concentrations below the respective method detection limits for each analyte (see laboratory certificates in Appendix D for respective analyte detection limits). Soil sample PED-B404-1-SS-01 contained individual VOCs ranging in concentration from 62.2 mg/Kg to 308 mg/Kg. The total VOC concentration (3,067.8 mg/Kg, including tentatively identified compounds) and the naphthalene concentration (308. Mg/Kg) for this sample are above the NJDEP Soil Cleanup Criteria of 1,000 mg/Kg total VOCs and 100 mg/Kg naphthalene.

Total lead in the soil samples ranged from 3.07 mg/Kg to 17.6 mg/Kg. These concentrations are below the NJDEP Soil Cleanup Criteria of 400 mg/Kg for lead.

Based on these analytical results, a release to the subsurface has occurred. Earth Tech reported the release to the NJDEP, and Case No. 97-6-30-1600-08 was assigned to the site on June 30, 1997. Soil analytical results are summarized in Table 1. Certificates of analysis and chain-of-custody forms are included as Appendix D. A completed NJDEP Site Investigation Report Checklist is included in Appendix E.

Table 1 Soil Analytical Results

Sample Designation and Location	Date Sampled	Sample Depth (ft)	Lead (mg/Kg)	Detected VOCs	Concentration (mg/Kg)	PID (ppm)
PED-B404-1-SS-01* excavation bottom	5/12/97	4	17.6	Naphthalene 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene Total TICs Total VOCs	308.0 288.0 62.2 2,409.6 3,067.8	2.0
PED-B404-1-SS-02 south sidewall	5/12/97	3.5	3.07	ND	NA	5.0
PED-B404-1-SS-03 north sidewall	5/12/97	3.5	3.22	ND	NA	2.0

Notes:
mg/Kg - milligrams per kilograms
ppm - parts per million
ND - Not detected at detection limit for each analyte (see laboratory certificates in Appendix D for respective analyte detection limits).
NA - Not applicable
* - Tentatively identified compounds (TICs) were identified in this sample. See laboratory certificate in Appendix D for explanation of TICs in sample PED-B404-1-SS-01.

The stockpiled soil generated during UST removal, along with imported clean fill, was used to backfill the excavation. No soils associated with the UST closure were removed from the site.

3.0 CONCLUSIONS

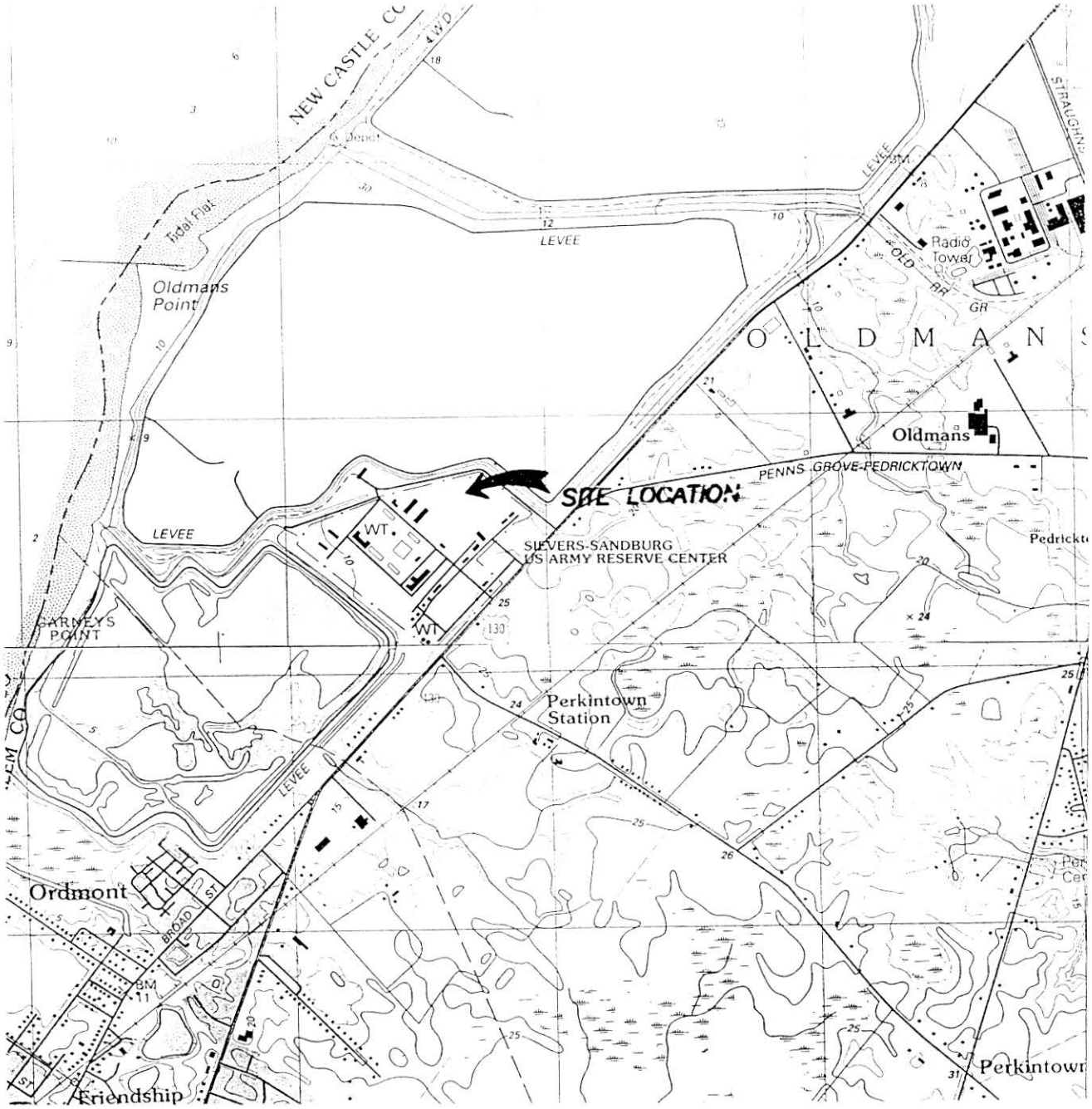
The following is a summary of Earth Tech's site investigation, findings, and tank closure activities for UST No. 404-1 at Building No. 404 on the Sievers-Sandberg USARC:

- Earth Tech removed one 110-gallon steel UST for Building No. 404 at the site on May 12, 1997. The tank was used to store gasoline for an emergency generator.
- No holes were observed in the tank.
- The cleaned UST was transported to Camden Iron and recycled as scrap.
- No product or stained soils were observed in the tank excavation or along the associated piping trench.
- PID field screening was performed for excavated soils and soils remaining in the excavation and piping trench. All vapor readings were less than 5 ppm, which is below the 100 ppm screening level indicative of contaminated soil.
- Confirmatory soil samples were collected from the base and walls of the UST excavation. Analytical results of one soil sample collected beneath the former UST indicated individual VOC concentrations ranging from 62.2 mg/Kg to 308 mg/Kg and a total VOC concentration of 3,067.8 mg/Kg. Concentrations above the most stringent NJDEP criteria of 100 mg/Kg for naphthalene and 1,000 mg/Kg for total volatile organic compounds were detected in one soil sample. Concentrations of total lead in the soils samples ranged from 3.07 mg/Kg to 17.6 mg/Kg, which are below the most stringent cleanup level of 400 mg/Kg for lead in soils.
- A release to the subsurface has occurred. Earth Tech reported the release to the NJDEP, and Case No. 97-6-30-1600-08 was assigned to the site on June 30, 1997.

Based on the site investigation analytical results, a release has occurred from the former UST at Building No. 404.

