N61165.AR.005131
CNC CHARLESTON
5090.3a

EXCAVATION REPORT FOR ZONE K BUILDING 2513 ABOVE GROUND STORAGE TANKS A AND B (AST A AND B) CNC CHARLESTON SC

07/01/2001

CH2M HILL

Excavation Report
Zone K, Building 2513
Aboveground Storage Tanks A & B
Charleston Naval Complex
North Charleston, South Carolina
SCDHEC NO. 00960

Prepared by

CH2M-Jones, LLC.
Charleston Naval Complex
1849 Avenue F
North Charleston, South Carolina 29405
July 2001

Prepared For:

Southern Division Naval Facilities Engineering Command
P.O. Box 190010
North Charleston, South Carolina 29419-9010

RECEIVED
Water Monitoring, Assessment & Protection Division

Table of Contents
Building 2313
Aboveground Storage Tanks (AST) A & B
Charleston Naval Complex
North Charleston, South Carolina

Section		Title	Page #
1.0		**Introduction**	**1-1**
	1.1	Background	1-1
	1.2	General Site Description	1-1
	1.3	Previous Investigation	1-1
	1.4	Corrective Actions	1-2
	1.5	Soil Analytical Results (2001)	1-2
	1.6	Excavation	1-3
	1.7	Conclusion	1-3
2.0		**Tables**	**2-1**
	2.1	Summary of Sampling Tank A	2-1
	2.2	Summary of Sampling Tank B	2-1
	2.3	Summary of Delineation Sampling	2-1
3.0		**Figures**	**3-1**
	3.1	Map of Charleston Naval Complex	3-1
	3.2	Map of Site Location	3-2
	3.3	Map of Delineated Soils	3-3
4.0		**Field Notes**	**4-1**
	4.1	Field Notes of Soil Sampling	4-2
5.0		**Attachments**	**5-1**
	5.1	Analytical Results	5-1
	5.2	Manifests	5-2
	5.3	Pictures	5-3

1.0 INTRODUCTION

1.1 Background

The Charleston Naval Complex is located on the banks of the Cooper River in Charleston County, South Carolina, and lies within the corporate boundaries of the city of North Charleston, approximately 5 miles north of the city of Charleston. The Complex is bounded on the east by the Cooper River and on the north, south, and west by the city of North Charleston. The Naval Annex is located approximately five miles north of the actual naval base just off of Highway I-26 on Remount Road.

1.2 General Site Description

The CNC is located in the city of North Charleston, on the west bank of the Cooper River in Charleston County, South Carolina as shown in Figure 3.1. This installation consists of two major areas: an undeveloped dredge materials area on the east bank of the Cooper River on Daniel Island in Berkley County, and a developed area on the west bank of the Cooper River. The developed portion of the base is on the peninsula bounded on the west by the Ashley River and on the east by the Cooper River. This site is located within the developed portion of the base at the Naval Annex portion

On December 5, 1996 the Environmental Detachment Charleston (DET) completed an AST Assessment Report (AR) for Building 2513, which includes ASTs 2513-A and 2513-B. Building 2513 is located at the Naval Station Annex. The tanks at Building 2513 (2513-A and 2513-B) were used to provide heating oil to Building 2513. Both tanks were 42,000 gallon tanks which were located in a three (3) foot earthen berm. The tanks rested on a concrete footer. Inside the footer was a layer of sand approximately six (6) inches deep, below the sand was a substratum of clay. The area surrounding the tanks within he berm was covered with gravel (SPORTENVDETCHASN, 1997).

1.3 Previous Investigation

The Assessment Report completed by the DET sampled soils around the two tanks on January 29, 1997 and found that only two soil samples had levels of naphthalene above RBSLs. Each soil sample that had levels of naphthalene above the RBSLs are discussed below:

1.3.1 <u>TANK 2513-A:</u>

On January 29, 1997, soil sample SPORT0304-3 was collected just north of AST 2513-A with levels of naphthalene at 0.914 mg/kg (see Site Map 3 of the RA). The RA indicates that the contaminated soils were removed by excavation and clean soil was used to fill the area. After the excavation was complete, a confirmation sample (SPORT333-2) was collected on February 20, 1997 indicating that although levels of naphthalene had decreased, levels were still at 0.493 mg/kg, which is above the RBSLs.

1.3.2 TANK 2513-B:

On January 29, 1997 soil sample SPORT0304-2 was collected with levels of naphthalene at 0.426 mg/kg (See site Map 3 of the RA). The South Carolina Department of Health and Environmental Control (SCDHEC) letter dated October 24, 1997 indicates that the sample results for sample number SPORT0304-2 was elevated due to matrix interference. The letter also states that when detection limits are elevated and COCs are reported as zero or Below Detection Limits (BDL) it will be assumed that the chemical constituent is equal to the elevated detection limit. With this in consideration, limits for SPORT0304-2 are greater than the Risk Based Screening Levels (RBSLs). No active measures were taken at the time.

1.4 Corrective Actions

On February 28, 2001 SCDHEC approved the recommendations by CH2M-Jones, LLC to re-sample soils at both tanks (2513-A and 2513-B) in order to see if any contamination was at the sites. Section 1.5 describes in detail the methods and results of the sampling event.

1.5 Soil Analytical results- First Quarter 2001

1.5.1 TANK 2513-A

Soil samples were collected from the previous locations (SPORT0333-2) and approximately ten feet north, east, and west of that location. No sample was collected to the south due to the remaining foundation of the tank being at approximately two feet bls and groundwater being at three feet bls (see Figure 3-2 for details). For each boring collected two intervals were sampled. The first interval was taken from 0-1 Below Land Surface (bls) and the second interval was collected just above groundwater (2-3 ft bls). Samples were analyzed for VOCs and PAHs, one trip blank and one equipment blank were collected for quality assurance. Soil samples were analyzed by a certified laboratory (see Figure 3-2 for sample locations).

Laboratory analytical results for soil borings SB005 through SB008 are shown in Table 2.2.

All results from soil boring testing for the first quarter at 2513-A are below the detection limits except Soil Boring 513SB00702 and 513SB00802. Soil Boring 513SB00702 had concentrations of Benzene, naphthalene and other PAHs well above the RBSLs. And soil boring 513SB00802 showed levels of naphthalene by method 8270 above the RBSLs, while the naphthalene by method 8260 was below the RBSLs.

On April 23, 2001 CH2M-Jones, LLC took two additional soil samples in effort to further delineate the contaminated areas. Soil borings 513SB009 and 513SB010 were collected and sampled for VOCs and PAHs. For results of the analytical data see Table 2.3.

1.5.2 TANK 2513-B

Soil samples were collected from the previous locations (SPORT0304-2) and approximately ten feet north, east, and west of that location. No sample was collected to the south due to the remaining foundation of the tank (see Figure 2 for details). For each boring collected two intervals were sampled. The first interval was taken from 0-1 Below Land Surface (bls) and

the second interval was collected just above groundwater (2-3 ft bls). Samples were analyzed for VOCs and PAHs, one trip blank and one equipment blank were collected for quality assurance. Soil samples were analyzed by a certified laboratory (see Figure 3-2 for sample locations).

Laboratory analytical results for monitoring wells SB001-01 through SB004 are shown in Table 2.1.

All results from soil boring testing for the first quarter at Tank 2513-B are below the detection limit.

1.6 Excavation

On June 7, 2001 CH2M-Jones, LLC removed the delineated soils located adjacent to the former AST 2513-A, as stated in the SCDHEC approval letter. The soils had previously been delineated both laterally and horizontally. The contaminated area was approximately 15 feet by six feet and 3.5 feet deep. An approximate total of 15 yards was removed and disposed of off site (see Attachment A).

Excavation began on April 23, 2001 and was completed in one day. One roll off dumpster (20 yards) was filled to approximately 75% of its capacity (15 yards) and sent to a certified land-fill. As requested by SCDHEC, two confirmation samples were collected (see Figure 3-3) and sampled for both VOCs and PAHs. For analytical results of the confirmation sampling see Table 2.3. A total of 20 yards was used to fill the excavation using clean fill.

1.7 Conclusion

1.7.1 Tank A

Because the soils at the former AST 2513-A (SCDHEC No: 00960) was removed and no COCs have been detected in groundwater, CH2M-Jones, LLC recommends a No Further Action for this site. Upon receiving No Further Action for this site, CH2M-Jones, LLC recommends monitoring well abandonment for all wells onsite.

1.7.2 Tank B

The first quarter 2001 results indicate that there are no Contaminates of Concern (COC) at site 2513 for Tank 2513-B. CH2M-Jones, LLC recommends No Further Action for Zone K, Building 2513 Tank 2513 B (SCDHEC No: 00960). Upon receiving No Further Action for this site, CH2M-Jones, LLC recommends monitoring well abandonment for all wells onsite.

TABLES

Table 2.1
Summary of Soil Laboratory Analyses
First Quarter 2001
Building 2513, Charleston Naval Complex
North Charleston, South Carolina

TANK A

Parameter	SB00501	SB00502	SB00601	SB00602	SB00701	SB00702	SB00801	SB00802
Benzene	1.2	1.3	1.1	1.0	1.2	**1130**	2.1	1.0
Toluene	1.2	1.3	1.1	0.76	1.2	1130	0.63	1.0
E- Benzene	1.2	1.3	1.1	1.3	1.2	1130	1.1	21.1
Xylene	1.2	1.3	1.1	1.3	1.2	1130	1.1	1.0
Naphthalene	1.2	0.51	1.1	0.40	1.2	**4710**	1.1	15.8
PAHs	Below RBSLs	Below RBSLs	Below RBSLs	Below RBSLs	Below RBSLs	**Above RBSLs**	Below RBSLs	**Above RBSLs (nap @ 222.0)**

All results in ug/kg.

Table 2.2
Summary of Soil Laboratory Analyses
First Quarter 2001
Building 2513, Charleston Naval Complex
North Charleston, South Carolina

TANK B

Parameter	SB00101	SB00102	SB00201	SB00202	SB00301	SB00302	SB00401	SB00402
Benzene	1.7	1.4	1.8	1.2	0.65	1.2	1.2	1.2
Toluene	0.92	0.78	1.8	1.2	1.2	1.2	1.2	1.2
E- Benzene	1.1	1.3	1.8	1.2	1.2	1.2	1.2	1.2
Xylene	1.1	1.3	1.8	1.2	1.2	1.2	1.2	1.2
Naphthalene	0.82	1.1	1.1	1.2	1.2	0.52	0.49	0.36
PAHs	Below RBSLs	Below RBSLs	Below RBSLs	Below RBSLs	Below RBSLs	Below RBSLs	Below RBSLs	Below RBSLs

All results in ug/kg.

