Engineering and Environmental Consultants

AGI Atlantic Geoscience, Inc. • 3005 Riverbend Drive • Snellville, Georgia 30278 • (770) 979-5275

PRELIMINARY INVESTIGATION

WATKINS TERMINALS, INC.
2075 WILLIAMS STREET
SAN LEANDRO, CALIFORNIA

AGI Job No. HC-96-002

Prepared by:

Atlantic Geoscience, Inc.

John T. Caudill,
Project Manager

Hugh Dougalas, PG,
Senior Geologist

February 24, 1997

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TO Ms Eva Chu DATE 4/28/95

Per your request

1.0 INTRODUCTION

1.1 Background

During a real estate transaction, Watkins Terminals, Inc. discovered potential contamination on their property located at 2075 Williams Street in San Leandro, CA (Figure 1). Blymyer Engineers performed two environmental investigations on the site, a Phase I Environmental Assessment, and a Subsurface Investigation. The results of the Phase I investigation recommended the collection of groundwater data on the site. The subsurface investigation included the drilling of four soil borings by geoprobe and the collection of both soil and groundwater samples. Groundwater was encountered at an approximate depth of 16 feet in each of the borings. Two of the groundwater samples were selected for analytical testing. Both groundwater samples detected the presence of Trichloroethylene (TCE) and Tetrachloroethlyene (PCE). The concentrations were elevated along the eastern boundary of the site which is presumed to be the upgradient portion of the site. The source of the TCE and PCE is not known but may be from an off-site source.

July 1995

On February 5, 1997 Atlantic Geoscience, Inc. initiated this investigation to further evaluate the possible source and extent of contamination at the site.

1.2 Investigative Method

The site was investigated under an approved work plan previously submitted to the California Regional Water Quality Control Board. This investigation included the drilling of five monitor wells and one soil boring on both the Watkins Terminals, Inc. property and on adjacent off-site properties. Figure 2 shows the location of each boring and the approximate locations of the previous investigation's borings. Prior to drilling, the drilling materials were steam cleaned. As the drilling advanced, soil samples were collected at 1', 6', 10', 15', 20', and 25' by use of a previously cleaned split barrel sampler and described by a site geologist. The depth of drilling was to a depth of approximately 15 feet below the groundwater table. Five of the borings were subsequently constructed into a permanent monitor well. The wells were constructed by placing fifteen feet of 2-inch diameter 0.020 inch slot PVC screen into the well boring with the appropriate riser so that the screened interval crossed the soil/water interface. The annular space between the boring wall and screen was filled with sand to an approximate depth of two feet above the screened interval. A two foot bentonite seal was then placed above the sand pack. The remainder of the annular space was grouted to within one foot of the surface. The well was finished with a locking cap and protective vault.

2.0 SITE AND SUBSURFACE CONDITIONS

2.1 General Topography/Geology/Hydrogeology

The site is located San Francisco Bay region approximately 3000 ft. east of San Francisco Bay. The area is characterized by a flat lying terrain with a relief on the order of 50 feet (elev. 0 ± to elev. 50 ±). The site is at approximate elev. 20. The land slopes to the south and southwest towards San Francisco Bay.

The San Francisco Bay area is a northwest-southeast trending region within the Coast Range Province. Rocks within the region range from Jurassic aged sedimentary, metamorphic, and plutonic basement rocks to Holocene alluvium. The geologic structure of the region is controlled by several fault systems. The San Andreas system is located on the western side of the bay while the Hayward system is on the east side of the bay. These faults are a result of the tectonic forces that uplifted the Coast Range and dropped the section now covered by San Francisco Bay and associated alluvium deposits.

The site is located on Quaternary Alluvium. This Alluvium includes the Temescal Formation overlying the San Antonio Formation. These formations generally consist of unconsolidated gravel, sand and clay. Soils at the site include the Danville silty clay loam.

Groundwater in the area is a part of the San Leandro Cone Subarea. The direction of groundwater flow is usually to the west or southwest towards San Francisco Bay under unconfined conditions.