Appendix A

Figures



SOURCE:
U.S.G.S. 7.5 MINUTE TOPOGRAPHIC QUADRANGLE
MARCUS HOOK, PA–NJ–DEL 1993
PHOTOREVISED 1995

U.S.G.S. 7.5 MINUTE TOPOGRAPHIC QUADRANGLE
PENNS GROVE, NJ–DEL 1993
PHOTOREVISED 1995

CONTOUR INTERVAL = 10 FEET

GRAPHIC SCALE

2000 0 2000 4000

1" = 2000'

PROJECT:

SEIVERS–SANDBERG
U.S. ARMY RESERVE CENTER
PEDRICKTOWN, NEW JERSEY

EARTH TECH
A tyco INTERNATIONAL LTD. COMPANY

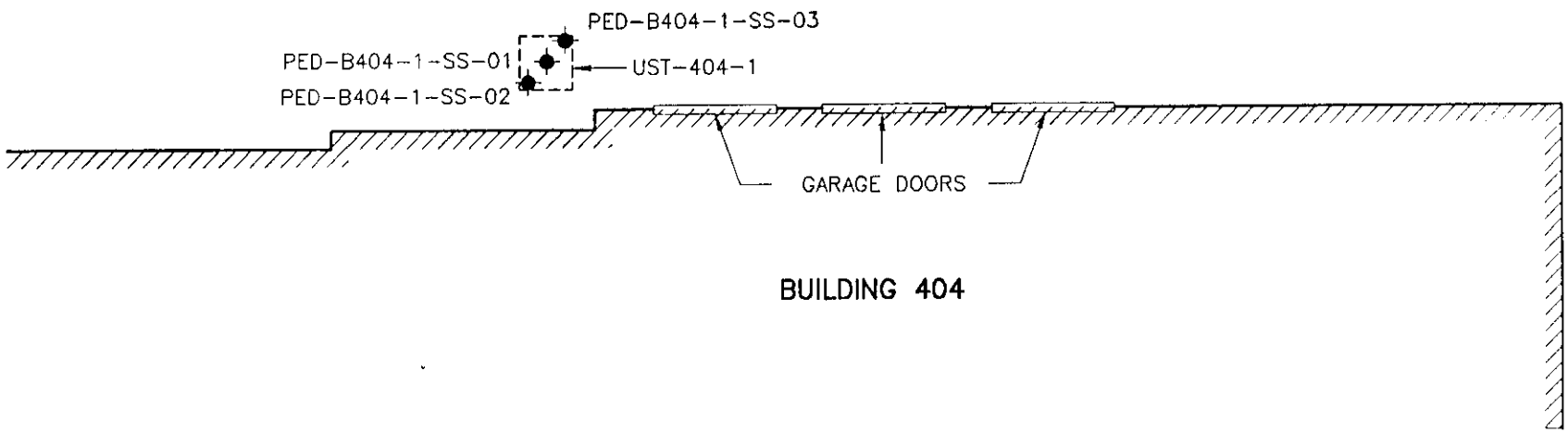
FIGURE TITLE:

SITE LOCATION
AND TOPOGRAPHY

PROJECT MANAGER:	PROJECT NO.:	DATE:	SCALE:	FIGURE NO.:
J.R.C.	21574	8/18/97	AS SHOWN	1

DRAWN BY:	REVIEWER:
B.W.D.	C.S.S.

CADD FILE: H:\DWG\BLOCKS\BORDERS\ET8511



BUILDING 404

NORTH

GRAPHIC SCALE

20 0 20 40

1" = 20'

LEGEND

PED-B404-1-SS-01 ✦ SOIL SAMPLE LOCATION AND DESIGNATION

PROJECT: BUILDING 404 SIEVERS – SANDBERG U.S. ARMY RESERVE CENTER PEDRICKTOWN, NEW JERSEY		EARTH TECH A tyco INTERNATIONAL LTD. COMPANY		
		FIGURE TITLE: GENERAL SITE DIAGRAM		
PROJECT MANAGER: J.R.C.	PROJECT NO.: 21574.01			
DRAWN BY: B.W.D.	REVIEWED BY: C.S.	DATE: 5/20/97	SCALE: AS SHOWN	FIGURE NO.: 2

CADD FILE: C:\AC-JOBS\ETRS\SS404B

Appendix B

NJDEP UST Closure Approval

UNDERGROUND STORAGE TANK SYSTEM CLOSURE APPROVAL

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF RESPONSIBLE PARTY SITE REMEDIATION
BUREAU OF FIELD OPERATIONS
CN-028, TRENTON, NJ 08625-0028

TMS # C97-0177 **UST #** 0071994

SIEVERS-SANDBERG U.S. ARMY RESERVE CENTER
BLDG 273, ROUTE 130
PEDRICKTOWN

SALEM

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:

PLEASE SEE ATTACHED TABLE

SITE ASSESSMENT: Conduct a site investigation for the UST(s) and appurtenant 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 the Attachment enclosed within.

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 buisness that is also certified by the Department for that service.

CONTACT PERSON: JANIS CROWDER **TELEPHONE:** 804-358-5400

EFFECTIVE DATE: 04/03/97

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

H. R. Patel
Joshua Gradwohl, SUPERVISOR
BUREAU OF FIELD OPERATIONS (for)

Table 2 Analytical Methods for Verification Samples

Tank Identification	Tank Size (gallons)	Assumed Tank Length (feet)	Contents	Excavation Sample IDs	Stockpile Sample IDs	Analysis	Method	Turnaround Time
413NW	14,000	25	unleaded gasoline	PED-413NW-SS-01 through PED-413NW-SS-07	PED-413NW-SP-01	VO+10*	8260	10 days
413SW	10,000	17	diesel	PED-413SW-SS-01 through PED-413NW-SS-06	PED-413SW-SP-01	TPHC **	418.1	10 days
413W	1,000	10	waste oil	PED-413W-SS-01 through PED-413W-SS-04	PED-413W-SP-01	TPHC***	418.1	10 days
413NE	*5,000*	24	unleaded gasoline	PED-413NE-SS-01 through PED-413NE-SS-07	PED-413NE-SP-01	VO+10*	8260	10 days
413E	*5,000*	24	unleaded gasoline	PED-413E-SS-01 through PED-413E-SS-07	PED-413E-SP-01	VO+10*	8260	10 days
413SE	*5,000*	24	unleaded gasoline	PED-413SE-SS-01 through PED-413SE-SS-07	PED-413SE-SP-01	VO+10*	8260	10 days
404-1	550	6	unleaded gasoline	PED-404 1-SS-01 through PED-404 1-SS-03	PED-404 1-SP-01	VO+10*	8260	10 days
282-1	1,000	10	heating oil	PED-282 1-SS-01 through PED-282 1-SS-04	PED-282 1-SP-01	TPHC **	418.1	10 days
283-1	1,500	9	heating oil	PED-283 1-SS-01 through PED-283 1-SS-04	PED-283 1-SP-01	TPHC **	418.1	10 days
272-1	*1,000*	10	heating oil	PED-272 1-SS-01 through PED-272 1-SS-04	PED-272 1-SP-01	TPHC **	418.1	10 days
272-2	*1,000*	10	heating oil	PED-272.2-SS-01 through PED-272.2-SS-04	PED-272.2-SP-01	TPHC **	418.1	10 days
272-3	*1,000*	10	heating oil	PED-272.3-SS-01 through PED-272.3-SS-04	PED-272.3-SP-01	TPHC **	418.1	10 days
190-1	*1,000*	10	diesel	PED-190.1-SS-01 through PED-190.1-SS-04	PED-190.1-SP-01	TPHC **	418.1	10 days
220W	1,000	10	heating oil	PED-220W-SS-01 through PED-220W-SS-04	PED-220W-SP-01	TPHC **	418.1	10 days
220SW	1,000	10	heating oil	PED-220SW-SS-01 through PED-220SW-SS-04	PED-220SW-SP-01	TPHC **	418.1	10 days
233-1	*1,000*	10	diesel	PED-233.1-SS-01 through PED-233.1-SS-04	PED-233.1-SP-01	TPHC **	418.1	10 days
235-1	1,000	10	heating oil	PED-235.1-SS-01 through PED-235.1-SS-04	PED-235.1-SP-01	TPHC **	418.1	10 days
235-2	*1,000*	10	heating oil	PED-235.2-SS-01 through PED-235.2-SS-04	PED-235.2-SP-01	TPHC **	418.1	10 days
225-1	1,000	10	heating oil	PED-225.1-SS-01 through PED-225.1-SS-04	PED-225.1-SP-01	TPHC **	418.1	10 days
229-1	275	5	unleaded gasoline	PED-229.1-SS-01 through PED-229.1-SS-03	PED-229.1-SP-01	VO+10*	8260	10 days
270-1	275	5	heating oil	PED-270.1-SS-01 through PED-270.1-SS-03	PED-270.1-SP-01	TPHC **	418.1	10 days
426-1	1,000	10	heating oil	PED-426.1-SS-01 through PED-426.1-SS-04	PED-426.1-SP-01	TPHC **	418.1	10 days
468-1	275	5	heating oil	PED-268.1-SS-01 through PED-268.1-SS-03	PED-268.1-SP-01	TPHC **	418.1	10 days

* Analyze sample for lead if UST formerly contained leaded gasoline

** Analyze sample for VO+10 if TPHC > 1000 ppm

*** Analyze sample for VO+10, BNs+15, PCBs, and PP-metals if TPHC is detected in the sample.

VO+10 - volatile organic compounds plus 10 peaks including xylenes, target compound list or priority pollutant VO with library search; EPA Method 8260

TPHC - total petroleum hydrocarbons; EPA Method 418.1

BNs+15 - based neutral compounds plus 15 peaks by target compound list or priority pollutant list with library search; EPA Method 8270

PCB - polychlorinated biphenyls; EPA Method 8080

PP-metals - priority pollutants

For each tank, collect two soil samples from the bottom of the sidewalls of the excavation, and one soil sample every 5 feet along the center line of the excavation.