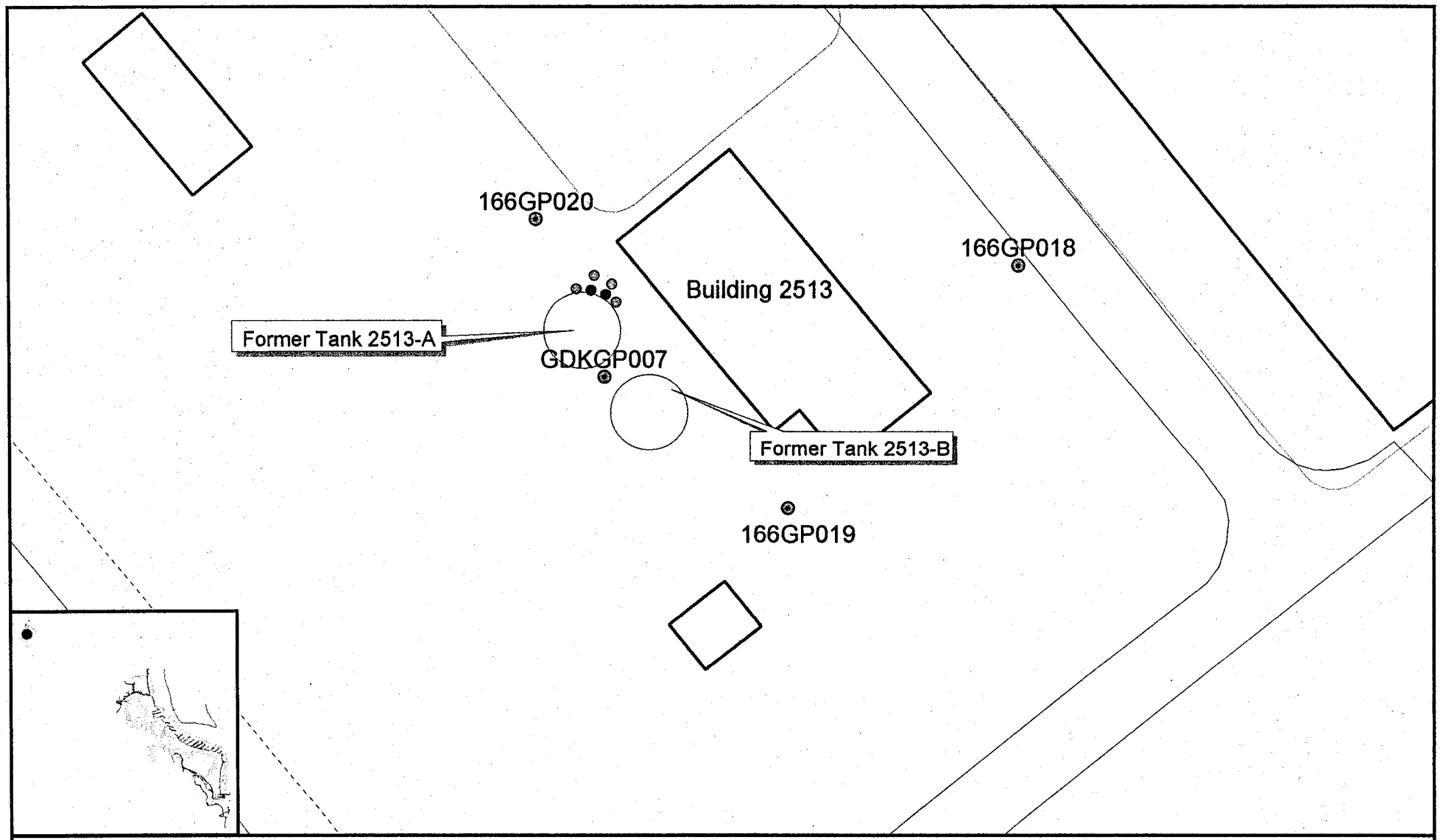
Table 2.3
Summary of Soil Laboratory Analyses
Delineation Sampling 2001
Building 2513, Charleston Naval Complex
North Charleston, South Carolina

TANK B

Parameter	SB00902	SB01002
Benzene	Below RBSLs	Below RBSLs
Toluene	Below RBSLs	Below RBSLs
E- Benzene	Below RBSLs	Below RBSLs
Xylene	Below RBSLs	Below RBSLs
Naphthalene	Below RBSLs	Below RBSLs
PAHs	Below RBSLs	Below RBSLs

All results in ug/kg.

FIGURES



Groundwater Probe
"Clean " Soil Samples
"Hot Soil Samples
Descreate Soil Samples
Fence
Railroads
Roads - Lines
Bridges
Surrounding Area
Shoreline
AOC Boundary
SWMU Boundary
Buildings
Zone Boundary

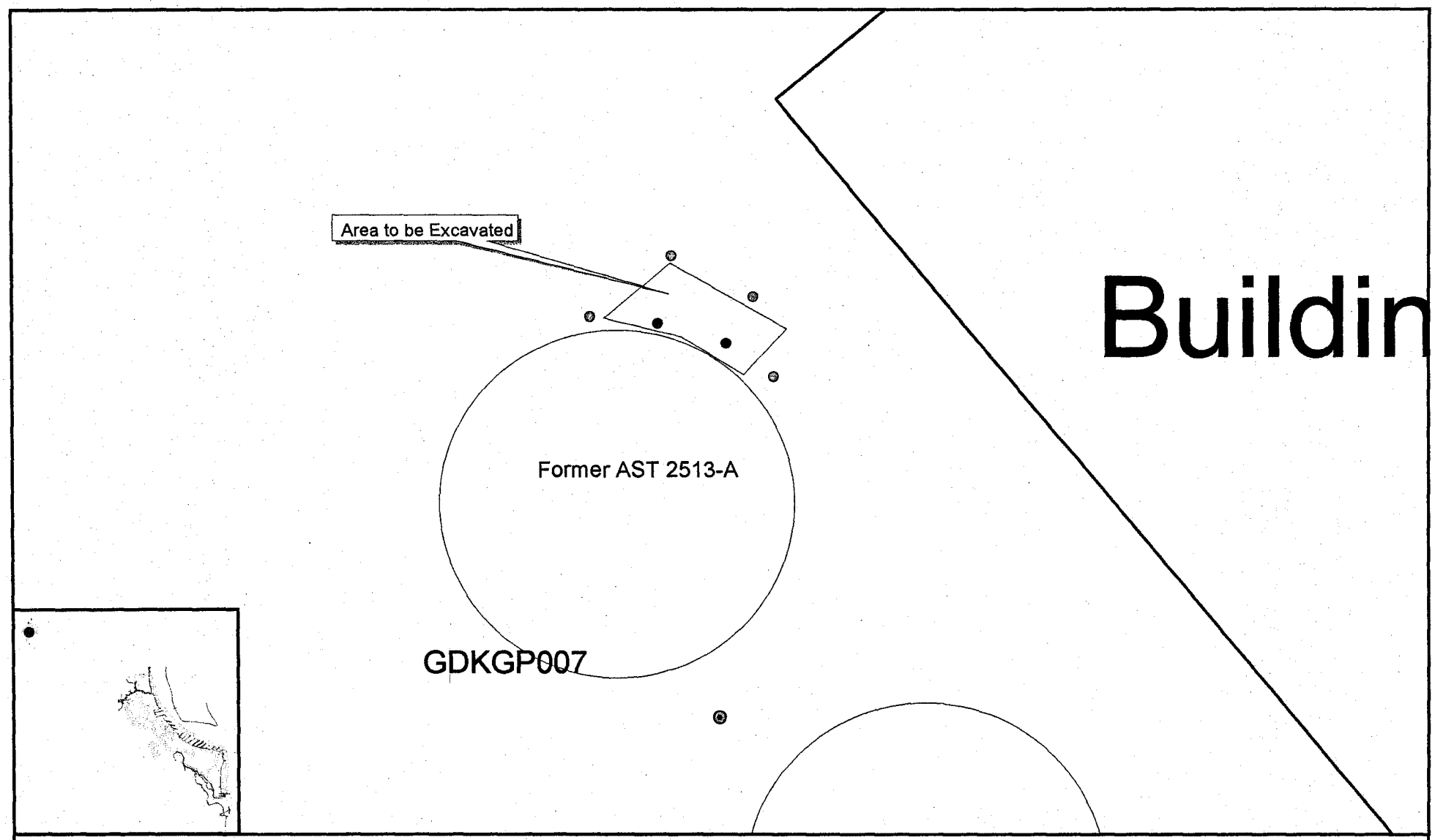
N

0 30 60 Feet

Figure 1-1
Sample Locations
Zone K 2513 A-B
Charleston Naval Complex

CH2MHILL

File Path: C:\18gis\CNC\cnc-egis.apr, Date: 20 Apr 2001 11:23, Unknown User



- Groundwater Probe
- "Clean " Soil Samples
- "Hot Soil Samples
- Descreate Soil Samples

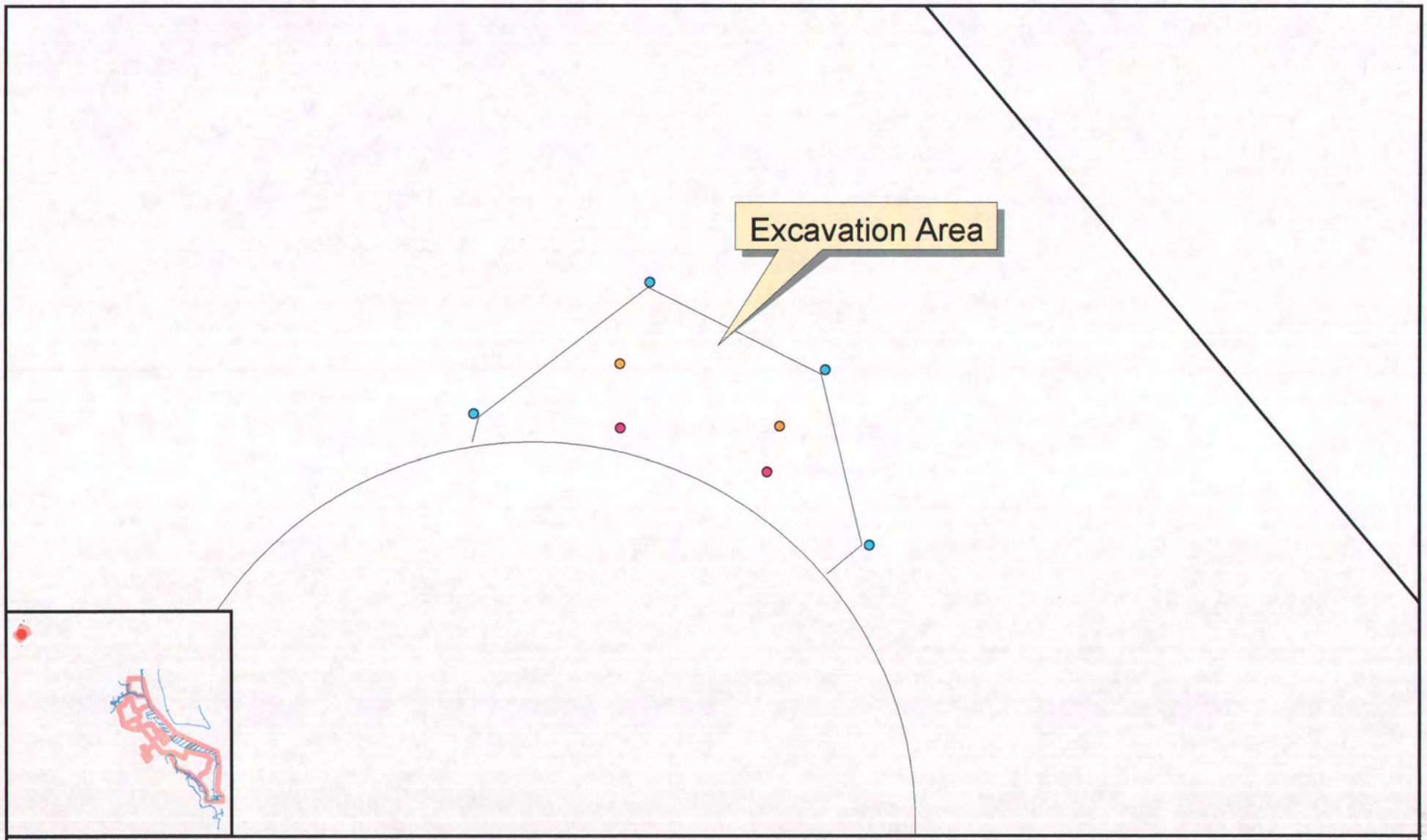
N

0 7 14 Feet

Figure 1-2
Excavation Area
Zone K; 2513 A-B
Charleston Naval Complex

CH2MHILL

File Path: c:\my documents\2513.apr, Date: 20 Apr 2001 11:31, Unknown User



Groundwater Probe
"Clean " Soil Samples
"Hot Soil Samples
Confirmation Sample
Fence
Railroads
Roads - Lines
Bridges
Surrounding Area
Shoreline
AOC Boundary
SWMU Boundary
Buildings
Zone Boundary