2.2 Site Subsurface Conditions

The materials encountered in the borings varied slightly from location to location. In general the materials included dark gray, dark brown, and medium brown slightly silty clay. In borings MW-4 and B-5 a coarse angular sand lense was noticed at a depth of 10 to 20 feet and 11 feet to 16 feet respectively. The material in boring MW-3 showed a gradual downward increase in sand content within the medium brown silty clay. Additionally, a fine grained sand lense was noticed in boring MW-6 at a depth of 27 to 28 feet.

Groundwater was encountered at an approximate depth of 12 feet in each boring. The top of each well was surveyed as to relative elevation based on an assigned instrument elevation of 100 ft. The groundwater surface was then measured. The groundwater gradient is to the west at a gradient of 0.67 ft/ft. on the site. Figure 3 is a compiled potentiometric surface across the site.

3.0 CONTAMINATION EXTENT

3.1 Soil Contamination Extent

Two soil samples from each boring were collected at depth of 1 ft and 6 ft. for analytical testing. Each sample was tested for the 8240 suite of volatile organic compounds. Tetrachloroethylene (PCE) was the only compound detected. The concentrations varied from undetected in borings MW-1, MW-2, and MW-6 to 420 ug/kg in the 1 ft. sample at boring MW-4 and 120 ug/kg in the 6 ft, sample. PCE was also detected at 130 ug/kg in the six foot sample from boring B-5 and 30 ug/kg in the six foot sample from boring MW-6. Table 1 shows the data with the laboratory data sheets located in the appendix.

TABLE 1
TETRACHLOROETHYLENE CONCENTRATIONS

Boring	Depth	PCE (ug/kg)
MW-1	1.0'	BDL
MW-1	6.0'	BDL
MW-2	1.0'	BDL
MW-2	6.0'	BDL
MW-3	1.0'	BDL
MW-3	6.0'	30
MW-4	1.0'	420
MW-4	6.0'	120
B-5	1.0'	BDL
B-5	6.0'	130
MW-6	1.0'	BDL
MW-6	6.0'	BDL

3.2 Groundwater Contamination Extent

A groundwater sample was collected from each of the borings. The wells were developed to produce predominantly silt free water. The wells were sampled by bailing three well volumes, then allowing the water in the well to stabilize. The collected sample was placed into the appropriate sample bottles provided by the laboratory and transported on ice to the lab for testing. Both TCE and PCE were detected. The results from this investigation and the previous investigation are as shown in Table 2.

Table 2
Groundwater Laboratory Results
ug/l

Boring	TCE	PCE	Meth Chlor.
MW-1	BDL	BDL	BDL
MW-2	BDL	BDL	BDL
MW-3	58	5400	BDL
MW-4	130	1900	6.2
MW-6	10	65	BDL
Blymyer Borings*			
BB-2	880	7600	BDL
BB-4	BDL	890	BDL

* 07/05/95
BDL: Below Detection Limits

4.0 CONCLUSIONS AND RECOMMENDATIONS

Both soil and groundwater contamination has been discovered with PCE the most dominant contaminant. The maximum soil contamination was discovered at boring MW-1 MW-4 at a concentration of 420 ug/kg in the 1.0 ft sample. Additional soil contamination was discovered in boring B-5 and again in boring MW-4 at a depth of 6.0 ft. PCE was also detected in the 6.0 ft. soil sample from boring MW-3. This data suggests a contaminant origin near boring B-4 MW-4. Figure 4 shows the soil contamination values.

The maximum groundwater concentration for PCE is in Blymyer Boring B-2 at 7800 ug/l. MW-3 also has an elevated PCE concentration of 5400 ug/l. The total extent of the groundwater plume is unknown, however the southern most limit is south of MW-6, east of MW-4 and northwest of MW-3. PCE has not been detected as far north as MW-1 and MW-2. Figure 5 shows the groundwater contaminant levels.