Italicized tank sizes are approximate

Appendix C

Tank Disposal Certificate

Environmental Technology Incorporated
Certification of Tank Disposal

(In accordance with American Petroleum Institute recommended practice)

Client: US ARMY COE | Job No. | Date

Site from which the tank was removed: SIEVERS - SANDBERG ARMY RESERVE

Site to which the tank is to be transported for final disposal:

Tank Description

Size: 110 | Type (steel, fiberglass, etc.): STEEL | Condition: POOR

Prior Contents: GASOLINE

Tank Markings: -NONE

Cleaning Certification

This is to certify that the above described tank has been cleaned in accordance with API methods and procedures and has been rendered suitable for disposal as scrap. All product residues were removed and the interior of the tank was tested and found to be free of harmful vapors.

Signed | Company: Environmental Technology Incorporated | Date

Transportation

This is to certify that the above described tank has been received and will be transported to the disposal site as specified above.

Signed (driver) | Shipper or Hauler | Date

Received for Disposal

This is to certify that the above described tank has been received for disposal and will be disposed of in accordance with applicable regulatory requirements.

Signed | CAMDEN IRON AND METAL — Disposal Facility | Date

Comments

FAX TO 804-358-6868

Appendix D

Laboratory Certificates and Chain-of-Custody

 TOXIKON CORP. REPORT Work Order # 97-05-197

Received: 05/13/97 05/20/97 15:56:03

REPORT TO: EARTH TECH REMEDIATION
2229 TOMLYNN ST.
RICHMOND, VA. 23230
804-358-5400 FAX: 358-6868
ATTEN JANIS CROWDER

PREPARED BY: TOXIKON CORPORATION
15 WIGGINS AVE
BEDFORD, MA 01730
ATTEN PAUL LEZBERG
PHONE (617)275-3330

CERTIFIED BY

CONTACT CHUCKC

CLIENT EARTHTECH VA SAMPLES 18
COMPANY EARTH TECH REMEDIATION
FACILITY 2229 TOMLYNN ST.
RICHMOND, VA. 23230

MA CERT # M-MA064: TRACE METALS, SULFATE, CYANIDE, RES. FREE CHLORINE, Ca, TOTAL ALK., TDS, pH, THMs, VOC, PEST., NUTRIENTS. DEMAND. O&G, PHENOLICS, PCBs . CT DHS #PH-0563, NY #10778 FL HRS E87143, NJ DEP 59538, NC DNR286, SC 88002, NH 204091-C.

WORK ID PEDRICKTOWN, NJ
TAKEN 5/12/97
TRANS
TYPE SOIL
P.O. # 21574
INVOICE under separate cover

VERIFIED BY:
CERT # M-MA064

SAMPLE IDENTIFICATION

01 PED-B229-SS-01
02 PED-B229-SS-02
03 PED-B229-SS-03
04 PED-B413NW-SS-01
05 PED-B413NW-SS-02
06 PWD-B413NW-SS-03
07 PED-B413NW-SS-04
08 PED-B413NW-SS-05
09 PED-B413NW-SS-06
10 PED-B413NW-SS-07
11 PED-B413NW-SS-08
12 PED-B413NW-D-07
13 PED-B404-1-SS-01
14 PED-B404-1-SS-02
15 PED-B404-1-SS-03
16 PED-B413NW-SS-09
17 PED-B413NW-SS-10
18 TRIP BLANK

TEST CODES and NAMES used on this workorder

8260 PURGEABLE ORGANICS VOA
MEX TS METALS, TOTAL EXT., SOIL
PB LEAD
TICV T.I.C. Volatiles

SAMPLE ID TRIP BLANK FRACTION 18A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA
Date & Time Collected not specified Category WATER

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	p-Xylene	ND	5.0
Chloroethane	ND	10	1,2-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,3-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	1,4-Dichlorobenzene	ND	5.0
Trichlorofluoromethane	ND	10	Naphthalene	ND	10
1,1-Dichloroethane	ND	5.0	n-Propylbenzene	ND	10
Trans-1,2-Dichloroethene	ND	5.0	Bromobenzene	ND	5.0
Chloroform	ND	5.0	Bromchloromethane	ND	5.0
1,2-Dichloroethane	ND	5.0	n-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	sec-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	tert-Butylbenzene	ND	10
Bromodichloromethane	ND	5.0	2-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	4-Chlorotoluene	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Dibromochloromethane	ND	5.0	1,2-Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dibromomethane	ND	5.0
Benzene	ND	5.0	Dichlorodifluoromethane	ND	10
1,1-Dichloropropene	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
2-2-Dichlorpropane	ND	5.0	1,3-Dichloropropane	ND	5.0
Bromoform	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Hexachlorobutadiene	ND	10	1,2,3-Trichlorobenzene	ND	5.0
Isopropylbenzene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0	1,2,4-Trichlorobenzene	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,3-Trichloropropane	ND	5.0
Toluene	ND	5.0	1,2,4-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Ethyl Benzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	trans-1,3-Dichloropropene	ND	5.0
			Styrene	ND	5.0

Notes and definitions for this report:
DATE RUN 05/16/97
ANALYST CMD
INSTRUMENT B
DIL. FACTOR 1
UNITS ug/L
COMMENTS

ND = Not detected at detection limit

Received: 05/13/97 Results by Sample

SAMPLE ID TRIP BLANK FRACTION 18A TEST CODE TICV NAME T.I.C. Volatiles
Date & Time Collected not specified Category WATER

SUMMARY OF NBS (38,700+ analyte version, April '82)
LIBRARY SEARCH RESULTS OF NONTARGETED PEAKS WITH ESTIMATED
CONCENTRATION OF TENTATIVELY IDENTIFIED COMPOUNDS
VOLATILE ORGANICS

SCAN NUM.	NAME OF COMPOUND	MF PUR	ASSESSMENT RS	ISO (1)	UK	EST. CONC. (2)	CAS #	RT (3)

Notes and Definitions for this Report:
UNITS..... ug/L
DATE..... 05/16/97
SPECTROSCOPIST... CMD
Comments:
NO UNKNOWN PEAKS DETECTED

(1) RS - Reasonable Identification *
ISO- Isomer or similar compound
UK - Unknown, not in NBS Library
(2) Calculated vs nearest eluting internal standard as a simple ratio / proportion.
(3) RT vs 1,4-dichlorobutane for volatiles.
* This shall mean the assessment of the library search by an experienced mass spec. interpretation specialist which would by his/her concurrence be a good identification using WA85-J664, J680, Task V on page A-3 & Task III pg 2-3

TEST CODE 8260 NAME PURGEABLE ORGANICS VOA

EPA METHOD: 8260: Gas Chromatography/Mass Spectrometry for Volatile Organics.

Reference: Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods.
EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

RESULTS ARE REPORTED ON A DRY WEIGHT BASIS.

TEST CODE MEX_TS NAME METALS, TOTAL EXT., SOIL

REFERENCE:
EPA METHOD 3050: Acid Digestion of Sediments, Sludges and Soils. Test Methods for Evaluating Solid Waste Physical/Chemical Methods. SW 846, 3rd Edition.

Analytical Method for ICP:6010A

TEST CODE TICV NAME T.I.C. Volatiles

EPA METHOD: 624

Reference: Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater. Appendix A. 40CFR Part 136. Federal Register Vol. 49, No. 209, 1984.