N

0 3 6 Feet

Figure 1-3
Zone K
2513-A
Charleston Naval Complex

CH2MHILL

File Path: c:\my documents\2513.apr, Date: 05 Jul 2001 14:04, Unknown User

FIELD NOTES

Field Notes

Wednesday 3-21-01

CB & BC onsite at 0830 to sample/ delineate soils at 2513 Tanks A and B. Sampling for Naphthalene, BTEX, and PAHs as described in the Corrective Action Plan.

Weather: Cloudy and ~ 50°

Objective: To sample and delineate soils at both Tanks A & B. Soil Borings will be sampled in two intervals (one sub-surface and one surface).

SB001

Started hand augering @ 0830.
0-1 soils, gravel and organics, grass ect. No odor. Sample Time 0845.
2-3 Soils dark, clay-sand no odor. Sample time: 0900
Hit Groundwater at 3.0 feet bls

SB002

Started Hand Augering at 0900
0-1 Soils organics, no odor- Dark grey sand. Sample Time: 0905
2-3 Soils same as 2-3 feet at SB001. Sample Time : 0910.

SB003

0-1 Soils gravel, organics, dark soil sandy clay. No odor. Sample Time: 0915

- Collected MS/ MSD at 0915 from 0-1 feet.

2-3 Soils dark sandy soil, no odor. Sample Time: 0925.

SB004

0-1 Soils Dark sandy-clay, rocks, gravel organics. No odor. Sample Time: 0940
2-3 Soils Dark sandy clay . no odor. Sample Time: 0945

SB005

0-1 Soils gravel, organics, sandy clay and dark. No odor. Smaple Time: 0950
2-3 Soils sandy clay. No odor. Sample time: 0955

SB006

0-1 Soils Gravel, organics, Dark sandy soils. No odor. Sample Tiome: 1005
2-3 Soils dark, No odor. Sandy (lots of organics) Sample Time: 1010

SB007

0-1 Soils gravel, organics dark soils . No odor. Sample Time: 1011
2-3 Soils dark, faint odor! Sample time: 1015

SB008

0-1 Organics, Gravel, ect. Dark sandy soil. No odor. Sample Time:1025
2-3 Soil dark and sandy. Faint odor. Sample Time: 1035

Equipment Blank collected at 1040.

CB and BC offsite at 1050.

Thursday April 23, 2001

CB & BC onsite at 1000 to sample/ delineate soils at 2513 Tanks A and B. Sampling for Naphthalene, BTEX, and PAHs as described in the Corrective Action Plan. Sampling SBs 09 and 10.

Weather: Cloudy and ~ 70°

Objective: To sample and delineate soils at both Tanks A & B.

SB009

Started hand augering @ 1015.
Sample collected at 3.0 ft Sample Time= 1030

SB010

Started Hand Augering at 1040
Sample collected at 3.0 feet . Sample Time = 1050
Equipment Blank collected at 1105.

1110 offsite.

ANALYTICAL RESULTS

Chain of Custody/ Laboratory Analysis Form

39523

Lab Batch/SDG ID: _____

Laboratory:	GEL, Charleston, SC
Project Name:	Charleston Navy Complex
Site Name:	Zone K, 2513 A&B
Project Number:	158814.PM.04
TAT:	Pkg. 21day
Project Managers:	Gary Foster/ATL/CCI
Level:	Level 3
Address:	GNV: see 3rd page of COC
	JAJ: see 3rd page of COC
Send Report To:	see 3rd page of COC
EDD:	CNC format

	Sample ID	Station ID	Depth Begin	Depth End	Date & Time Collected	Matrix	# of containers	SW8260 (VOCs) * (3 - 5g Encore)	SW8270 (PAHs) * (1 - 8 oz. Jar)	SW8260 (VOCs) * (3 - 40mL VOC, HCl)	SW8270 (PAHs) * (2 - 1L amber)						Comments
001	513SB00101	K513SB001	0	1	3-21-01 0845	SO	4	X	X								
002	513SB00102	K513SB001	3	5	3-21-01 0900	SO	4	X	X								
003	513SB00201	K513SB002	0	1	3-21-01 0905	SO	4	X	X								
	~~513SB00201~~	~~K513SB002~~	~~3~~	~~5~~	~~3-21-01~~	~~SO~~		~~X~~	~~X~~								Not Sampled
004	513SB00202	K513SB002	3	5	3-21-01 0910	SO	4	X	X								
005	513SB00301	K513SB003	0	1	3-21-01 0915	SO	4	X	X								
	513SB00301MS	K513SB003	0	1	3-21-01 0915	SO	4	X	X								MS
	513SB00301SD	K513SB003	0	1	3-21-01 0915	SO	4	X	X								MSD
006	513SB00302	K513SB003	3	5	3-21-01 0925	SO	4	X	X								* 7 day turnaround
007	513SB00401	K513SB004	0	1	3-21-01 0940	SO	4	X	X								on all samples *
008	513SB00402	K513SB004	3	5	3-21-01 0945	SO	4	X	X								
009	513SB00501	K513SB005	0	1	3-21-01 0950	SO	4	X	X								
010	513SB00502	K513SB005	3	5	3-21-01 0955	SO	4	X	X								
011	513SB00601	K513SB006	0	1	3-21-01 1005	SO	4	X	X								
012	513SB00602	K513SB006	3	5	3-21-01 1010	SO	4	X	X								
	~~513SB00602~~	~~K513SB006~~	~~3~~	~~5~~		~~SO~~		~~X~~	~~X~~								Not Sampled
013	513SB00701	K513SB007	0	1	3-21-01 1011	SO	4	X	X								
014	513SB00702	K513SB007	3	5	3-21-01 1015	SO	4	X	X								
015	513SB00801	K513SB008	0	1	3-21-01 1025	SO	4	X	X								
016	513SB00802	K513SB008	3	5	3-21-01 1035	SO	4	X	X								
	~~513SB00901~~	~~K513SB009~~	~~0~~	~~1~~		~~SO~~											Not Sampled

Sampled By: BC Date/Time: 1630 Relinquished by: _____ Date/Time: _____

Additional Samplers: _____

Received By Lab: Eleanor M Cuthbertson Date/Time: 03/21/01 1630 Relinquished by: _____ Date/Time: _____

Received By: _____ Date/Time: _____ Shipped Via: UPS FedEx Hand Other _____

Remarks: * VOC & PAH list on 3rd page of COC. Temperature: _____

20010321024

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39523001
Sample Location:
Sample Date: 21-MAR-2001
Sample Matrix: SOIL
Analysis Type: VOA
Data Type: MS DATA
Misc Info: |VOA8260BSF| CH2M neat 5.5gm

Client SDG: 39523
Client Smp ID: 513SB00101
Sample Point:
Date Received: 21-MAR-2001
Quant Type: ISTD
Level: LOW
Operator: RMB

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg	Q
91-20-3	Naphthalene	0.82	J
71-43-2	Benzene	1.7	
108-88-3	Toluene	0.92	J
	m,p-Xylenes	2.2	U
95-47-6	o-Xylene	1.1	U
100-41-4	Ethylbenzene	1.1	U
460-00-4	Bromofluorobenzene	59.7	
2037-26-5	Toluene-d8	53.2	
1868-53-7	Dibromofluoromethane	50.1	

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39523001
Sample Location: 70172
Sample Date: 21-MAR-2001
Sample Matrix: Soil
Analysis Type: SV
Data Type: MS DATA
Misc Info: |MSD8270_SF|WB010314-01

Client SDG: 39523
Client Smp ID: 513SB00101
Sample Point: CH2M
Date Received: 21-MAR-2001
Quant Type: ISTD
Level: LOW
Operator: KGB1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg	Q
83-32-9	Acenaphthene	51.7	
129-00-0	Pyrene	528	
91-20-3	Naphthalene	45.0	
208-96-8	Acenaphthylene	40.0	U
86-73-7	Fluorene	40.0	U
85-01-8	Phenanthrene	352	
120-12-7	Anthracene	92.3	
206-44-0	Fluoranthene	657	
56-55-3	Benzo(a)anthracene	382	
218-01-9	Chrysene	401	
205-99-2	Benzo(b)fluoranthene	449	
207-08-9	Benzo(k)fluoranthene	356	
50-32-8	Benzo(a)pyrene	396	
193-39-5	Indeno(1,2,3-cd)pyrene	198	
53-70-3	Dibenzo(a,h)anthracene	40.0	U
191-24-2	Benzo(ghi)perylene	197	
4165-60-0	Nitrobenzene-d5	1270	
321-60-8	2-Fluorobiphenyl	1220	
1718-51-0	p-Terphenyl-d14	1520	

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39523002
Sample Location:
Sample Date: 21-MAR-2001
Sample Matrix: SOIL
Analysis Type: VOA
Data Type: MS DATA
Misc Info: |VOA8260BSF| CH2M neat 5.0gm

Client SDG: 39523
Client Smp ID: 513SB00102
Sample Point:
Date Received: 21-MAR-2001
Quant Type: ISTD
Level: LOW
Operator: RMB

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg	Q
91-20-3	Naphthalene	1.1	J
71-43-2	Benzene	1.4	
108-88-3	Toluene	0.78	J
	m,p-Xylenes	2.6	U
95-47-6	o-Xylene	1.3	U
100-41-4	Ethylbenzene	1.3	U
460-00-4	Bromofluorobenzene	80.5	
2037-26-5	Toluene-d8	59.4	
1868-53-7	Dibromofluoromethane	60.1	

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39523002
Sample Location: 70172
Sample Date: 21-MAR-2001
Sample Matrix: Soil
Analysis Type: SV
Data Type: MS DATA
Misc Info: |MSD8270_SF|WB010314-01