The groundwater data suggest that the source is near Blymyer boring B-2. The contamination appears to have migrated to MW-3. The low soil contamination in MW-3 may be a result of the volatilization of PCE from the groundwater into the soil. Such a scenario may also be possible in boring B-5 where the PCE was undetected at 1.0 ft. and elevated in the 6.0 ft. sample.

It is recommended that a more detailed investigation be performed. The extent of soil contamination has not been fully determined with only one "hot" spot located at boring MW-4. The extent of groundwater contamination also has not been determined. The downgradient most portion is west of well MW-3 and east of Blymyer boring B-2 and well MW-4. The extent to the south appears to be near well MW-6. The center of the groundwater plume appears to be located between MW-4, B-5 and Blymyer B-2 possibly centered on the separating railroad tracks or further east.

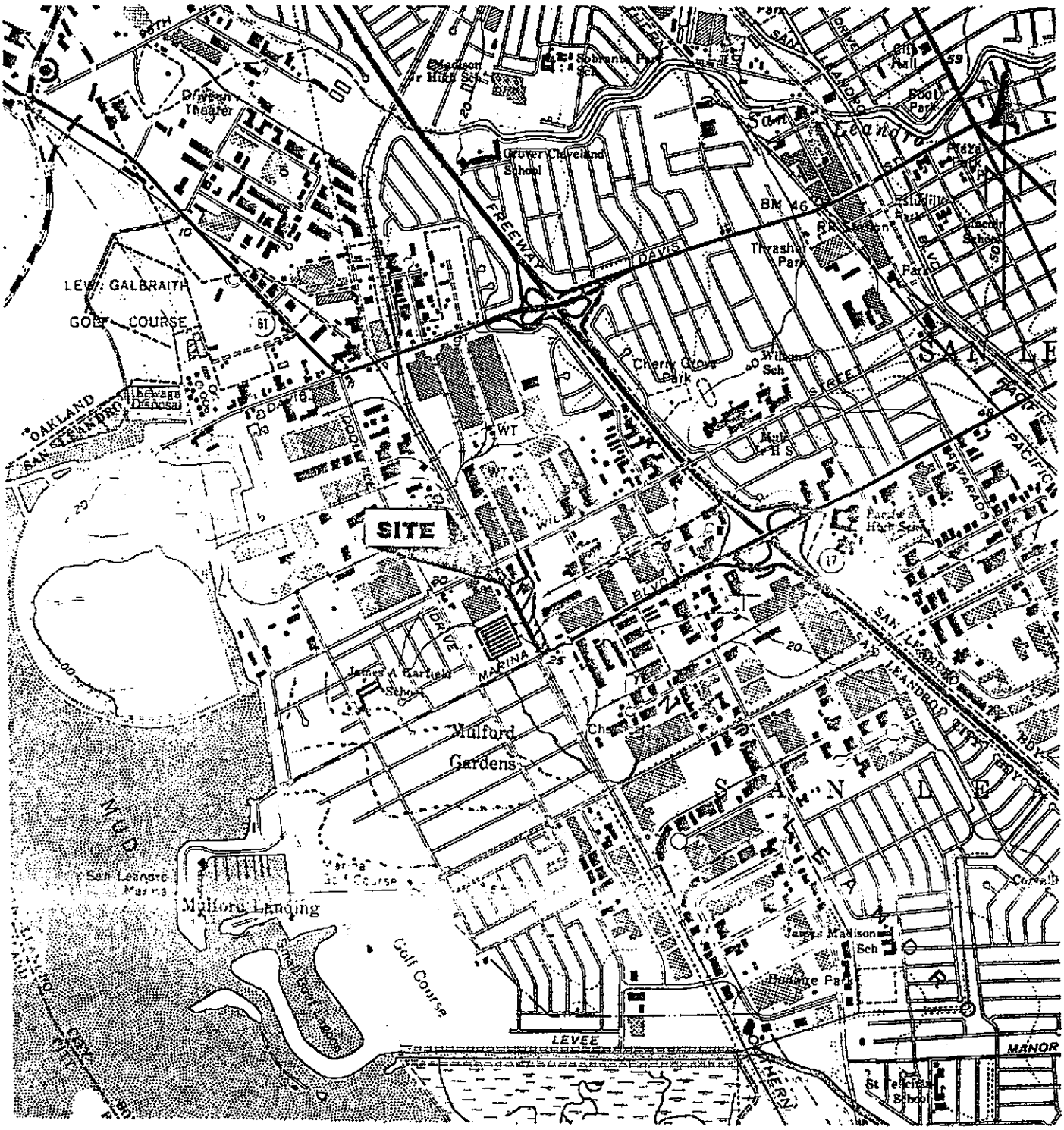

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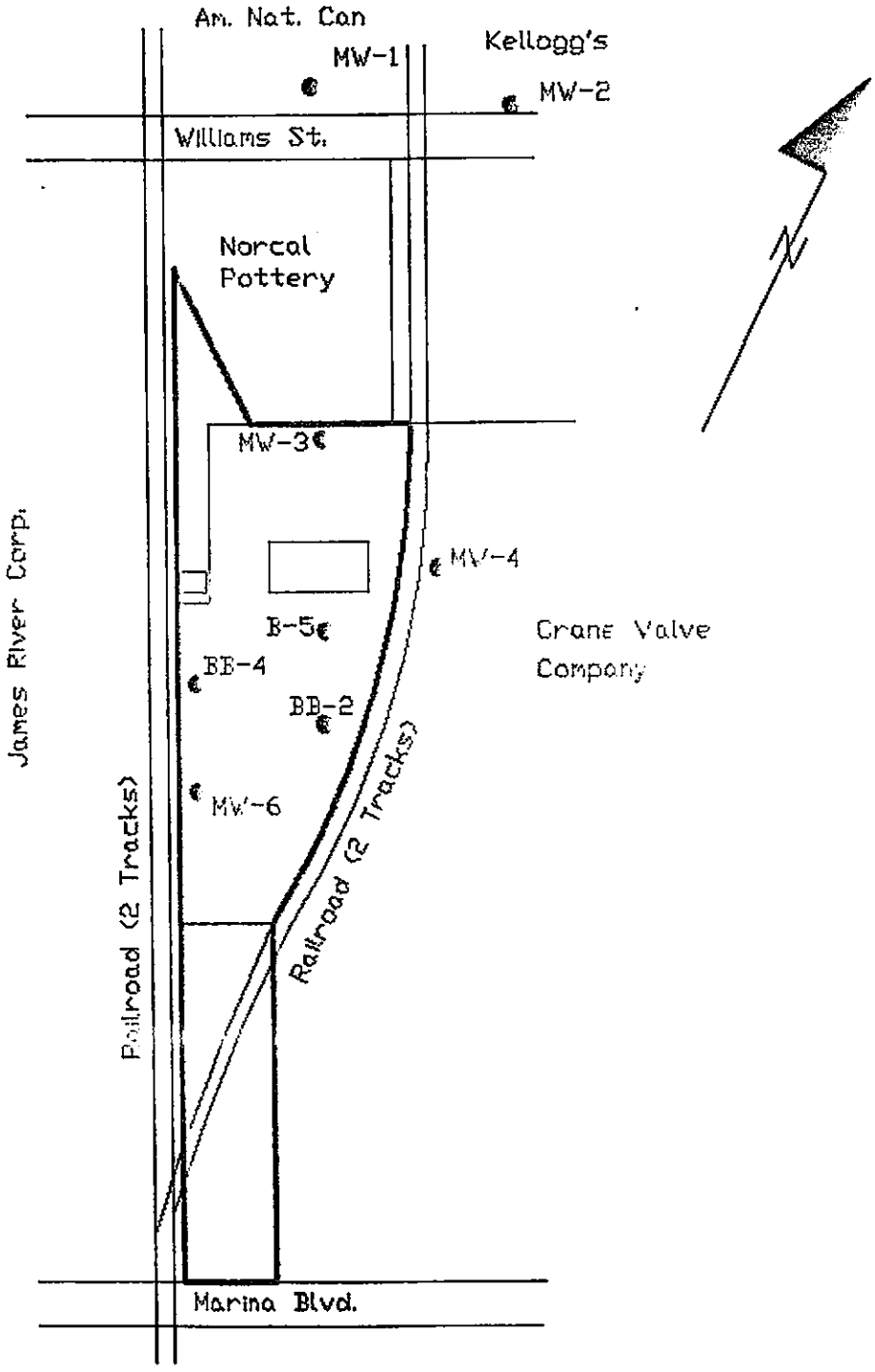
Figure 1
Location/Topographic Map
Watkins Terminals
AGI Job No. HC-96-002
Scale: 1"=2000'