TOXIKON
15 Wiggins Ave., Bedford, MA 01730
Telephone: (617) 275-3330
Fax: (617) 275-7478

CHAIN OF CUSTODY RECORD

WORK ORDER #: 97-197

DUE DATE : 5-20-97

COMPANY: Earth Tech
ADDRESS: 2229 Tomlynn Street
Richmond, VA 23234
PHONE #: (804) 358-5400 FAX #: (804) 358-6868
P.O. #: 21574
PROJECT MANAGER: Janis Crowder
PROJECT ID/LOCATION:

SAMPLE TYPE: 1. WASTEWATER, 2. SOIL, 3. SLUDGE, 4. OIL, 5. DRINKING WATER, 6. WATER (GW/MW/SW), 7. OTHER (SPECIFY)
CONTAINER TYPE: P - PLASTIC, G - GLASS, V - VOA

TOXIKON #	SAMPLE IDENTIFICATION	SAMPLE TYPE	CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	SAMPLING DATE	SAMPLING TIME	PRESERVATIVE	ANALYSES: VOX+15 (8260)	ANALYSES: LEAD	SPECIAL INSTRUCTIONS/ COMMENTS
1	Ped-B229-SS-01	Gasoline	2oz	Glass	1	5/12/97	1015	None	✓	✓	
2	Ped-B229-SS-02	Gasoline	2oz	Glass	1	5/12/97	1015		✓	✓	
3	Ped-B229-SS-03	Gasoline	2oz	Glass	1	5/12/97	1015		✓	✓	
	~~Ped-B413-R-01~~	~~Water~~	~~2oz~~	~~Glass~~		~~5/12/97~~		PNA			
4	PED-B413NW-SS-04				1		16:15		✓	✓	
5	PED-B413NW-SS-05	GAS	2oz	Glass	1	5/12/97	16:17		✓	✓	
6	PED-B413NW-SS-03				1		16:20		✓	✓	
7	PED-B413NW-SS-04	GAS	2oz	Glass	1	5/12/97	16:23		✓	✓	
8	PED-B413NW-SS-05				1		16:26		✓	✓	
9	" " 06	GAS	2oz	Glass	1	5/12/97	16:30		✓	✓	
10	" " 07				1		16:50		✓	✓	
11	" " 08	GAS	2oz	Glass	1	5/12/97	16:55		✓	✓	
12	PED-B417DW-D-07				1		16:50		✓	✓	
13	PED-B404-1-SS-01	GAS	2oz	Glass	1	5/12/97	18:00		✓	✓	
14	PED-B404-1-SS02				1		18:00		✓	✓	
15	PED-B404-1-SS-03	GAS	2oz	Glass	1	5/12/97	18:00		✓	✓	
16	PED-B413NW-SS-09				1		16:30		✓	✓	
17	PED-B413NW-SS-10	GAS	2oz	Glass	1	5/12/97	16:35		✓	✓	
18	TRIP BLANK										

SAMPLED BY: [signature] DATE: 5-12-97 TIME: - -
QUOTATION #:
RELINQUISHED BY: [signature] DATE: 5-12-97 TIME: 19-00
RECEIVED BY: [signature] DATE: 5-13-97 TIME: 10-00
RELINQUISHED BY: DATE: - - TIME: - -
RECEIVED FOR LAB BY: DATE: - - TIME: - -
METHOD OF SHIPMENT
COOLER TEMPERATURE

☐ RUSH ..... BUSINESS DAY TURN AROUND
☑ ROUTINE

Sample disposal information
Are there any other known or suspected contaminants in these samples other than those listed above?

SAMPLE ID PED-B404-1-SS-01 SAMPLE # 13 FRACTIONS: A
Date & Time Collected 05/12/97 18:00:00 Category SOIL

PB	17.6
mg/Kg DL=2.69	

SAMPLE ID PED-8404-1-SS-01 FRACTION 13A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 05/12/97 18:00:00 Category SOIL

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	25000	o-Xylene	ND	13000
Bromomethane	ND	13000	m-Xylene	ND	13000
Vinyl Chloride	ND	5000	p-Xylene	ND	13000
Chloroethane	ND	25000	1,2-Dichlorobenzene	ND	13000
Methylene Chloride	ND	25000	1,3-Dichlorobenzene	ND	13000
1,1-Dichloroethene	ND	13000	1,4-Dichlorobenzene	ND	13000
Trichlorofluoromethane	ND	25000	Naphthalene	308000	25000
1,1-Dichloroethane	ND	13000	n-Propylbenzene	ND	25000
Trans-1,2-Dichloroethene	ND	13000	Bromobenzene	ND	13000
Chloroform	ND	13000	Bromchloromethane	ND	13000
1,2-Dichloroethane	ND	13000	n-Butylbenzene	ND	25000
1,1,1-Trichloroethane	ND	13000	sec-Butylbenzene	ND	25000
Carbon Tetrachloride	ND	13000	tert-Butylbenzene	ND	25000
Bromodichloromethane	ND	13000	2-Chlorotoluene	ND	13000
1,2-Dichloropropane	ND	13000	4-Chlorotoluene	ND	13000
Trichloroethene	ND	13000	1,2-Dibromo-3-chloropropane	ND	13000
Dibromochloromethane	ND	13000	1,2-Dibromomethane	ND	13000
1,1,2-Trichloroethane	ND	13000	Dibromomethane	ND	13000
Benzene	ND	13000	Dichlorodifluoromethane	ND	25000
1,1-Dichloropropene	ND	13000	cis-1,2-Dichloroethene	ND	13000
2-2-Dichlorpropane	ND	13000	1,3-Dichloropropane	ND	13000
Bromoform	ND	13000	1,1,1,2-Tetrachloroethane	ND	13000
Hexachlorobutadiene	ND	25000	1,2,3-Trichlorobenzene	ND	13000
Isopropylbenzene	ND	25000	1,1,2,2-Tetrachloroethane	ND	13000
Tetrachloroethene	ND	13000	1,2,4-Trichlorobenzene	ND	13000
Methyl tertiary butyl ether	ND	13000	1,2,3-Trichloropropane	ND	13000
Toluene	ND	13000	1,2,4-Trimethylbenzene	288000	25000
Chlorobenzene	ND	13000	1,3,5-Trimethylbenzene	62200	25000
Ethyl Benzene	ND	13000	cis-1,3-Dichloropropene	ND	13000
p-Isopropyltoluene	ND	25000	trans-1,3-Dichloropropene	ND	13000
			Styrene	ND	13000

Notes and definitions for this report:
DATE RUN 05/19/97
ANALYST CMD
INSTRUMENT G
DIL. FACTOR 2500
UNITS ug/Kg
COMMENTS

ND = Not detected at detection limit

SAMPLE ID PED-8404-1-SS-01 FRACTION 13A TEST CODE TICV NAME T.I.C. Volatiles
Date & Time Collected 05/12/97 18:00:00 Category SOIL

SUMMARY OF NBS (38,700+ analyte version, April '82)
LIBRARY SEARCH RESULTS OF NONTARGETED PEAKS WITH ESTIMATED
CONCENTRATION OF TENTATIVELY IDENTIFIED COMPOUNDS
VOLATILE ORGANICS

SCAN NUM.	NAME OF COMPOUND	MF PUR	ASSESSMENT RS	ISO (1)	UK	EST. CONC. (2)	CAS #	RT (3)
1616	Ethylmethylbenzene Isomer	94	_	X	_	108000	**	16.12
1788	Trimethylbenzene Isomer	97	_	X	_	138000	**	17.67
1836	Methylpropylbenzene Isomer	91	_	X	_	255000	**	18.10
1851	Ethyldimethylbenzene Isomer	94	_	X	_	379000	**	18.24
1884	Methylpropylbenzene Isomer	87	_	X	_	110000	**	18.54
1904	Ethyldimethylbenzene Isomer	96	_	X	_	129000	**	18.72
1909	Ethyldimethylbenzene Isomer	91	_	X	_	130000	**	18.76
1924	Ethyldimethylbenzene Isomer	94	_	X	_	252000	**	18.90
1953	UNKNOWN	43	_	_	X	86700	*	19.16
2003	Tetramethylbenzene Isomer	95	_	X	_	123000	**	19.61
2014	Tetramethylbenzene Isomer	94	_	X	_	183000	**	19.71
2067	UNKNOWN	46	_	_	X	137000	*	20.19
2095	(1-methyl-1-propenyl)benzene(Z	84	_	_	_	178000	00767997	20.44
2104	UNKNOWN	38	_	_	X	114000	*	20.52
2122	(1,1-dimethylpropyl)benzene	78	_	_	_	86900	02049958	20.68

Notes and Definitions for this Report:
UNITS..... ug/Kg
DATE..... 05/19/97
SPECTROSCOPIST... CMD
Comments:
* UNKNOWNS
** ISOMERS

(1) RS - Reasonable Identification *
ISO- Isomer or similar compound
UK - Unknown, not in NBS Library
(2) Calculated vs nearest eluting internal standard as a simple ratio / proportion.
(3) RT vs 1,4-dichlorobutane for volatiles.
* This shall mean the assessment of the library search by an experienced mass spec. interpretation specialist which would by his/her concurrence be a good identification using WA85-J664, J680, Task V on page A-3 & Task III pg 2-3

SAMPLE ID PED-8404-1-SS-02 SAMPLE # 14 FRACTIONS: A
Date & Time Collected 05/12/97 18:00:00 Category SOIL