Client SDG: 39523
Client Smp ID: 513SB00102
Sample Point: CH2M
Date Received: 21-MAR-2001
Quant Type: ISTD
Level: LOW
Operator: KGB1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg	Q
83-32-9	Acenaphthene	43.1	U
129-00-0	Pyrene	43.1	U
91-20-3	Naphthalene	43.1	U
208-96-8	Acenaphthylene	43.1	U
86-73-7	Fluorene	43.1	U
85-01-8	Phenanthrene	43.1	U
120-12-7	Anthracene	43.1	U
206-44-0	Fluoranthene	30.5	J
56-55-3	Benzo(a)anthracene	43.1	U
218-01-9	Chrysene	43.1	U
205-99-2	Benzo(b)fluoranthene	43.1	U
207-08-9	Benzo(k)fluoranthene	43.1	U
50-32-8	Benzo(a)pyrene	43.1	U
193-39-5	Indeno(1,2,3-cd)pyrene	43.1	U
53-70-3	Dibenzo(a,h)anthracene	43.1	U
191-24-2	Benzo(ghi)perylene	43.1	U
4165-60-0	Nitrobenzene-d5	1490	
321-60-8	2-Fluorobiphenyl	1600	
1718-51-0	p-Terphenyl-d14	1910	

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39523003
Sample Location:
Sample Date: 21-MAR-2001
Sample Matrix: SOIL
Analysis Type: VOA
Data Type: MS DATA
Misc Info: |VOA8260BSF| CH2M neat 4.1gm

Client SDG: 39523
Client Smp ID: 513SB00201
Sample Point:
Date Received: 21-MAR-2001
Quant Type: ISTD
Level: LOW
Operator: RMB

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg	Q
91-20-3	Naphthalene	1.1	J
71-43-2	Benzene	1.8	U
108-88-3	Toluene	1.8	U
	m,p-Xylenes	3.5	U
95-47-6	o-Xylene	1.8	U
100-41-4	Ethylbenzene	1.8	U
460-00-4	Bromofluorobenzene	104	
2037-26-5	Toluene-d8	95.1	
1868-53-7	Dibromofluoromethane	85.5	

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39523003
Sample Location: 70172
Sample Date: 21-MAR-2001
Sample Matrix: Soil
Analysis Type: SV
Data Type: MS DATA
Misc Info: |MSD8270_SF|WB010314-01

Client SDG: 39523
Client Smp ID: 513SB00201
Sample Point: CH2M
Date Received: 21-MAR-2001
Quant Type: ISTD
Level: LOW
Operator: KGB1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg	Q
83-32-9	Acenaphthene	482	U
129-00-0	Pyrene	482	U
91-20-3	Naphthalene	482	U
208-96-8	Acenaphthylene	482	U
86-73-7	Fluorene	482	U
85-01-8	Phenanthrene	482	U
120-12-7	Anthracene	482	U
206-44-0	Fluoranthene	482	U
56-55-3	Benzo(a)anthracene	482	U
218-01-9	Chrysene	482	U
205-99-2	Benzo(b)fluoranthene	482	U
207-08-9	Benzo(k)fluoranthene	482	U
50-32-8	Benzo(a)pyrene	482	U
193-39-5	Indeno(1,2,3-cd)pyrene	482	U
53-70-3	Dibenzo(a,h)anthracene	482	U
191-24-2	Benzo(ghi)perylene	482	U
4165-60-0	Nitrobenzene-d5	467	
321-60-8	2-Fluorobiphenyl	1480	
1718-51-0	p-Terphenyl-d14	1750	

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39523004
Sample Location:
Sample Date: 21-MAR-2001
Sample Matrix: Soil
Analysis Type: VOA
Data Type: MS DATA
Misc Info: |VOA8260BSF| CH2M neat 5.1gm

Client SDG: 39523
Client Smp ID: 513SB00202
Sample Point:
Date Received: 21-MAR-2001
Quant Type: ISTD
Level: LOW
Operator: RMB

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg	Q
91-20-3	Naphthalene	1.2	U
71-43-2	Benzene	1.2	U
108-88-3	Toluene	1.2	U
	m,p-Xylenes	2.4	U
95-47-6	o-Xylene	1.2	U
100-41-4	Ethylbenzene	1.2	U
460-00-4	Bromofluorobenzene	147	
2037-26-5	Toluene-d8	57.3	
1868-53-7	Dibromofluoromethane	55.1	

LAST INTERNAL LOW

PASSES IN METHANOL RUN (1C408)

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39523004
Sample Location: 70172
Sample Date: 21-MAR-2001
Sample Matrix: Soil
Analysis Type: SV
Data Type: MS DATA
Misc Info: |MSD8270_SF|WB010314-01

Client SDG: 39523
Client Smp ID: 513SB00202
Sample Point: CH2M
Date Received: 21-MAR-2001
Quant Type: ISTD
Level: LOW
Operator: KGB1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg	Q
83-32-9	Acenaphthene	39.5	U
129-00-0	Pyrene	39.5	U
91-20-3	Naphthalene	39.5	U
208-96-8	Acenaphthylene	39.5	U
86-73-7	Fluorene	39.5	U
85-01-8	Phenanthrene	39.5	U
120-12-7	Anthracene	39.5	U
206-44-0	Fluoranthene	39.5	U
56-55-3	Benzo(a)anthracene	39.5	U
218-01-9	Chrysene	39.5	U
205-99-2	Benzo(b)fluoranthene	39.5	U
207-08-9	Benzo(k)fluoranthene	39.5	U
50-32-8	Benzo(a)pyrene	39.5	U
193-39-5	Indeno(1,2,3-cd)pyrene	39.5	U
53-70-3	Dibenzo(a,h)anthracene	39.5	U
191-24-2	Benzo(ghi)perylene	39.5	U
4165-60-0	Nitrobenzene-d5	1390	
321-60-8	2-Fluorobiphenyl	1540	
1718-51-0	p-Terphenyl-d14	1650	

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39523004
Sample Location:
Sample Date: 21-MAR-2001
Sample Matrix: SOIL
Analysis Type: VOA
Data Type: MS DATA
Misc Info: |VOA8260BSF| CH2M 50x 5.1gm/10ml->100ul/5ml

Client SDG: 39523
Client Smp ID: 513SB00202DL
Sample Point:
Date Received: 21-MAR-2001
Quant Type: ISTD
Level: MED
Operator: RMB

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg	Q
91-20-3	Naphthalene	116	U
71-43-2	Benzene	116	U
108-88-3	Toluene	116	U
	m,p-Xylenes	232	U
95-47-6	o-Xylene	116	U
100-41-4	Ethylbenzene	116	U
460-00-4	Bromofluorobenzene	4590	
2037-26-5	Toluene-d8	4170	
1868-53-7	Dibromofluoromethane	4000	

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39523005
Sample Location:
Sample Date: 21-MAR-2001
Sample Matrix: Soil
Analysis Type: VOA
Data Type: MS DATA
Misc Info: |VOA8260BSF| CH2M neat 5.2gm

Client SDG: 39523
Client Smp ID: 513SB00301
Sample Point:
Date Received: 21-MAR-2001
Quant Type: ISTD
Level: LOW
Operator: RMB

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg	Q
91-20-3	Naphthalene	1.2	
71-43-2	Benzene	0.65	J
108-88-3	Toluene	1.2	U
	m,p-Xylenes	2.4	U
95-47-6	o-Xylene	1.2	U
100-41-4	Ethylbenzene	1.2	U
460-00-4	Bromofluorobenzene	65.3	
2037-26-5	Toluene-d8	59.5	
1868-53-7	Dibromofluoromethane	53.4	

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39523005
Sample Location: 70172
Sample Date: 21-MAR-2001
Sample Matrix: Soil
Analysis Type: SV
Data Type: MS DATA
Misc Info: |MSD8270_SF|WB010314-01

Client SDG: 39523
Client Smp ID: 513SB00301
Sample Point: CH2M
Date Received: 21-MAR-2001
Quant Type: ISTD
Level: LOW
Operator: KGB1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg	Q
83-32-9	Acenaphthene	40.0	U
129-00-0	Pyrene	40.0	U
91-20-3	Naphthalene	40.0	U
208-96-8	Acenaphthylene	40.0	U
86-73-7	Fluorene	40.0	U
85-01-8	Phenanthrene	40.0	U
120-12-7	Anthracene	40.0	U
206-44-0	Fluoranthene	40.0	U
56-55-3	Benzo(a)anthracene	40.0	U
218-01-9	Chrysene	40.0	U
205-99-2	Benzo(b)fluoranthene	40.0	U
207-08-9	Benzo(k)fluoranthene	40.0	U
50-32-8	Benzo(a)pyrene	40.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	40.0	U
53-70-3	Dibenzo(a,h)anthracene	40.0	U
191-24-2	Benzo(ghi)perylene	40.0	U
4165-60-0	Nitrobenzene-d5	1360	
321-60-8	2-Fluorobiphenyl	1420	
1718-51-0	p-Terphenyl-d14	1710	

Data File: /chem/VOA1.i/032801v1.b/1c307.d
Report Date: 28-Mar-2001 12:42

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39523006
Sample Location:
Sample Date: 21-MAR-2001
Sample Matrix: SOIL
Analysis Type: VOA
Data Type: MS DATA
Misc Info: |VOA8260BSF| CH2M neat 5.0gm

Client SDG: 39523
Client Smp ID: 513SB00302
Sample Point:
Date Received: 21-MAR-2001
Quant Type: ISTD
Level: LOW
Operator: RMB

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg	Q
91-20-3	Naphthalene	0.52	J
71-43-2	Benzene	1.2	U
108-88-3	Toluene	1.2	U
	m,p-Xylenes	2.4	U
95-47-6	o-Xylene	1.2	U
100-41-4	Ethylbenzene	1.2	U
460-00-4	Bromofluorobenzene	55.1	
2037-26-5	Toluene-d8	54.0	
1868-53-7	Dibromofluoromethane	52.7	

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39523006
Sample Location: 70172
Sample Date: 21-MAR-2001
Sample Matrix: Soil
Analysis Type: SV
Data Type: MS DATA
Misc Info: |MSD8270_SF|WB010314-01

Client SDG: 39523
Client Smp ID: 513SB00302
Sample Point: CH2M
Date Received: 21-MAR-2001
Quant Type: ISTD
Level: LOW
Operator: KGB1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg	Q
83-32-9	Acenaphthene	40.7	U
129-00-0	Pyrene	40.7	U
91-20-3	Naphthalene	40.7	U
208-96-8	Acenaphthylene	40.7	U
86-73-7	Fluorene	40.7	U
85-01-8	Phenanthrene	40.7	U
120-12-7	Anthracene	40.7	U
206-44-0	Fluoranthene	40.7	U
56-55-3	Benzo(a)anthracene	40.7	U
218-01-9	Chrysene	40.7	U
205-99-2	Benzo(b)fluoranthene	40.7	U
207-08-9	Benzo(k)fluoranthene	40.7	U
50-32-8	Benzo(a)pyrene	40.7	U
193-39-5	Indeno(1,2,3-cd)pyrene	40.7	U
53-70-3	Dibenzo(a,h)anthracene	40.7	U
191-24-2	Benzo(ghi)perylene	40.7	U
4165-60-0	Nitrobenzene-d5	1230	
321-60-8	2-Fluorobiphenyl	1330	
1718-51-0	p-Terphenyl-d14	1530	