AGI Atlantic Geoscience, Inc.

Figure 2
Site Map
Watkins Terminals
AGI Job No. EA-96-002
Scale: 1"=200'

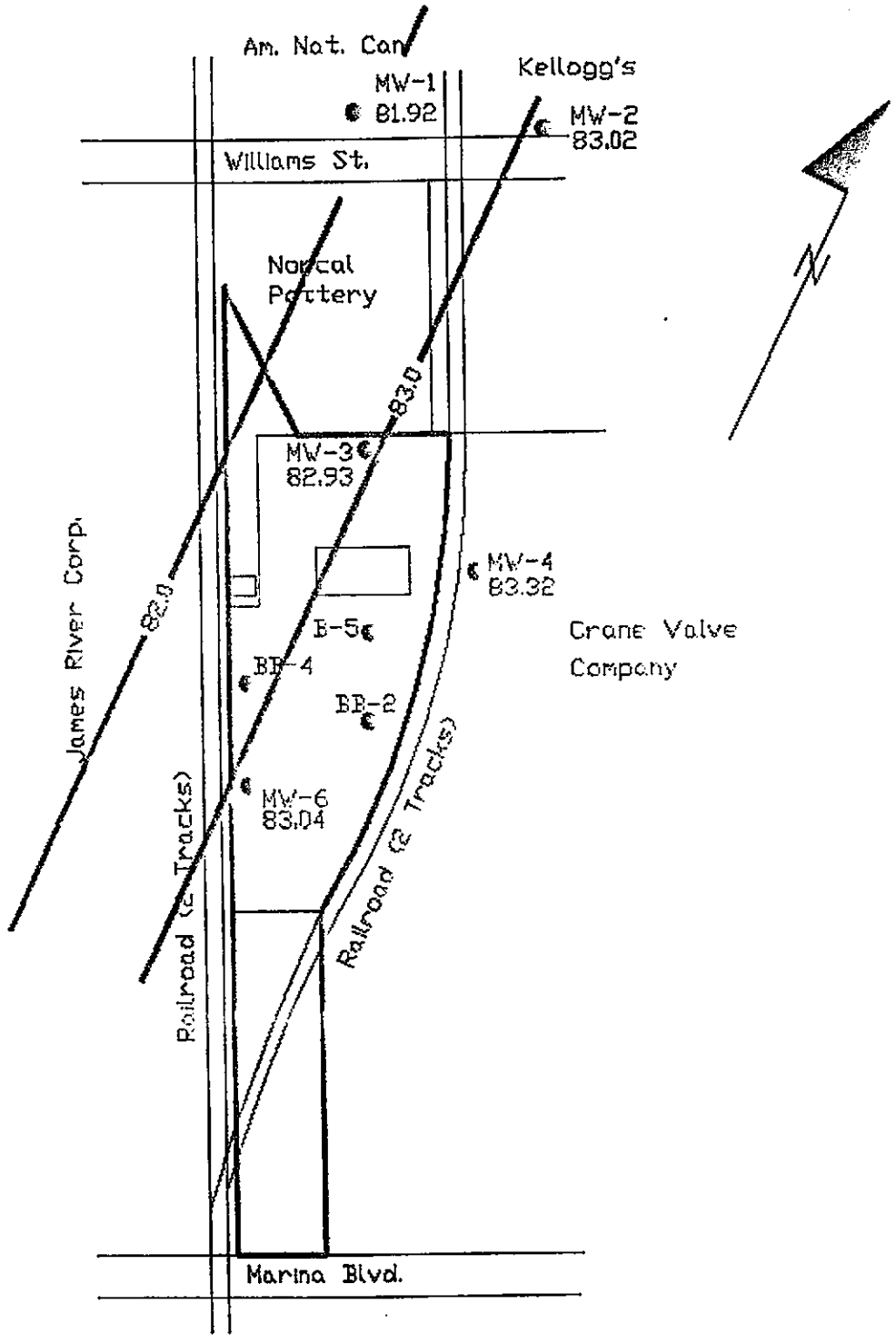


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Figure 3
Potentiometric Surface
Watkins Terminasl
AGI Job No. HC-96-002
Scale: 1"=200'