PB	3.07
mg/Kg DL=2.69	

SAMPLE ID PED-8404-1-SS-02 FRACTION 14A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 05/12/97 18:00:00 Category SOIL

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	p-Xylene	ND	5.0
Chloroethane	ND	10	1,2-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,3-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	1,4-Dichlorobenzene	ND	5.0
Trichlorofluoromethane	ND	10	Naphthalene	ND	10
1,1-Dichloroethane	ND	5.0	n-Propylbenzene	ND	10
Trans-1,2-Dichloroethene	ND	5.0	Bromobenzene	ND	5.0
Chloroform	ND	5.0	Bromchloromethane	ND	5.0
1,2-Dichloroethane	ND	5.0	n-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	sec-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	tert-Butylbenzene	ND	10
Bromodichloromethane	ND	5.0	2-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	4-Chlorotoluene	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Dibromochloromethane	ND	5.0	1,2-Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dibromomethane	ND	5.0
Benzene	ND	5.0	Dichlorodifluoromethane	ND	10
1,1-Dichloropropene	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
2-2-Dichlorpropane	ND	5.0	1,3-Dichloropropane	ND	5.0
Bromoform	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Hexachlorobutadiene	ND	10	1,2,3-Trichlorobenzene	ND	5.0
Isopropylbenzene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0	1,2,4-Trichlorobenzene	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,3-Trichloropropane	ND	5.0
Toluene	ND	5.0	1,2,4-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Ethyl Benzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	trans-1,3-Dichloropropene	ND	5.0
			Styrene	ND	5.0

Notes and definitions for this report:
DATE RUN 05/15/97
ANALYST CMD
INSTRUMENT G
DIL. FACTOR 1
UNITS ug/Kg
COMMENTS

ND = Not detected at detection limit

SAMPLE ID PED-8404-1-SS-02 FRACTION 14A TEST CODE TICV NAME T.I.C. Volatiles
Date & Time Collected 05/12/97 18:00:00 Category SOIL

SUMMARY OF NBS (38,700+ analyte version, April '82)
LIBRARY SEARCH RESULTS OF NONTARGETED PEAKS WITH ESTIMATED
CONCENTRATION OF TENTATIVELY IDENTIFIED COMPOUNDS
VOLATILE ORGANICS

SCAN NUM.	NAME OF COMPOUND	MF PUR	ASSESSMENT RS	ISO (1)	UK	EST. CONC. (2)	CAS #	RT (3)

Notes and Definitions for this Report:
UNITS..... ug/Kg
DATE..... 05/15/97
SPECTROSCOPIST... CMD
Comments:
NO UNKNOWN PEAKS DETECTED.

(1) RS - Reasonable Identification *
ISO- Isomer or similar compound
UK - Unknown, not in NBS Library
(2) Calculated vs nearest eluting internal standard as a simple ratio / proportion.
(3) RT vs 1,4-dichlorobutane for volatiles.
* This shall mean the assessment of the library search by an experienced mass spec. interpretation specialist which would by his/her concurrence be a good identification using WA85-J664, J680, Task V on page A-3 & Task III pg 2-3

SAMPLE ID PED-B404-1-SS-03 SAMPLE # 15 FRACTIONS: A
Date & Time Collected 05/12/97 18:00:00 Category SOIL

PB	3.22
mg/Kg DL=2.69	

SAMPLE ID PED-B404-1-SS-03 FRACTION 15A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 05/12/97 18:00:00 Category SOIL

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	p-Xylene	ND	5.0
Chloroethane	ND	10	1,2-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,3-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	1,4-Dichlorobenzene	ND	5.0
Trichlorofluoromethane	ND	10	Naphthalene	ND	10
1,1-Dichloroethane	ND	5.0	n-Propylbenzene	ND	10
Trans-1,2-Dichloroethene	ND	5.0	Bromobenzene	ND	5.0
Chloroform	ND	5.0	Bromchloromethane	ND	5.0
1,2-Dichloroethane	ND	5.0	n-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	sec-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	tert-Butylbenzene	ND	10
Bromodichloromethane	ND	5.0	2-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	4-Chlorotoluene	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Dibromochloromethane	ND	5.0	1,2-Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dibromomethane	ND	5.0
Benzene	ND	5.0	Dichlorodifluoromethane	ND	10
1,1-Dichloropropene	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
2-2-Dichlorpropane	ND	5.0	1,3-Dichloropropane	ND	5.0
Bromoform	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Hexachlorobutadiene	ND	10	1,2,3-Trichlorobenzene	ND	5.0
Isopropylbenzene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0	1,2,4-Trichlorobenzene	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,3-Trichloropropane	ND	5.0
Toluene	ND	5.0	1,2,4-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Ethyl Benzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	trans-1,3-Dichloropropene	ND	5.0
			Styrene	ND	5.0

Notes and definitions for this report:
DATE RUN 05/19/97
ANALYST CMD
INSTRUMENT G
DIL. FACTOR 1
UNITS ug/Kg
COMMENTS

ND = Not detected at detection limit

Received: 05/13/97 Results by Sample

SAMPLE ID PED-B404-1-SS-03 FRACTION 15A TEST CODE TICV NAME T.I.C. Volatiles
Date & Time Collected 05/12/97 18:00:00 Category SOIL

SUMMARY OF NBS (38,700+ analyte version, April '82)
LIBRARY SEARCH RESULTS OF NONTARGETED PEAKS WITH ESTIMATED
CONCENTRATION OF TENTATIVELY IDENTIFIED COMPOUNDS
VOLATILE ORGANICS

SCAN NUM.	NAME OF COMPOUND	MF PUR	ASSESSMENT RS	ISO (1)	UK	EST. CONC. (2)	CAS #	RT (3)

Notes and Definitions for this Report:
UNITS..... ug/Kg
DATE..... 05/19/97
SPECTROSCOPIST... CMD
Comments:
NO UNKNOWN PEAKS DETECTED.

(1) RS - Reasonable Identification *
ISO- Isomer or similar compound
UK - Unknown, not in NBS Library
(2) Calculated vs nearest eluting internal standard as a simple ratio / proportion.
(3) RT vs 1,4-dichlorobutane for volatiles.
* This shall mean the assessment of the library search by an experienced mass spec. interpretation specialist which would by his/her concurrence be a good identification using WA85-J664, J680, Task V on page A-3 & Task III pg 2-3

LABORATORY CHRONICLE

All samples were chilled to 4°C at the time of receipt at Toxikon.

Toxikon Work Order #: 9705197

Date of Sample Collection: 05/12/97

Sample ID: As per Chain of Custody

ANALYSIS:

Purgeable Organics VOA (8260)	05/15/97, 05/16/97, 05/19/97
Metals (Pb)	
Extraction	05/16/97
Analysis	05/19/97

Holding times were met for all sample analyses.

CONFORMANCE/NON-CONFORMANCE SUMMARY

Work Order #: 9705197

I certify that the reported laboratory results were prepared under my direction or supervision in accordance with a system designed to assure qualified personnel evaluate the information submitted. I certify that the information submitted is true, accurate, and complete to the best of my knowledge and belief. The analyses were conducted without deviation from accepted practices, and were reviewed by the Quality Assurance Department.

Douglas V. Sheeley
Laboratory Manager

7/15/97
Date

CASE NARRATIVE

Work Order: 9705197

All samples were analyzed within the method holding times.

No target compounds were detected in the method blanks.

TOXIKON

GC/MS VOLATILE SURROGATE % RECOVERY (METHOD 8260)

PROJECT # : 9705197
MATRIX : SOIL

SAMPLE NUMBER	S1 (DBF) #	S2 (TOL) #	S3 (BFB) #
METHOD BLANK 5/15	98	96	95
9705197.1	95	94	91
9705197.2	94	93	91
9705197.3	97	93	92
9705197.5	99	94	93
9705197.7	98	96	94
9705197.9	98	98	93
9705197.10	103	95	93
9705197.11	100	94	93
9705197.12	102	98	94
9705197.14	102	98	94
9705197.17	102	96	92
METHOD BLANK 5/16	102	97	96
MS9705197.1	96	94	90
MSD9705197.1	95	93	87
9705197.6	99	82	112
9705197.8	101	91	94
9705197.16	104	87	88
9705197.18	87	107	99
METHOD BLANK 5/19	98	96	95
9705197.4	98	96	95
9705197.13	97	95	94
9705197.15	92	93	89

	QC LIMITS	
	SOIL	WATER
S1 (DBF) = Dibromofluoromethane	(80 - 120)	(86 - 118)
S2 (TOL) = Toluene-d8	(81 - 117)	(88 - 110)
S3 (BFB) = 4-Bromofluorobenzene	(74 - 121)	(86 - 115)