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39523007
Sample Location:
Sample Date: 21-MAR-2001
Sample Matrix: SOIL
Analysis Type: VOA
Data Type: MS DATA
Misc Info: |VOA8260BSF| CH2M neat 5.1gm

Client SDG: 39523
Client Smp ID: 513SB00401
Sample Point:
Date Received: 21-MAR-2001
Quant Type: ISTD
Level: LOW
Operator: RMB

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg	Q
91-20-3	Naphthalene	0.49	J
71-43-2	Benzene	1.2	U
108-88-3	Toluene	1.2	U
	m,p-Xylenes	2.4	U
95-47-6	o-Xylene	1.2	U
100-41-4	Ethylbenzene	1.2	U
460-00-4	Bromofluorobenzene	53.5	
2037-26-5	Toluene-d8	52.4	
1868-53-7	Dibromofluoromethane	52.3	

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39523007
Sample Location: 70172
Sample Date: 21-MAR-2001
Sample Matrix: Soil
Analysis Type: SV
Data Type: MS DATA
Misc Info: |MSD8270_SF|WB010314-01

Client SDG: 39523
Client Smp ID: 513SB00401
Sample Point: CH2M
Date Received: 21-MAR-2001
Quant Type: ISTD
Level: LOW
Operator: KGB1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg	Q
83-32-9	Acenaphthene	161	U
129-00-0	Pyrene	161	U
91-20-3	Naphthalene	161	U
208-96-8	Acenaphthylene	161	U
86-73-7	Fluorene	161	U
85-01-8	Phenanthrene	161	U
120-12-7	Anthracene	161	U
206-44-0	Fluoranthene	161	U
56-55-3	Benzo(a)anthracene	161	U
218-01-9	Chrysene	161	U
205-99-2	Benzo(b)fluoranthene	161	U
207-08-9	Benzo(k)fluoranthene	161	U
50-32-8	Benzo(a)pyrene	161	U
193-39-5	Indeno(1,2,3-cd)pyrene	161	U
53-70-3	Dibenzo(a,h)anthracene	161	U
191-24-2	Benzo(ghi)perylene	161	U
4165-60-0	Nitrobenzene-d5	1200	
321-60-8	2-Fluorobiphenyl	1420	
1718-51-0	p-Terphenyl-d14	1490	

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39523008
Sample Location:
Sample Date: 21-MAR-2001
Sample Matrix: SOIL
Analysis Type: VOA
Data Type: MS DATA
Misc Info: |VOA8260BSF| CH2M neat 5.0gm

Client SDG: 39523
Client Smp ID: 513SB00402
Sample Point:
Date Received: 21-MAR-2001
Quant Type: ISTD
Level: LOW
Operator: RMB

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg	Q
91-20-3	Naphthalene	0.36	J
71-43-2	Benzene	1.2	U
108-88-3	Toluene	1.2	U
	m,p-Xylenes	2.5	U
95-47-6	o-Xylene	1.2	U
100-41-4	Ethylbenzene	1.2	U
460-00-4	Bromofluorobenzene	74.5	
2037-26-5	Toluene-d8	57.2	
1868-53-7	Dibromofluoromethane	54.2	

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39523008
Sample Location: 70172
Sample Date: 21-MAR-2001
Sample Matrix: Soil
Analysis Type: SV
Data Type: MS DATA
Misc Info: |MSD8270_SF|WE010314-01

Client SDG: 39523
Client Smp ID: 513SB00402
Sample Point: CH2M
Date Received: 21-MAR-2001
Quant Type: ISTD
Level: LOW
Operator: KGB1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg	Q
83-32-9	Acenaphthene	41.1	U
129-00-0	Pyrene	41.1	U
91-20-3	Naphthalene	41.1	U
208-96-8	Acenaphthylene	41.1	U
86-73-7	Fluorene	41.1	U
85-01-8	Phenanthrene	41.1	U
120-12-7	Anthracene	41.1	U
206-44-0	Fluoranthene	41.1	U
56-55-3	Benzo(a)anthracene	41.1	U
218-01-9	Chrysene	41.1	U
205-99-2	Benzo(b)fluoranthene	41.1	U
207-08-9	Benzo(k)fluoranthene	41.1	U
50-32-8	Benzo(a)pyrene	41.1	U
193-39-5	Indeno(1,2,3-cd)pyrene	41.1	U
53-70-3	Dibenzo(a,h)anthracene	41.1	U
191-24-2	Benzo(ghi)perylene	41.1	U
4165-60-0	Nitrobenzene-d5	1320	
321-60-8	2-Fluorobiphenyl	1380	
1718-51-0	p-Terphenyl-d14	1910	

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39523009
Sample Location:
Sample Date: 21-MAR-2001
Sample Matrix: SOIL
Analysis Type: VOA
Data Type: MS DATA
Misc Info: |VOA8260BSF| CH2M neat 5.0gm

Client SDG: 39523
Client Smp ID: 513SB00501
Sample Point:
Date Received: 21-MAR-2001
Quant Type: ISTD
Level: LOW
Operator: RMB

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg	Q
91-20-3	Naphthalene	1.2	U
71-43-2	Benzene	1.2	U
108-88-3	Toluene	1.2	U
	m,p-Xylenes	2.3	U
95-47-6	o-Xylene	1.2	U
100-41-4	Ethylbenzene	1.2	U
460-00-4	Bromofluorobenzene	54.0	
2037-26-5	Toluene-d8	52.3	
1868-53-7	Dibromofluoromethane	50.2	

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39523009
Sample Location: 70172
Sample Date: 21-MAR-2001
Sample Matrix: Soil
Analysis Type: SV
Data Type: MS DATA
Misc Info: |MSD8270_SF|WB010314-01

Client SDG: 39523
Client Smp ID: 513SB00501
Sample Point: CH2M
Date Received: 21-MAR-2001
Quant Type: ISTD
Level: LOW
Operator: KGB1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg	Q
83-32-9	Acenaphthene	38.6	U
129-00-0	Pyrene	38.6	U
91-20-3	Naphthalene	38.6	U
208-96-8	Acenaphthylene	38.6	U
86-73-7	Fluorene	38.6	U
85-01-8	Phenanthrene	38.6	U
120-12-7	Anthracene	38.6	U
206-44-0	Fluoranthene	38.6	U
56-55-3	Benzo(a)anthracene	38.6	U
218-01-9	Chrysene	38.6	U
205-99-2	Benzo(b)fluoranthene	38.6	U
207-08-9	Benzo(k)fluoranthene	38.6	U
50-32-8	Benzo(a)pyrene	38.6	U
193-39-5	Indeno(1,2,3-cd)pyrene	38.6	U
53-70-3	Dibenzo(a,h)anthracene	38.6	U
191-24-2	Benzo(ghi)perylene	38.6	U
4165-60-0	Nitrobenzene-d5	1220	
321-60-8	2-Fluorobiphenyl	1340	
1718-51-0	p-Terphenyl-d14	1610	

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39523010
Sample Location:
Sample Date: 21-MAR-2001
Sample Matrix: SOIL
Analysis Type: VOA
Data Type: MS DATA
Misc Info: |VOA8260BSF| CH2M neat 4.5gm

Client SDG: 39523
Client Smp ID: 513SB00502
Sample Point:
Date Received: 21-MAR-2001
Quant Type: ISTD
Level: LOW
Operator: RMB

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg	Q
91-20-3	Naphthalene	0.51	J
71-43-2	Benzene	1.3	U
108-88-3	Toluene	1.3	U
	m,p-Xylenes	2.6	U
95-47-6	o-Xylene	1.3	U
100-41-4	Ethylbenzene	1.3	U
460-00-4	Bromofluorobenzene	59.8	
2037-26-5	Toluene-d8	57.6	
1868-53-7	Dibromofluoromethane	56.4	

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39523010
Sample Location: 70172
Sample Date: 21-MAR-2001
Sample Matrix: Soil
Analysis Type: SV
Data Type: MS DATA
Misc Info: |MSD8270_SF|WB010314-01

Client SDG: 39523
Client Smp ID: 513SB00502
Sample Point: CH2M
Date Received: 21-MAR-2001
Quant Type: ISTD
Level: LOW
Operator: KGB1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg	Q
83-32-9	Acenaphthene	38.7	U
129-00-0	Pyrene	38.7	U
91-20-3	Naphthalene	38.7	U
208-96-8	Acenaphthylene	38.7	U
86-73-7	Fluorene	38.7	U
85-01-8	Phenanthrene	38.7	U
120-12-7	Anthracene	38.7	U
206-44-0	Fluoranthene	38.7	U
56-55-3	Benzo(a)anthracene	38.7	U
218-01-9	Chrysene	38.7	U
205-99-2	Benzo(b)fluoranthene	38.7	U
207-08-9	Benzo(k)fluoranthene	38.7	U
50-32-8	Benzo(a)pyrene	38.7	U
193-39-5	Indeno(1,2,3-cd)pyrene	38.7	U
53-70-3	Dibenzo(a,h)anthracene	38.7	U
191-24-2	Benzo(ghi)perylene	38.7	U
4165-60-0	Nitrobenzene-d5	1280	
321-60-8	2-Fluorobiphenyl	1410	
1718-51-0	p-Terphenyl-d14	1880	

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39523011
Sample Location:
Sample Date: 21-MAR-2001
Sample Matrix: SOIL
Analysis Type: VOA
Data Type: MS DATA
Misc Info: |VOA8260BSF| CH2M neat 5.2gm

Client SDG: 39523
Client Smp ID: 513SB00601
Sample Point:
Date Received: 21-MAR-2001
Quant Type: ISTD
Level: LOW
Operator: RMB

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg	Q
91-20-3	Naphthalene	1.1	U
71-43-2	Benzene	1.1	U
108-88-3	Toluene	1.1	U
	m,p-Xylenes	2.2	U
95-47-6	o-Xylene	1.1	U
100-41-4	Ethylbenzene	1.1	U
460-00-4	Bromofluorobenzene	56.6	
2037-26-5	Toluene-d8	53.2	
1868-53-7	Dibromofluoromethane	50.6	

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39523011
Sample Location: 70172
Sample Date: 21-MAR-2001
Sample Matrix: Soil
Analysis Type: SV
Data Type: MS DATA
Misc Info: |MSD8270_SF|WB010314-01

Client SDG: 39523
Client Smp ID: 513SB00601
Sample Point: CH2M
Date Received: 21-MAR-2001
Quant Type: ISTD
Level: LOW
Operator: KGB1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg	Q
83-32-9	Acenaphthene	39.1	U
129-00-0	Pyrene	39.1	U
91-20-3	Naphthalene	39.1	U
208-96-8	Acenaphthylene	39.1	U
86-73-7	Fluorene	39.1	U
85-01-8	Phenanthrene	39.1	U
120-12-7	Anthracene	39.1	U
206-44-0	Fluoranthene	18.3	J
56-55-3	Benzo(a)anthracene	39.1	U
218-01-9	Chrysene	39.1	U
205-99-2	Benzo(b)fluoranthene	39.1	U
207-08-9	Benzo(k)fluoranthene	39.1	U
50-32-8	Benzo(a)pyrene	39.1	U
193-39-5	Indeno(1,2,3-cd)pyrene	39.1	U
53-70-3	Dibenzo(a,h)anthracene	39.1	U
191-24-2	Benzo(ghi)perylene	39.1	U
4165-60-0	Nitrobenzene-d5	1130	
321-60-8	2-Fluorobiphenyl	1330	
1718-51-0	p-Terphenyl-d14	1720	