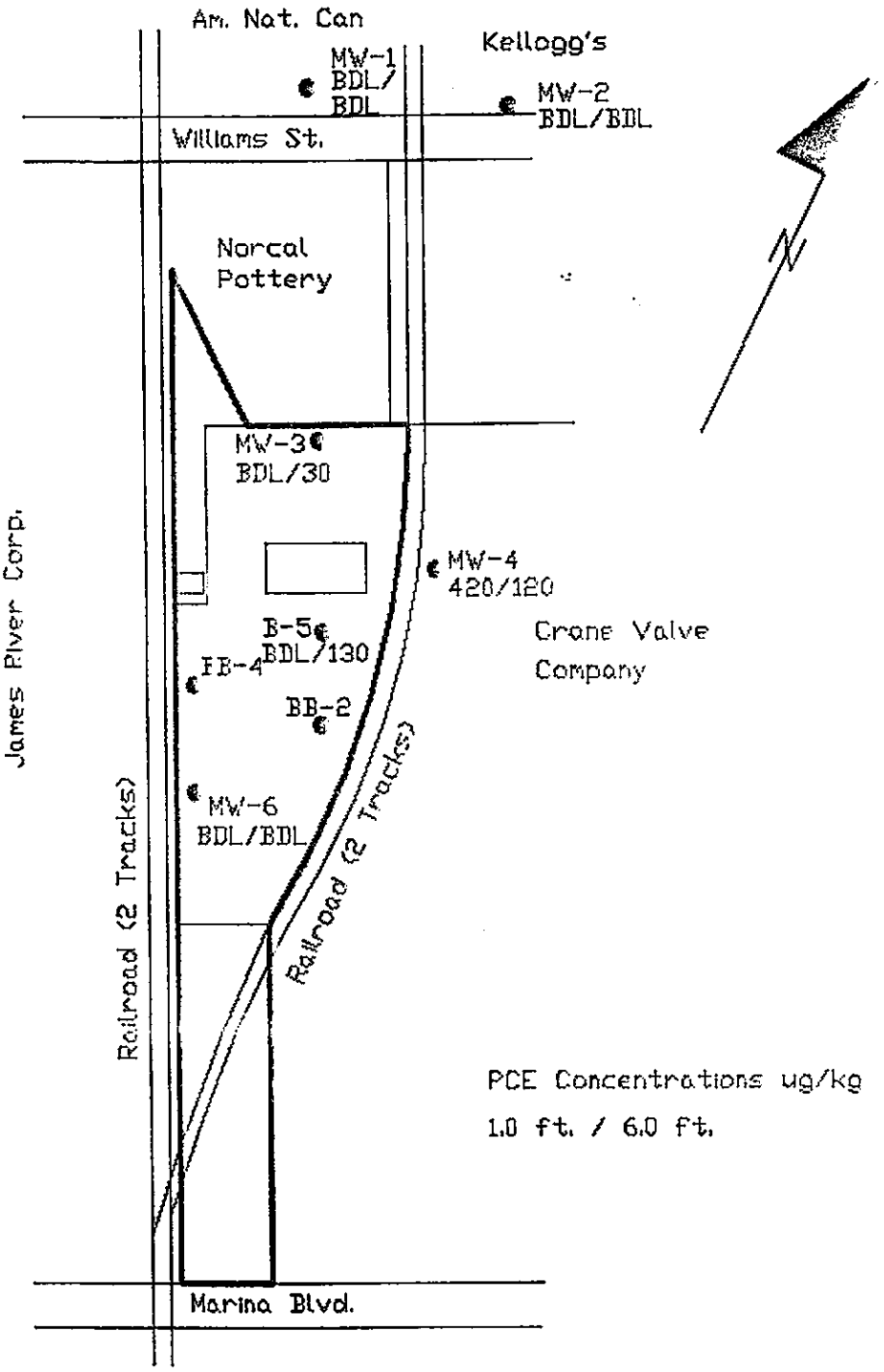

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Figure 4
Soil Contamination
Watkins Terminals
AGI Job No. HC-96-002
Scale: 1"=200'