TOXIKON CORP

VOLATILE MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

DATE RUN: May 16,1997

METHOD: 8260

WORK ORDER#: 9705197

MATRIX: SOIL

SAMPLE #: 9705197.01

UNITS: ug/Kg

DATA FILES: >G2566
>G2567

TOXIKON PROJECT#: 9705197

COMPOUND	CONC. SPIKE ADDED (ug)	SAMPLE RESULT	CONC. MS	CONC. MSD	%REC MS		%REC MSD		RPD		QC LIMITS * RPD	QC LIMITS * RECOVERY
1,1-Dichloroethene	50	0.00	48.96	48.95	98	OK	98	OK	0	OK	22	59 - 172
Benzene	50	0.00	42.26	42.78	85	OK	86	OK	1	OK	21	66 - 142
Trichloroethene	50	0.00	40.66	40.59	81	OK	81	OK	0	OK	24	62 - 137
Toluene	50	0.00	39.50	39.53	79	OK	79	OK	0	OK	21	59 - 139
Chlorobenzene	50	0.00	40.86	41.87	82	OK	84	OK	2	OK	21	60 - 133

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits

* = Values outside of QC limits

TOXIKON

QC SUMMARY - METALS

PROJECT : 9705197
MATRIX : SOIL

SPIKE SAMPLE: 9705197.1
HG SPIKE SAMPLE: NA

ANALYTE	METHOD BLANK	MS (% REC)	LCS (% REC)	DUPLICATE (% RPD)
Pb	ND	64	100	8.2

ACCEPTANCE CRITERIA

ANALYTE	METHOD BLANK	MS (% REC)	LCS (% REC)	DUPLICATE (% RPD)
Ag	BDL	65 - 125	80 - 120	<25
Hg	BDL	75 - 125	80 - 120	<25
All Others	BDL	80 - 120	80 - 120	<25

TOXIKON
15 Wiggins Ave., Bedford, MA 01730
Telephone: (617) 275-3330
Fax: (617) 275-7478

CHAIN OF CUSTODY RECORD

WORK ORDER #: 97 5-197

DUE DATE : 5-20-97

COMPANY: Earth Tech
ADDRESS: 2229 Tomlynn Street
Richmond, VA 23234
PHONE #: (804) 358-5400 FAX #: (804) 358-6865
P.O. #: 21574
PROJECT MANAGER: Janis Crowder
PROJECT ID/LOCATION:

SAMPLE TYPE: 1. WASTEWATER, 2. SOIL, 3. SLUDGE, 4. OIL, 5. DRINKING WATER, 6. WATER (GW/MW/SW), 7. OTHER (SPECIFY)
CONTAINER TYPE: P - PLASTIC, G - GLASS, V - VOA

TOXIKON #	SAMPLE IDENTIFICATION	SAMPLE TYPE	CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	SAMPLING DATE	SAMPLING TIME	PRESERVATIVE	ANALYSES: VOX+15 (8260)	ANALYSES: LEAD	SPECIAL INSTRUCTIONS/ COMMENTS
1	Ped-B229-SS-01	Gasoline	2oz	Glass	1	5/12/97	1015	DAE	✓	✓	
2	Ped-B229-SS-02	Gasoline	2oz	Glass	1	5/12/97	1015		✓	✓	
3	Ped-B229-SS-03	Gasoline	2oz	Glass	1	5/12/97	1015		✓	✓	
	~~Ped-B413-R-01~~	~~Water~~	~~2oz~~	~~Glass~~		~~5/12/97~~		PRA			
4	PED-B413NW-SS-01				1		16:15		✓	✓	
5	PED-B413NW-SS-02	GAS	2oz	GLASS	1	5/12/97	16:17		✓	✓	
6	PED-B413NW-SS-03				1		16:20		✓	✓	
7	PED-B413NW-SS-04	GAS	2oz	GLASS	1	5/12/97	16:23		✓	✓	
8	PED-B413NW-SS-05				1		16:26		✓	✓	
9	" " 06	GAS	2oz	GLASS	1	5/12/97	16:30		✓	✓	
10	" " 07				1		16:50		✓	✓	
11	" " 08	GAS	2oz	GLASS	1	5/12/97	16:55		✓	✓	
12	PED-B417DW-D-07				1		16:50		✓	✓	
13	PED-B404-1-SS-01	GAS	2oz	GLASS	1	5/12/97	18:00		✓	✓	
14	PED-B404-1-SS-02				1		18:00		✓	✓	
15	PED-B404-1-SS-03	GAS	2oz	GLASS	1	5/12/97	18:00		✓	✓	
16	PED-B413NW-SS-09				1		16:30		✓	✓	
17	PED-B413NW-SS-10	GAS	2oz	GLASS	1	5/12/97	16:35		✓	✓	
18	TRIP BLANK										

SAMPLED BY: [signature]
DATE: 5-12-97
TIME: - -

RELINQUISHED BY: [signature]
DATE: 5-12-97
TIME: 19-00

RELINQUISHED BY:
DATE: - -
TIME: - -

METHOD OF SHIPMENT

QUOTATION #:

RECEIVED BY: [signature]
DATE: 5-13-97
TIME: 10-00

RECEIVED FOR LAB BY:
DATE: - -
TIME: - -

COOLER TEMPERATURE

☐ RUSH ..... BUSINESS DAY TURN AROUND
☑ ROUTINE

Sample disposal information
Are there any other known or suspected contaminants in these samples other than those listed above?

Appendix E

NJDEP Tank Facility Questionnaire and Site Investigation Report Checklist

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF RESPONSIBLE PARTY SITE REMEDIATION
BUREAU OF STATE CASE MANAGEMENT
Registration and Billing Unit
CN 028, Trenton, N.J. 08625-0028
1-609-633-0719

UNDERGROUND STORAGE TANK FACILITY QUESTIONNAIRE

FOR STATE USE ONLY
Check In ☐ Yes ☐ No
STATUS Active ☐ Inactive ☐ COMCODE ☐☐☐☐

FACILITY UST # 0071994

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, and the Registration and Billing Regulations N.J.A.C. 7:14B-2.

[Check appropriate box(es)]

A. ☐ Is this a registration of a proposed or newly installed underground storage tank? (This form must be filed at least 30 days prior to operation)
B. ☐ Is this a registration of an existing underground storage tank not presently registered?
C. ☒ Is this a correction or amendment to an existing facility registration? UST # 0071994
D. ☐ There have been no changes to the facility registration since last submittal. UST #_____ (Go to certification page for signatures)

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
☐ Spills, Leaks, Releases
☐ Tank(s) and/or Piping Changes
☐ Closure (Complete Question #13)
☐ Financial Responsibility Change
☐ Substantial Modification(s)
☐ Sale or Transfer (Complete Questions 4,5,6 & 13D)
☒ Other *(please specify)* register unregistered tanks

SECTION A - GENERAL FACILITY INFORMATION

1. Facility Name: Pied Piper Shopping Plaza

2. Facility Location: Route 130
NUMBER AND STREET
Pied Piper Shopping
CITY OR MUNICIPALITY
Salem | NJ | 08067
COUNTY | STATE | ZIP CODE | BLOCK | LOT

3. Facility Operator: Miss Huntchinson | Contact Tele. No: 718 | 352 | 6053
PERSON OR TITLE | (Area Code) | (Extension)

Operator Address (if different than #2): 707 Third Ave
NUMBER AND STREET
ARCO-CONV-EN (Bldg 2001)
Floral Town
CITY OR MUNICIPALITY
NY | 11359 | 0106
STATE | ZIP CODE

4. Tank Owner: USA Trading Center, Floral Dix

5. Tank Owner Address: Floral Dix
NUMBER AND STREET
Burlington
CITY OR MUNICIPALITY
NJ | 08640-5101
STATE | ZIP CODE

6. Contact Person (Tank Owner): Mr. Olshelf | Contact Tele. No.(Area Code) | (Extension)

7. EPA ID # NJ | 6 | 2 | 1 | 0 | 0 | 9 | 0 | 0 | 6 | 8

8. Total number of regulated underground storage tanks at facility unk *(Complete Section B for each tank)*

9. Total regulated underground storage tank capacity at facility (gallons) UNKNOWN

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

11. Is a copy of the facility site plan submitted with this registration pursuant to N.J.A.C. 7:14B-2? ☐ YES ☐ NO

SECTION B - SPECIFIC TANK INFORMATION

ALL underground 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 unless previously submitted.