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39523012
Sample Location:
Sample Date: 21-MAR-2001
Sample Matrix: SOIL
Analysis Type: VOA
Data Type: MS DATA
Misc Info: |VOA8260BSF| CH2M neat 4.8gm

Client SDG: 39523
Client Smp ID: 513SB00602
Sample Point:
Date Received: 21-MAR-2001
Quant Type: ISTD
Level: LOW
Operator: RMB

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg	Q
91-20-3	Naphthalene	0.40	J
71-43-2	Benzene	1.0	J
108-88-3	Toluene	0.76	J
	m,p-Xylenes	2.6	U
95-47-6	o-Xylene	1.3	U
100-41-4	Ethylbenzene	1.3	U
460-00-4	Bromofluorobenzene	71.6	
2037-26-5	Toluene-d8	63.8	
1868-53-7	Dibromofluoromethane	58.9	

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39523012
Sample Location: 70172
Sample Date: 21-MAR-2001
Sample Matrix: Soil
Analysis Type: SV
Data Type: MS DATA
Misc Info: |MSD8270_SF|WB010314-01

Client SDG: 39523
Client Smp ID: 513SB00602
Sample Point: CH2M
Date Received: 21-MAR-2001
Quant Type: ISTD
Level: LOW
Operator: KGB1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg	Q
83-32-9	Acenaphthene	42.2	U
129-00-0	Pyrene	42.2	U
91-20-3	Naphthalene	42.2	U
208-96-8	Acenaphthylene	42.2	U
86-73-7	Fluorene	42.2	U
85-01-8	Phenanthrene	42.2	U
120-12-7	Anthracene	42.2	U
206-44-0	Fluoranthene	25.5	J
56-55-3	Benzo(a)anthracene	42.2	U
218-01-9	Chrysene	42.2	U
205-99-2	Benzo(b)fluoranthene	42.2	U
207-08-9	Benzo(k)fluoranthene	42.2	U
50-32-8	Benzo(a)pyrene	42.2	U
193-39-5	Indeno(1,2,3-cd)pyrene	42.2	U
53-70-3	Dibenzo(a,h)anthracene	42.2	U
191-24-2	Benzo(ghi)perylene	42.2	U
4165-60-0	Nitrobenzene-d5	1180	
321-60-8	2-Fluorobiphenyl	1320	
1718-51-0	p-Terphenyl-d14	1780	

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39523013
Sample Location:
Sample Date: 21-MAR-2001
Sample Matrix: SOIL
Analysis Type: VOA
Data Type: MS DATA
Misc Info: |VOA8260BSF| CH2M neat 4.9gm

Client SDG: 39523
Client Smp ID: 513SB00701
Sample Point:
Date Received: 21-MAR-2001
Quant Type: ISTD
Level: LOW
Operator: RMB

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg	Q
91-20-3	Naphthalene	1.2	U
71-43-2	Benzene	1.2	U
108-88-3	Toluene	1.2	U
	m,p-Xylenes	2.4	U
95-47-6	o-Xylene	1.2	U
100-41-4	Ethylbenzene	1.2	U
460-00-4	Bromofluorobenzene	60.2	
2037-26-5	Toluene-d8	55.9	
1868-53-7	Dibromofluoromethane	52.5	

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39523013
Sample Location: 70172
Sample Date: 21-MAR-2001
Sample Matrix: Soil
Analysis Type: SV
Data Type: MS DATA
Misc Info: |MSD8270_SF|WB010314-01

Client SDG: 39523
Client Smp ID: 513SB00701
Sample Point: CH2M
Date Received: 21-MAR-2001
Quant Type: ISTD
Level: LOW
Operator: KGB1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg	Q
83-32-9	Acenaphthene	38.7	U
129-00-0	Pyrene	38.7	U
91-20-3	Naphthalene	38.7	U
208-96-8	Acenaphthylene	38.7	U
86-73-7	Fluorene	38.7	U
85-01-8	Phenanthrene	38.7	U
120-12-7	Anthracene	38.7	U
206-44-0	Fluoranthene	38.7	U
56-55-3	Benzo(a)anthracene	38.7	U
218-01-9	Chrysene	38.7	U
205-99-2	Benzo(b)fluoranthene	38.7	U
207-08-9	Benzo(k)fluoranthene	38.7	U
50-32-8	Benzo(a)pyrene	38.7	U
193-39-5	Indeno(1,2,3-cd)pyrene	38.7	U
53-70-3	Dibenzo(a,h)anthracene	38.7	U
191-24-2	Benzo(ghi)perylene	38.7	U
4165-60-0	Nitrobenzene-d5	1160	
321-60-8	2-Fluorobiphenyl	1310	
1718-51-0	p-Terphenyl-d14	1650	

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39523014
Sample Location:
Sample Date: 21-MAR-2001
Sample Matrix: SOIL
Analysis Type: VOA
Data Type: MS DATA
Misc Info: |VOA8260BSF| CH2M 500x 5.1gm/10ml->10ul/5ml

Client SDG: 39523
Client Smp ID: 513SB00702
Sample Point:
Date Received: 21-MAR-2001
Quant Type: ISTD
Level: MED
Operator: RMB

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg	Q
91-20-3	Naphthalene	4710	
71-43-2	Benzene	1130	U
108-88-3	Toluene	1130	U
	m,p-Xylenes	2260	U
95-47-6	o-Xylene	1130	U
100-41-4	Ethylbenzene	1130	U
460-00-4	Bromofluorobenzene	502	
2037-26-5	Toluene-d8	0.0	U
1868-53-7	Dibromofluoromethane	906	

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39523014
Sample Location: 70172
Sample Date: 21-MAR-2001
Sample Matrix: Soil
Analysis Type: SV
Data Type: MS DATA
Misc Info: |MSD8270_SF|WB010314-01

Client SDG: 39523
Client Smp ID: 513SB00702
Sample Point: CH2M
Date Received: 21-MAR-2001
Quant Type: ISTD
Level: LOW
Operator: KGB1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg	Q
83-32-9	Acenaphthene	38.4	U
129-00-0	Pyrene	2220	
91-20-3	Naphthalene	2980	
208-96-8	Acenaphthylene	38.4	U
86-73-7	Fluorene	2500	
85-01-8	Phenanthrene	6090	E
120-12-7	Anthracene	38.4	U
206-44-0	Fluoranthene	2480	
56-55-3	Benzo(a)anthracene	1090	
218-01-9	Chrysene	909	
205-99-2	Benzo(b)fluoranthene	600	
207-08-9	Benzo(k)fluoranthene	669	
50-32-8	Benzo(a)pyrene	670	
193-39-5	Indeno(1,2,3-cd)pyrene	276	
53-70-3	Dibenzo(a,h)anthracene	38.4	U
191-24-2	Benzo(ghi)perylene	215	
4165-60-0	Nitrobenzene-d5	1990	
321-60-8	2-Fluorobiphenyl	1180	
1718-51-0	p-Terphenyl-d14	1410	

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39523015
Sample Location:
Sample Date: 21-MAR-2001
Sample Matrix: SOIL
Analysis Type: VOA
Data Type: MS DATA
Misc Info: |VOA8260BSF| CH2M neat 5.1gm

Client SDG: 39523
Client Smp ID: 513SB00801
Sample Point:
Date Received: 21-MAR-2001
Quant Type: ISTD
Level: LOW
Operator: RMB

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg	Q
91-20-3	Naphthalene	1.1	U
71-43-2	Benzene	2.1	
108-88-3	Toluene	0.63	J
	m,p-Xylenes	2.2	U
95-47-6	o-Xylene	1.1	U
100-41-4	Ethylbenzene	1.1	U
460-00-4	Bromofluorobenzene	50.8	
2037-26-5	Toluene-d8	49.3	
1868-53-7	Dibromofluoromethane	48.4	

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39523015
Sample Location: 70539
Sample Date: 21-MAR-2001
Sample Matrix: Soil
Analysis Type: SV
Data Type: MS DATA
Misc Info: |MSD8270_SF| WB010312-01

Client SDG: 39523
Client Smp ID: 513SB00801
Sample Point: CH2M
Date Received: 21-MAR-2001
Quant Type: ISTD
Level: LOW
Operator: eh1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg	Q
83-32-9	Acenaphthene	37.7	U
129-00-0	Pyrene	37.7	U
91-20-3	Naphthalene	37.7	U
208-96-8	Acenaphthylene	37.7	U
86-73-7	Fluorene	37.7	U
85-01-8	Phenanthrene	37.7	U
120-12-7	Anthracene	37.7	U
206-44-0	Fluoranthene	37.7	U
56-55-3	Benzo(a)anthracene	37.7	U
218-01-9	Chrysene	37.7	U
205-99-2	Benzo(b)fluoranthene	37.7	U
207-08-9	Benzo(k)fluoranthene	37.7	U
50-32-8	Benzo(a)pyrene	37.7	U
193-39-5	Indeno(1,2,3-cd)pyrene	37.7	U
53-70-3	Dibenzo(a,h)anthracene	37.7	U
191-24-2	Benzo(ghi)perylene	37.7	U
4165-60-0	Nitrobenzene-d5	1500	
321-60-8	2-Fluorobiphenyl	1490	
1718-51-0	p-Terphenyl-d14	1590	

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39523015
Sample Location: 70172
Sample Date: 21-MAR-2001
Sample Matrix: Soil
Analysis Type: SV
Data Type: MS DATA
Misc Info: |MSD8270_SF|WB010314-01

Client SDG: 39523
Client Smp ID: 513SB00801
Sample Point: CH2M
Date Received: 21-MAR-2001
Quant Type: ISTD
Level: LOW
Operator: KGB1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg	Q
83-32-9	Acenaphthene	37.7	U
129-00-0	Pyrene	37.7	U
91-20-3	Naphthalene	37.7	U
208-96-8	Acenaphthylene	37.7	U
86-73-7	Fluorene	37.7	U
85-01-8	Phenanthrene	37.7	U
120-12-7	Anthracene	37.7	U
206-44-0	Fluoranthene	37.7	U
56-55-3	Benzo(a)anthracene	37.7	U
218-01-9	Chrysene	37.7	U
205-99-2	Benzo(b)fluoranthene	37.7	U
207-08-9	Benzo(k)fluoranthene	37.7	U
50-32-8	Benzo(a)pyrene	37.7	U
193-39-5	Indeno(1,2,3-cd)pyrene	37.7	U
53-70-3	Dibenzo(a,h)anthracene	37.7	U
191-24-2	Benzo(ghi)perylene	37.7	U
4165-60-0	Nitrobenzene-d5	989	
321-60-8	2-Fluorobiphenyl	1070	
1718-51-0	p-Terphenyl-d14	1280	

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39523016
Sample Location:
Sample Date: 21-MAR-2001
Sample Matrix: SOIL
Analysis Type: VOA
Data Type: MS DATA
Misc Info: |VOA8260BSF| CH2M neat 5.5gm