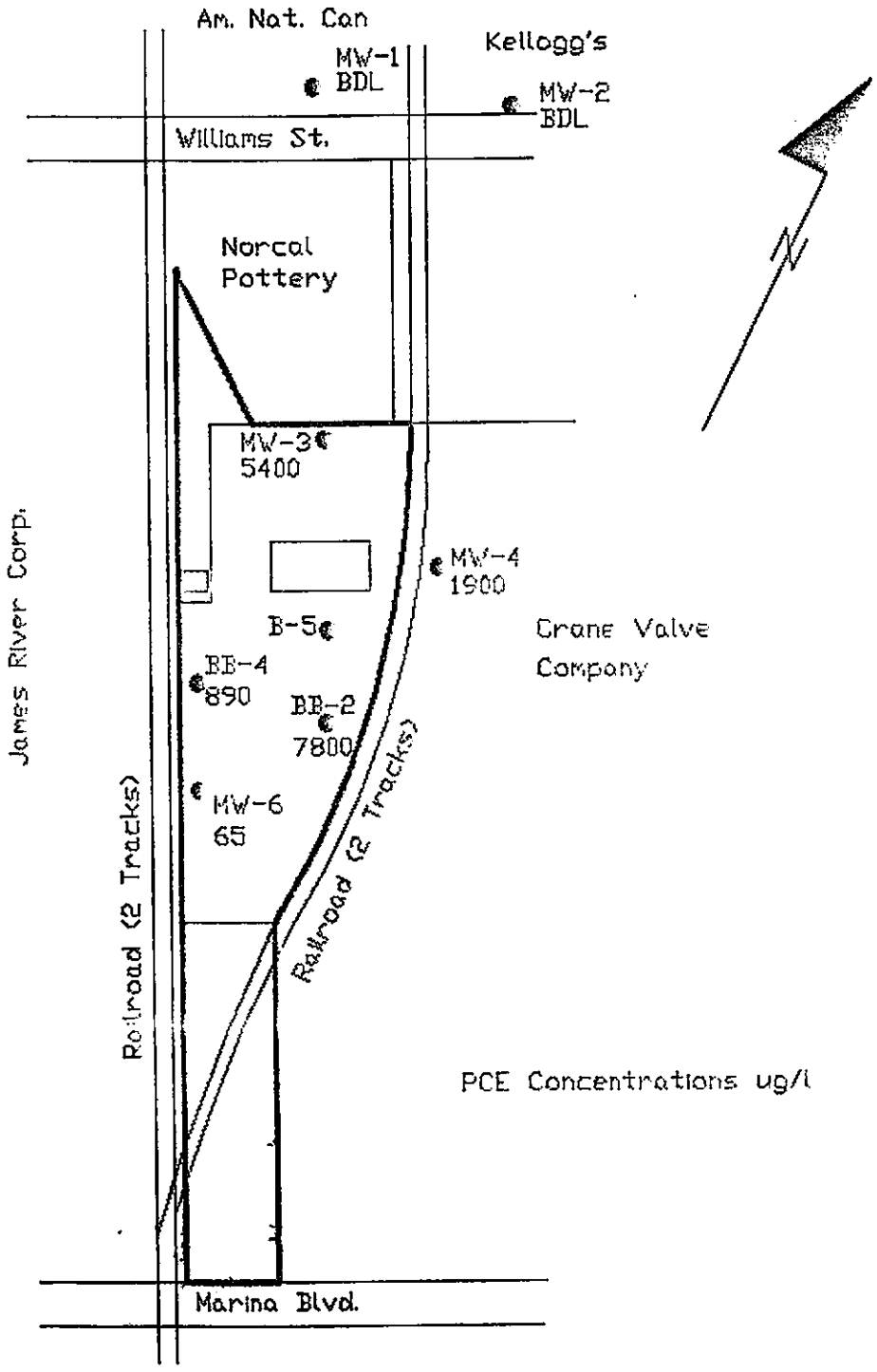

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Figure 5
Groundwater Contam.
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AGI Job No. HC-96-002
Scale: 1"=200'

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SUBSURFACE DRILL LOG

Date 02/05/97

DEPTH	DESCRIPTION	LITH	WELL	SAMPLE	PID/FID	REMARKS
	CLAY – Dark Gray, silty			1	0	
	2.0					No Odors
	CLAY – Dark brown,					0 – 25'
5	silty 6.0			2	0	
	CLAY – Medium brown,					
	silty to slightly sandy					
10				3	0	Water @ 10'
						Sat. Sample
						Stable @ 12.19'
15				4	0	
20				5	0	
25				6	0	
	Boring Terminated @ 25'					Bent – 6.0'
						Sand – 8.0'
						Screen
30						10' – 25'
						.02 slot

Project Name Watkins Terminals

Contractor S.E.S.

Project No. EA-97-001

Supervisor John Caudill

Location MW-1

Materials Used 2" PVC

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SUBSURFACE DRILL LOG

Date 02/05/97

DEPTH	DESCRIPTION	LITH	WELL	SAMPLE	PID/FID	REMARKS
5	CLAY – Dark brown, silty to sandy			1	0	No Odors 0 – 25'
				2	0	