	TANK NO.	TANK NO.	TANK NO.	TANK NO.	TANK NO.
1. Tank Identification Number	A16				
2. CAS Number (hazardous substances only)					
3. Date Tank Installed (Month/Day/Year)	Mo. Day Year UNKNOWN	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year
4. Tank Size (gallons)	110				
5. Tank Contents (Mark one "X" for each tank)					
A. Leaded gasoline					
B. Unleaded gasoline	X				
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. Home heating oil (No. 2)					
J. Heating oil (No. 4)					
K. Heavy heating oil (No. 6)					
L. Aviation fuel					
M. Motor oil					
N. Lubricating oil					
P. Sewage					
Q. Sewage sludge					
R. Other hazardous substances (specify)					
S. Hazardous waste (specify ID number)					
T. Mixtures (please specify)					
U. Emergency spill tank (specify substance)					
V. Other petroleum products (please specify)					
W. Other (please specify)					
6. Tank & Piping Construction (Mark one each for both tank & piping)	Tank / Piping	Tank / Piping	Tank / Piping	Tank / Piping	Tank / Piping
A. Bare Steel	X / X				
B. Cathodically protected steel					
C. Fiberglass-coated steel					
D. Fiberglass-reinforced plastic					
E. Internally lined					
F. Other (please specify)					
7. Tank & Piping Structure (Mark one each for both tank & piping)	Tank / Piping	Tank / Piping	Tank / Piping	Tank / Piping	Tank / Piping
A. Single wall	X / X				
B. Double wall					
C. Other (please specify)					
8. Type of Monitoring/Detection System (Mark all that apply for both tank & piping)	Tank / Piping	Tank / Piping	Tank / Piping	Tank / Piping	Tank / Piping
A. Statistical Inventory Reconciliation					
B. Manual Tank Gauging					
C. Inventory Control					
D. Interstitial					
E. Precision Test					
F. Ground water observation wells					
G. Vapor observation wells					
H. In-tank (automatic) monitoring gauge					
J. Periodic Tank Test					

Tank Identification Number	TANK NO. A 1 6	TANK NO.	TANK NO.	TANK NO.	TANK NO.
8. Type of Monitoring/Detection System	Tank / Piping	Tank / Piping	Tank / Piping	Tank / Piping	Tank / Piping
K. None	X / X				
L. Other (please specify)					
Overfill Protection (tank only) (Mark one X for each tank)					
A. Yes					
B. No	X				
10. Spill Containment Around Fill Pipe (Mark one X for each tank)					
A. Yes					
B. No	X				
11. Tank Status (Mark one X for each tank)	Tank / Piping	Tank / Piping	Tank / Piping	Tank / Piping	Tank / Piping
A. In-use					
B. Empty less than 12 months					
C. Empty 12 months or more					
D. Emergency spill tank (sump)					
E. Emergency backup generator tank					
F. Abandoned in Place					
G. Removed	X / X				
H. Other (please specify)					
12. If box 11B, C, or D above has been marked, indicate the estimated date last used (month/day/year)	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year
13. Closure Information - Tank ID No.	TANK NO. A 1 6	TANK NO.	TANK NO.	TANK NO.	TANK NO.
	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year	Mo. Day Year
A. Date abandoned in place					
B. Date taken temporarily out of service					
C. Date removed	05 12 1997				
D. Date of Sale or Transfer					
E. TMS # (if applicable)					
F. ISRA # (if applicable)					

SECTION C - FINANCIAL RESPONSIBILITY

Does this facility have a Financial Responsibility Assurance Mechanism as required in 40 CFR 280? ☐ YES ☐ NO
Please list the appropriate financial information below:

Type _____ Carrier / Issuing Agency _____

____ / ____ / ____ Effective Date ____ / ____ / ____ Expiration Date _____ Policy Number $_____ Amount

SECTION D - MONITORING SYSTEMS

Does this facility have a release detection monitoring system which is in compliance with N.J.A.C. 7:14B-6? ☐ YES ☐ NO
If "No", please be aware that the facility must meet the appropriate deadline. (See "Dates to Know" on Page 4)

SECTION E - RECORDKEEPING/COMPLIANCE

Please answer all the questions in this section on a facility basis. Any one tank not in compliance requires a "NO" answer for the entire facility.

1. Does this facility have cathodic protection systems for all steel tanks and piping? ☐ YES ☐ NO
   If "Yes", are the systems properly operated and maintained pursuant to N.J.A.C. 7:14B-5? ☐ YES ☐ NO
2. Are the performance claims and documentation of monitoring systems maintained by the owner or operator pursuant to N.J.A.C. 7:14B-5? ☐ YES ☐ NO
3. Are the proper monitoring, testing, sampling, repair and inventory records kept on-site pursuant to N.J.A.C. 7:14B-5 and 6? ☐ YES ☐ NO
4. Is the proper Release Response Plan kept on-site pursuant to N.J.A.C. 7:14B-5? ☐ YES ☐ NO
5. Does the facility have spill and over fill protection systems pursuant to N.J.A.C. 7:14B-4? ☐ YES ☐ NO
6. Have all Fill Ports been permanently marked as per API #1637 pursuant to N.J.A.C. 7:14B-5? ☐ YES ☐ NO

IMPORTANT INFORMATION

FEE:	Please make checks payble to: **"Treasurer, State of New Jersey"**. Use of the enclosed return envelope will expedite processing. Registration and Billing Schedule can be found in N.J.A.C. 7:14B. All Initial Registration fees are $100 per facility.
PENALTY:	Failure by owner or operator of a regulated underground storage tank to comply with any requirement of the State UST Act or regulations may result in the penalties set forth in N.J..S.A. 58:10A-10.
EMERGENCY:	If a discharge or spill occurs, the NJDEP Hotline at (609) 292-7172 must be called IMMEDIATELY - 24 hours a day.
UPGRADE EXEMPTION:	Residential heating oil underground storage tanks are exempt from all upgrade requirements.

DATES TO KNOW (critical deadlines)

December 22, 1988	—	All new federally regulated tank systems must have cathodic protection and spill/overfill protection.
September 4, 1990	—	All new State-only regulated tank systems must have cathodic protection and spill/overfill protection.
December 22, 1990	—	All federally regulated piping must have begun leak detection.
February 19, 1993	—	All federally regulated tank systems must maintain financial responsibility assurance.
December 22, 1993	—	All federally regulated tank systems must have begun leak detection.
December 22, 1998	—	All regulated tanks shall install cathodic protection and spill/overfill protection.

CERTIFICATIONS

NOTE: IF THE PERSON SIGNING CERTIFICATION NO. 2 IS THE SAME AS THE PERSON SIGNING CERTIFICATION NO. 1, THEN CERTIFICATION NO. 2 NEED NOT BE SIGNED. (If different persons are required to sign No. 1 and No. 2, then they must do so.)

CERTIFICATION NO. 1:

Must be signed by the highest ranking individual at the facility with overall responsibility

"I certify under penalty of law that the information provided in this document is true, accurate and complete to the best of my knowledge, information and belief. I am aware that there are significant civil and criminal 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."

(Typed / Printed Name) _____ (Signature) _____

(Title) _____ (Date) _____

CERTIFICATION NO. 2:

Must be signed as follows:

- For a corporation, by a principal executive officer of at least the level of vice president
- 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 herein 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 civil and criminal 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."

(Typed / Printed Name) _____ (Signature) _____

(Title) _____ (Date) _____

CERTIFICATION NO. 3:

If applicable, must be signed by the individual who is certified to perform services.

"I certify under penalty of law that the information provided in this document is true, accurate and complete to the best of my knowledge, information and belief. I am aware that there are significant civil and criminal 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."