Client SDG: 39523
Client Smp ID: 513SB00802
Sample Point:
Date Received: 21-MAR-2001
Quant Type: ISTD
Level: LOW
Operator: RMB

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg	Q
91-20-3	Naphthalene	15.8	
71-43-2	Benzene	1.0	U
108-88-3	Toluene	1.0	U
	m,p-Xylenes	5.3	
95-47-6	o-Xylene	1.0	U
100-41-4	Ethylbenzene	21.1	
460-00-4	Bromofluorobenzene	67.8	
2037-26-5	Toluene-d8	47.4	
1868-53-7	Dibromofluoromethane	45.1	

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39523016
Sample Location: 70172
Sample Date: 21-MAR-2001
Sample Matrix: Soil
Analysis Type: SV
Data Type: MS DATA
Misc Info: |MSD8270_SF|WB010314-01

Client SDG: 39523
Client Smp ID: 513SB00802
Sample Point: CH2M
Date Received: 21-MAR-2001
Quant Type: ISTD
Level: LOW
Operator: KGB1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/Kg	Q
83-32-9	Acenaphthene	38.1	U
129-00-0	Pyrene	38.1	U
91-20-3	Naphthalene	222	
208-96-8	Acenaphthylene	38.1	U
86-73-7	Fluorene	38.1	U
85-01-8	Phenanthrene	38.1	U
120-12-7	Anthracene	38.1	U
206-44-0	Fluoranthene	38.1	U
56-55-3	Benzo(a)anthracene	38.1	U
218-01-9	Chrysene	38.1	U
205-99-2	Benzo(b)fluoranthene	38.1	U
207-08-9	Benzo(k)fluoranthene	38.1	U
50-32-8	Benzo(a)pyrene	38.1	U
193-39-5	Indeno(1,2,3-cd)pyrene	38.1	U
53-70-3	Dibenzo(a,h)anthracene	38.1	U
191-24-2	Benzo(ghi)perylene	38.1	U
4165-60-0	Nitrobenzene-d5	1090	
321-60-8	2-Fluorobiphenyl	1280	
1718-51-0	p-Terphenyl-d14	1790	

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39571001
Sample Location:
Sample Date: 21-MAR-2001
Sample Matrix: WATER
Analysis Type: VOA
Data Type: MS DATA
Misc Info: |VOA8260BLF| CH2M Neat pH=2

Client SDG: 39571
Client Smp ID: 513EB002L1
Sample Point:
Date Received: 22-MAR-2001
Quant Type: ISTD
Level: LOW
Operator: MAP

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
91-20-3	Naphthalene	1.0	U
71-43-2	Benzene	1.0	U
108-88-3	Toluene	1.0	U
75-00-3	Xylenes (total)	3.0	U
95-47-6	o-Xylene	1.0	U
	m,p-Xylenes	2.0	U
100-41-4	Ethylbenzene	1.0	U
460-00-4	Bromofluorobenzene	65.1	
2037-26-5	Toluene-d8	56.6	
1868-53-7	Dibromofluoromethane	62.6	

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39571002
Sample Location:
Sample Date: 21-MAR-2001
Sample Matrix: WATER
Analysis Type: VOA
Data Type: MS DATA
Misc Info: |VOA8260BLF| CH2M Neat pH=2

Client SDG: 39571
Client Smp ID: 513TB002L1
Sample Point:
Date Received: 22-MAR-2001
Quant Type: ISTD
Level: LOW
Operator: MAP

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
91-20-3	Naphthalene	1.0	U
71-43-2	Benzene	1.0	U
108-88-3	Toluene	1.0	U
75-00-3	Xylenes (total)	3.0	U
95-47-6	o-Xylene	1.0	U
	m,p-Xylenes	2.0	U
100-41-4	Ethylbenzene	1.0	U
460-00-4	Bromofluorobenzene	60.0	
2037-26-5	Toluene-d8	51.9	
1868-53-7	Dibromofluoromethane	56.6	

General Engineering Laboratories, Inc.

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 39571001
Sample Location: 70234
Sample Date: 21-MAR-2001
Sample Matrix: Water
Analysis Type: SV
Data Type: MS DATA
Misc Info: |MSD8270_LF|WB010312-01|

Client SDG: 39571
Client Smp ID: 513EB002L1
Sample Point: CH2M
Date Received: 22-MAR-2001
Quant Type: ISTD
Level: LOW
Operator: JWF

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
83-32-9	Acenaphthene	1.0	U
129-00-0	Pyrene	1.0	U
91-20-3	Naphthalene	1.0	U
208-96-8	Acenaphthylene	1.0	U
86-73-7	Fluorene	1.0	U
85-01-8	Phenanthrene	1.0	U
120-12-7	Anthracene	1.0	U
206-44-0	Fluoranthene	1.0	U
56-55-3	Benzo(a)anthracene	1.0	U
218-01-9	Chrysene	1.0	U
205-99-2	Benzo(b)fluoranthene	1.0	U
207-08-9	Benzo(k)fluoranthene	1.0	U
50-32-8	Benzo(a)pyrene	1.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	U
53-70-3	Dibenzo(a,h)anthracene	1.0	U
191-24-2	Benzo(ghi)perylene	1.0	U
4165-60-0	Nitrobenzene-d5	36.7	
321-60-8	2-Fluorobiphenyl	33.9	
1718-51-0	p-Terphenyl-d14	45.7	

2513 ZONE K Cont. Samples

CHAIN OF CUSTODY RECORD

General Engineering Laboratories, Inc.
2040 Savage Road
Charleston, South Carolina 29407
P.O. Box 30712
Charleston, South Carolina 29417
(843) 556-8171

Page_____ of _____

438061

Client Name/Facility Name: CH2M-JONES

Collected by/Company:

SAMPLE ANALYSIS REQUIRED (x) - use remarks area to specify specific compounds or methods

Use F or P in the boxes to indicate whether sample was filtered and/or preserved

	SAMPLE ID	DATE	TIME	WELL	SOIL	COMP	GRAB	# OF CONTAINERS	pH, conductivity	TOC/DOC	TOX	Chloride, Fluoride, Sulfide	Nitrite/Nitrate	VOC - Specify Method required	METALS - specify	Pesticide	Herbicide	Total Phenol	Acid Extractables	B/N Extractables	PCB's	Cyanide	Coliform - specify type	[illegible]		Remarks
001	[illegible]	6-7-01	1325		X			4						X										X		[illegible]
002	[illegible]	6-7-01	1310		X			4						X										X		

Relinquished by:	Date:	Time:	Received by:	Relinquished by:	Date:	Time:	Received by:
[illegible]	6-7-01	1300	[illegible]				

Relinquished by:	Date:	Time:	Received by lab by:	Date:	Time:	Remarks:
			[illegible]	6/8/01	[illegible]	

White = sample collector Yellow = file Pink = with report

7

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

K513SB011

Lab Name: GENERAL ENGINEERING LABOR Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 43806

Matrix: (soil/water) SOIL Lab Sample ID: 43806001

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 7Y624

Level: (low/med) LOW Date Received: 06/08/01

% Moisture: 12 decanted: (Y/N) N Date Extracted: 06/13/01

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 06/17/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	376	U
111-44-4	bis(2-Chloroethyl) ether	376	U
95-57-8	2-Chlorophenol	376	U
541-73-1	1,3-Dichlorobenzene	376	U
106-46-7	1,4-Dichlorobenzene	376	U
100-51-6	Benzyl alcohol	376	U
95-50-1	1,2-Dichlorobenzene	376	U
108-60-1	bis(2-Chloroisopropyl)ether	376	U
95-48-7	o-Cresol	376	U
621-64-7	N-Nitrosodipropylamine	376	U
106-44-5	m,p-Cresols	376	U
67-72-1	Hexachloroethane	376	U
98-95-3	Nitrobenzene	376	U
78-59-1	Isophorone	376	U
88-75-5	2-Nitrophenol	376	U
105-67-9	2,4-Dimethylphenol	376	U
111-91-1	bis(2-Chloroethoxy)methane	376	U
120-83-2	2,4-Dichlorophenol	376	U
65-85-0	Benzoic acid	1820	U
120-82-1	1,2,4-Trichlorobenzene	376	U
91-20-3	Naphthalene	376	U
106-47-8	4-Chloroaniline	376	U
87-68-3	Hexachlorobutadiene	376	U
59-50-7	4-Chloro-3-methylphenol	376	U
91-57-6	2-Methylnaphthalene	376	U
77-47-4	Hexachlorocyclopentadiene	376	U
88-06-2	2,4,6-Trichlorophenol	376	U
95-95-4	2,4,5-Trichlorophenol	1820	U
91-58-7	2-Chloronaphthalene	376	U
88-74-4	o-Nitroaniline	1820	U
99-09-2	m-Nitroaniline	1820	U
131-11-3	Dimethylphthalate	376	U
606-20-2	2,6-Dinitrotoluene	376	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

K513SB011

Lab Name: GENERAL ENGINEERING LABOR Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 43806

Matrix: (soil/water) SOIL Lab Sample ID: 43806001

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 7Y624

Level: (low/med) LOW Date Received: 06/08/01

% Moisture: 12 decanted: (Y/N) N Date Extracted: 06/13/01

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 06/17/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
208-96-8	Acenaphthylene	376	U
83-32-9	Acenaphthene	376	U
51-28-5	2,4-Dinitrophenol	1820	U
132-64-9	Dibenzofuran	376	U
121-14-2	2,4-Dinitrotoluene	376	U
84-66-2	Diethylphthalate	376	U
100-02-7	4-Nitrophenol	1820	U
86-73-7	Fluorene	376	U
7005-72-3	4-Chlorophenylphenylether	376	U
534-52-1	2-Methyl-4,6-dinitrophenol	1820	U
100-01-6	p-Nitroaniline	1820	U
122-39-4	Diphenylamine	376	U
101-55-3	4-Bromophenylphenylether	376	U
118-74-1	Hexachlorobenzene	376	U
87-86-5	Pentachlorophenol	1820	U
85-01-8	Phenanthrene	376	U
120-12-7	Anthracene	376	U
84-74-2	Di-n-butylphthalate	376	U
206-44-0	Fluoranthene	376	U
129-00-0	Pyrene	565	
85-68-7	Butylbenzylphthalate	376	U
56-55-3	Benzo(a)anthracene	136	J
91-94-1	3,3'-Dichlorobenzidine	751	U
218-01-9	Chrysene	155	J
117-81-7	bis(2-Ethylhexyl)phthalate	13.6	JB
117-84-0	Di-n-octylphthalate	376	U
205-99-2	Benzo(b)fluoranthene	501	
207-08-9	Benzo(k)fluoranthene	251	J
50-32-8	Benzo(a)pyrene	280	J
193-39-5	Indeno(1,2,3-cd)pyrene	150	J
53-70-3	Dibenzo(a,h)anthracene	376	U
191-24-2	Benzo(ghi)perylene	126	J
86-74-8	Carbazole	376	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

K513SB012

Lab Name: GENERAL ENGINEERING LABOR Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 43806

Matrix: (soil/water) SOIL Lab Sample ID: 43806002

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 7Y625

Level: (low/med) LOW Date Received: 06/08/01

% Moisture: 5 decanted: (Y/N) N Date Extracted: 06/13/01

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 06/17/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	349	U
111-44-4	bis(2-Chloroethyl) ether	349	U
95-57-8	2-Chlorophenol	349	U
541-73-1	1,3-Dichlorobenzene	349	U
106-46-7	1,4-Dichlorobenzene	349	U
100-51-6	Benzyl alcohol	349	U
95-50-1	1,2-Dichlorobenzene	349	U
108-60-1	bis(2-Chloroisopropyl)ether	349	U
95-48-7	o-Cresol	349	U
621-64-7	N-Nitrosodipropylamine	349	U
106-44-5	m,p-Cresols	349	U
67-72-1	Hexachloroethane	349	U
98-95-3	Nitrobenzene	349	U
78-59-1	Isophorone	349	U
88-75-5	2-Nitrophenol	349	U
105-67-9	2,4-Dimethylphenol	349	U
111-91-1	bis(2-Chloroethoxy)methane	349	U
120-83-2	2,4-Dichlorophenol	349	U
65-85-0	Benzoic acid	1690	U
120-82-1	1,2,4-Trichlorobenzene	349	U
91-20-3	Naphthalene	349	U
106-47-8	4-Chloroaniline	349	U
87-68-3	Hexachlorobutadiene	349	U
59-50-7	4-Chloro-3-methylphenol	349	U
91-57-6	2-Methylnaphthalene	349	U
77-47-4	Hexachlorocyclopentadiene	349	U
88-06-2	2,4,6-Trichlorophenol	349	U
95-95-4	2,4,5-Trichlorophenol	1690	U
91-58-7	2-Chloronaphthalene	349	U
88-74-4	o-Nitroaniline	1690	U
99-09-2	m-Nitroaniline	1690	U
131-11-3	Dimethylphthalate	349	U
606-20-2	2,6-Dinitrotoluene	349	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

K513SB012

Lab Name: GENERAL ENGINEERING LABOR Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 43806

Matrix: (soil/water) SOIL Lab Sample ID: 43806002

Sample wt/vol: 30.0 (g/mL) G Lab File ID: 7Y625

Level: (low/med) LOW Date Received: 06/08/01

% Moisture: 5 decanted: (Y/N) N Date Extracted: 06/13/01

Concentrated Extract Volume: 1.00(mL) Date Analyzed: 06/17/01

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
208-96-8	Acenaphthylene	349	U
83-32-9	Acenaphthene	349	U
51-28-5	2,4-Dinitrophenol	1690	U
132-64-9	Dibenzofuran	349	U
121-14-2	2,4-Dinitrotoluene	349	U
84-66-2	Diethylphthalate	349	U
100-02-7	4-Nitrophenol	1690	U
86-73-7	Fluorene	349	U
7005-72-3	4-Chlorophenylphenylether	349	U
534-52-1	2-Methyl-4,6-dinitrophenol	1690	U
100-01-6	p-Nitroaniline	1690	U
122-39-4	Diphenylamine	349	U
101-55-3	4-Bromophenylphenylether	349	U
118-74-1	Hexachlorobenzene	349	U
87-86-5	Pentachlorophenol	1690	U
85-01-8	Phenanthrene	349	U
120-12-7	Anthracene	349	U
84-74-2	Di-n-butylphthalate	349	U
206-44-0	Fluoranthene	349	U
129-00-0	Pyrene	349	U
85-68-7	Butylbenzylphthalate	349	U
56-55-3	Benzo(a)anthracene	349	U
91-94-1	3,3'-Dichlorobenzidine	698	U
218-01-9	Chrysene	349	U
117-81-7	bis(2-Ethylhexyl)phthalate	13.6	JB
117-84-0	Di-n-octylphthalate	349	U
205-99-2	Benzo(b)fluoranthene	349	U
207-08-9	Benzo(k)fluoranthene	349	U
50-32-8	Benzo(a)pyrene	349	U
193-39-5	Indeno(1,2,3-cd)pyrene	349	U
53-70-3	Dibenzo(a,h)anthracene	349	U
191-24-2	Benzo(ghi)perylene	349	U
86-74-8	Carbazole	349	U

SAMPLE DATA

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

K513SB011

Lab Name: GENERAL ENGINEERING LABOR Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 43806

Matrix: (soil/water) SOIL Lab Sample ID: 43806001

Sample wt/vol: 5.7 (g/mL) G Lab File ID: 80213

Level: (low/med) LOW Date Received: 06/08/01

% Moisture: not dec. 12 Date Analyzed: 06/19/01

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-35-4	1,1-Dichloroethylene	5.0	U
67-64-1	Acetone	11.6	
75-15-0	Carbon disulfide	5.0	U
75-09-2	Methylene chloride	2.9	JB
156-60-5	trans-1,2-Dichloroethylene	5.0	U
75-34-3	1,1-Dichloroethane	5.0	U
108-05-4	Vinyl acetate	10	U
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-Dichloroethylene	5.0	U
540-59-0	1,2-Dichloroethylene (total)	5.0	U
67-66-3	Chloroform	5.0	U
71-55-6	1,1,1-Trichloroethane	5.0	U
56-23-5	Carbon tetrachloride	5.0	U
107-06-2	1,2-Dichloroethane	5.0	U
71-43-2	Benzene	5.0	U
79-01-6	Trichloroethylene	5.0	U
78-87-5	1,2-Dichloropropane	5.0	U
75-27-4	Bromodichloromethane	5.0	U
110-75-8	2-Chloroethylvinyl ether	10	U
10061-01-5	cis-1,3-Dichloropropylene	5.0	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	5.0	U
10061-02-6	trans-1,3-Dichloropropylene	5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethylene	5.0	U
124-48-1	Dibromochloromethane	5.0	U
108-90-7	Chlorobenzene	5.0	U
100-41-4	Ethylbenzene	5.0	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

K513SB011

Lab Name: GENERAL ENGINEERING LABOR Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 43806

Matrix: (soil/water) SOIL Lab Sample ID: 43806001

Sample wt/vol: 5.7 (g/mL) G Lab File ID: 80213

Level: (low/med) LOW Date Received: 06/08/01

% Moisture: not dec. 12 Date Analyzed: 06/19/01

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
----------	m,p-Xylenes	5.0	U
95-47-6	o-Xylene	5.0	U
1330-20-7	Xylenes (total)	5.0	U
100-42-5	Styrene	5.0	U
75-25-2	Bromoform	5.0	U
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

K513SB012

Lab Name: GENERAL ENGINEERING LABOR Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 43806

Matrix: (soil/water) SOIL Lab Sample ID: 43806002

Sample wt/vol: 4.6 (g/mL) G Lab File ID: 80214

Level: (low/med) LOW Date Received: 06/08/01

% Moisture: not dec. 5 Date Analyzed: 06/19/01

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11.5	U
75-01-4	Vinyl chloride	11.5	U
74-83-9	Bromomethane	11.5	U
75-00-3	Chloroethane	11.5	U
75-35-4	1,1-Dichloroethylene	5.7	U
67-64-1	Acetone	49.8	
75-15-0	Carbon disulfide	5.7	U
75-09-2	Methylene chloride	2.9	JB
156-60-5	trans-1,2-Dichloroethylene	5.7	U
75-34-3	1,1-Dichloroethane	5.7	U
108-05-4	Vinyl acetate	11.5	U
78-93-3	2-Butanone	12.8	
156-59-2	cis-1,2-Dichloroethylene	5.7	U
540-59-0	1,2-Dichloroethylene (total)	5.7	U
67-66-3	Chloroform	5.7	U
71-55-6	1,1,1-Trichloroethane	5.7	U
56-23-5	Carbon tetrachloride	5.7	U
107-06-2	1,2-Dichloroethane	5.7	U
71-43-2	Benzene	5.7	U
79-01-6	Trichloroethylene	5.7	U
78-87-5	1,2-Dichloropropane	5.7	U
75-27-4	Bromodichloromethane	5.7	U
110-75-8	2-Chloroethylvinyl ether	11.5	U
10061-01-5	cis-1,3-Dichloropropylene	5.7	U
108-10-1	4-Methyl-2-pentanone	11.5	U
108-88-3	Toluene	5.7	U
10061-02-6	trans-1,3-Dichloropropylene	5.7	U
79-00-5	1,1,2-Trichloroethane	5.7	U
591-78-6	2-Hexanone	11.5	U
127-18-4	Tetrachloroethylene	5.7	U
124-48-1	Dibromochloromethane	5.7	U
108-90-7	Chlorobenzene	5.7	U
100-41-4	Ethylbenzene	5.7	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

K513SB012

Lab Name: GENERAL ENGINEERING LABOR Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 43806

Matrix: (soil/water) SOIL Lab Sample ID: 43806002

Sample wt/vol: 4.6 (g/mL) G Lab File ID: 80214

Level: (low/med) LOW Date Received: 06/08/01

% Moisture: not dec. 5 Date Analyzed: 06/19/01

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
----------	m,p-Xylenes	5.7	U
95-47-6	o-Xylene	5.7	U
1330-20-7	Xylenes (total)	5.7	U
100-42-5	Styrene	5.7	U
75-25-2	Bromoform	5.7	U
79-34-5	1,1,2,2-Tetrachloroethane	5.7	U

MANIFESTS

ZONE K
Z513A

WMA

OAKRIDGE LANDFILL
1183 Highway 78, Dorchester, SC 29437
Tel 843-563-3007 Fax 843-563-3275

6-8-01
Roll-off 20 yd.
~ 15 yds Full

SPECIAL WASTE MANIFEST
APPROVAL # OR 0105038
EXPIRATION 05/31/2002

Generator: AST SITE NAVAL ANNEX
Account Number: 490-439
Location / Address: RADAR SITE N CHARLESTON (10)
Tele Number: 843-740-2780 **Contact:** JED HEAMES
Generator Signature: BW

********** TO BE COMPLETED BY TRANSPORTER **********

Transporter of Waste: WMI OF CHARLESTON **Truck #** 407740
Date: 06/11/01 **Driver Signature:**

********** TO BE COMPLETED BY OAKRIDGE LANDFILL **********

Disposal Site: Oakridge Landfill DWP 130
Description of Waste: SOIL / DIESEL CONTAMINATED SOIL
Ticket Number: 96172 **Tonnage:** 17.48
Received by: [illegible] **Date:** 6/11/01

14334

BUTLER WARE TRUCKING CO.

Customer Butler Ware Date 6/7/01

Job: Annex CH2M-Jones

Location _____ Pit O.L. Thompson Material Fill

Time Start: _____ Time Stop: _____ Hours Rental: _____

Truck # 11 Truck Type T/T C.Y. 20 yds

Driver X Thurman Load Count _____

Signature X BM

WASTE MANAGEMENT
7291 CROSS COUNTY ROAD
N. CHARLESTON, SC 79418

RO or

DATE 06/07/01

2M-JONES

Y ANNEX

☑ 40 ☐ 30 ☑ 20 OTHER _____

OFFICE USE ONLY

SERVICE ID _____

PULL CHG. _____

EXTRA TONS _____

TIPPING _____

TOTAL _____

CUSTOMER COPY

PICTURES

Prior to Excavation (2513-A)

During Excavation (2513-A)

During Excavation (2513-A)

During Back-fill Operations (2513-A)

Back-filling Operations 2513-A)

Post- Excavation (2513-A)