Julian T. Clarke Jr. (Typed / Printed Name) PE. (Title) _____ (Name of Firm, if applicable)

_____ (Signature) 7-30-17 (Date)

USCC516 (N.J. Certification Number)

New Jersey Department of Environmental Protection
Site Remediation Program

Site Investigation/Remedial Investigation Report Checklist

Oversight Document:
- ☑ UST Regulations
- ☐ Administrative Consent Order (ACO)
- ☐ Memorandum of Understanding
- ☐ Industrial Site Recovery Act (ISRA)
- ☐ Memorandum of Agreement (MOA)

A. Case Name (and AKA): Sievers-Sandberg US Army Reserve Center

Address: Building 273, Route 130

Municipality/County: Pedricktown

RP Contact: _____ Telephone: _____

B. (Check as appropriate)

- ☑ Site Investigation (SI) Report
- ☐ Remedial Investigation (RI) Report

C. (Complete all that apply)

- Assigned Case Manager _____
- ISRA Case Number _____ (5 digits)
- UST Registration Number 0071994 (7 digits)
- Incident Report Number 97 – 6 – 30 – 1600 – 08 (10 or 12 digits)
  _____ – _____ – _____ – _____ – _____
- Tank Closure Number C9 7 – 0177 C9___ – _____ C9___ – _____ (7 characters)
  C9___ – _____ C9___ – _____ C9___ – _____
- EPA ID Number NJ _____ (12 characters)

D. (Circle "Yes" or "No" as applicable for each statement. If the statement is not applicable, indicate "N/A")

1) All "Areas of Concern", as defined in N.J.A.C. 7:26E-1.8 or 40 CFR 300.5, noted in the attached report were sampled pursuant to N.J.A.C. 7:26E-3 and 4, and analyzed pursuant to Table 2-3, as applicable ..... (Yes) No
(If the answer to #1 is "No", answer 1A & 1B. If the answer is "Yes", go to #2)

   A) Did the Department grant a variance from any of the requirements of N.J.A.C. 7:26E-2 through 6, pursuant to N.J.A.C. 7:26E-1.6(d)1 and 2? ..... Yes No
   B) If alternative sampling and/or investigatory methods were utilized without Department pre-approval, is the documentation required by N.J.A.C. 7:26E-1.6(c) provided? ..... Yes No

2) The attached report documents all individual contaminants below most recently published residential and impact to ground water soil cleanup criteria contained in the "Site Remediation Newsletter" ..... (Yes) No

3) The attached report includes results from a ground water investigation conducted pursuant to N.J.A.C. 7:26E-3.7 or 4.4. (If "No", go to question 5, if "Yes", answer question 4) ..... Yes (No)

4) The attached report documents all individual contaminants below applicable Ground Water Quality Standards as contained in N.J.A.C. 7:9-6 ..... (Yes) No

5) The attached report was submitted in response to a discharge of any contaminants as defined at N.J.A.C. 7:26E-1.8 ..... (Yes) No
If answer to #5 was "Yes" continue to 5A through 5E. If answer is "No" go to #6.
Pursuant to N.J.A.C. 7:26E-3.7 and/or 4.4:

   A) Was the discharge associated with a substance with a solubility greater than 100 milligrams per liter (i.e. gasoline, #2 heating oil etc.)? ..... (Yes) No
   B) Does all the soil between the discharge (last depth of contamination above remediation standard) and ground water/bedrock contain less than 15% silt and clay? ..... Yes No

C) If a soil sample was collected 2 feet from the saturated zone or bedrock, does it contain a contaminant above the impact to ground water remediation criteria? ... N/A ... Yes No

D) Are any of the soil sampling results above the impact to ground water remediation criteria anywhere in the soil column and the contaminant is not going to be actively remediated? ... (Yes) No

E) Was a sheen or product noted on the ground water? ... N/A Yes No

6) Were any wastes generated for disposal during the SI or RI? ... (Yes) No

A) The attached contains a "soil reuse" proposal or report, including characterization sampling, as requested in the May 14, 1993, "Management of Excavated Soils" guidance document ... N/A ... Yes No

B) The attached report contains a request for a Waste Flow Exemption ... N/A ... Yes No

C) The attached report contains documentation of the quantity, waste classification and status of all excavated soil/waste disposal (including drum contents, tank sludge/rinsate, overburden soils, etc.) remediation or reuse and clean fill documentation ... Yes (No)

Site Investigation (SI) and Remedial Investigation (RI) Report Submittal Checklist

E. SI Reporting Requirements

(Note page, figure, table or plate number(s) or NA for Not Applicable)

1) Historical Information (including maps and air photos) ... Pg. No. 2

2) Physical Setting ... Pg. No. 2

3) Technical Overview of investigation execution and results including reliability of lab data, summary of contamination, information on waste characterization and any other significant events ... Pg. No. 2

4) Findings and recommendations by Area of Concern (AOC) ... Pg. No. 4

A) Description of each AOC including size (i.e. size of drum pad, volume of impoundment or area, length of UST and piping), suspected and actual contamination (presence of discoloration, stressed vegetation, corrosion holes in USTs, description of the excavation, if any), source or potential source of discharge and field measurements ... Pg. No. 2

B) Results of Analyses ... Pg. No. App D

C) Fully supported Recommendation for additional remedial activities or "No Further Action" ... Pg. No. 4

5) Summary Table of analytical methods and quality assurance indicators pursuant to N.J.A.C. 7:26E-2.2 (a)1v ... Pg. No. 3

6) Laboratory Quality Assurance and Quality Control Deliverables pursuant to N.J.A.C. 7:26E-2.1 and Appendix A (include lab deliverable checklist) ... Pg. No. App D

A) Nonconformance Summary signed by the Laboratory ... Pg. No. -

B) Chain of Custody ... Pg. No. App D

7) Discussion of why the analytical methods chosen for each sample matrix accurately represent all of the contaminants of concern at the facility ... Pg. No. 2

8) Table summarizing sampling results, including media, sampling depth, field and laboratory identification numbers, date and time of sampling, analytical results, and comparison to applicable remediation standards (ARS). Identify all samples exceeding ARS and all samples with MDLs or PQLs exceeding ARS. Solid results on dry weight basis (in mg/Kg) and aqueous samples in ug/l ... Pg. No. 3

9) Scaled Site map and AOC base map(s) with sample locations, sample depth and contaminant levels. (see N.J.A.C. 7:26E-3.10 (d)1 or 4.9 (d)2 for map details) ... Pg. No. App A

10) Boring/Stratiographic logs including instrument readings and physical characteristics ... Pg. No. -

11) Boring/Stratiographic cross sections ... Pg. No. -

12) Boring, piezometer and monitoring well records with applicable permit numbers ... Pg. No. -

F. RI Reporting Requirements (Include all items above plus the following.)

13) Additional information collected pursuant to N.J.A.C. 7:26E-4.1 and any work plan approved per N.J.A.C. 7:26E-4.8 (i.e. well search information results/summary, subsurface gas threats, investigation of sediment, surface water, wetlands), as applicable ..... Pg. No. _____

14) Well Search Results (pursuant to 7:26E-4.4(h) and Appendix B) ..... Pg. No. _____

15) Description of treatability bench scale or pilot studies as well as data to develop permit limits for air, surface water and/or ground water discharges ..... Pg. No. _____

16) Average contaminant concentrations for each AOC (see N.J.A.C. 7:26E-4.9 (c)3i), and a description of the procedures used for averaging ..... Pg. No. _____

17) Well casing and ground water elevations (include well Certifications A and B) ..... Pg. No. _____

18) Ground water temperature, pH and conductivity measurements ..... Pg. No. _____

19) Review of inventory control records to identify product loss ..... Pg. No. _____

20) Results of an Ecological Assessment, if conducted ..... Pg. No. _____

21) Summary of Landfill records, if site is a landfill ..... Pg. No. _____

22) Site base maps with sampling locations* and diagrams shall include:

A) ground water elevation contour maps with flow direction, and tidal studies, if applicable ..... Pg. No. _____
B) top of bedrock contour map, if bedrock was encountered ..... Pg. No. _____
C) contaminant isopleth maps for ground water showing horizontal/vertical extent of contamination above applicable standards, and free product ..... Pg. No. _____
D) isopleth maps for soil contaminants (required if more than 25 soil samples collected; suggested for fewer than 25 samples) ..... Pg. No. _____
E) horizontal and vertical distribution of contaminants in soil and sediment with sample numbers* and contaminant concentrations ..... Pg. No. _____
F) all ground water sampling points* including open hole and screened intervals ..... Pg. No. _____
G) if applicable, a map of surface water, structure and airborne contaminants ..... Pg. No. _____
H) photos may be submitted of sample locations (identify photo location on site map) ..... Pg. No. _____
I) other data collected (e.g. soil gas), specify type ..... Pg. No. _____

*NOTE: The same alpha/numeric sample label used in the RI workplan shall be used in the RI Report

G. Report Contents Completeness and Two Part Certification:

23) The attached report conforms to the specific reporting requirements listed at N.J.A.C. 7:26E-3.10 for a SI Report or N.J.A.C. 7:26E-4.9 for a RI Report ..... (Yes) No

Name: _____ Signature: Julian T. Canas Jr UST Cert. No. U3C0516

Firm: _____ Firm's UST Certification Number: _____

(NOTE: Certification numbers required only if work was conducted on USTs regulated per N.J.S.A. 58:10A-21 et seq.)

24) Two part certification signed and completed pursuant to one of the following requirements (indicate the page number next to the appropriate regulatory citation):

A) N.J.A.C. 7:26C-1.2 ..... Pg. No. _____
B) N.J.A.C. 7:14B-2.3 ..... Pg. No. _____
C) N.J.A.C. 7:26B-1.13 ..... Pg. No. _____