10				3	0	Water @ 10' Sat. Sample
						Stable @ 12.16'
15				4	0	
	19.0					
20	CLAY – Dark Gray, silty			5	0	
25				6	0	
	Boring Terminated @ 25'					Bent – 6.0' Sand – 8.0' Screen 10' – 25' .02 slot
30						

Project Name Watkins Terminals

Contractor S.E.S.

Project No. EA–97–001

Supervisor John Caudill

Location MW–2

Materials Used 2" PVC

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SUBSURFACE DRILL LOG

Date 02/05/97

DEPTH	DESCRIPTION	LITH	WELL	SAMPLE	PID/FID	REMARKS
	Gravel & Clay Fill 4.0			1	0	No Odors 0 – 30'
5	CLAY – Dark brown, silty to sandy 9.5			2	0	
				3	0	Water @ 14'
10	CLAY – Medium Brown, silty to sandy					Stable @ 15.08'
	Note: sand content increases downward			4	0	
15						
				5	0	
20						
				6	0	
25						Bent – 11.0' Sand – 13.0' Screen 15' – 30' .02 slot
30	Boring Terminated @ 30'					

Project Name Watkins Terminals

Contractor S.E.S.

Project No. EA-97-001

Supervisor John Caudill

Location MW-3

Materials Used 2" PVC

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SUBSURFACE DRILL LOG

Date 02/06/97

DEPTH	DESCRIPTION	LITH	WELL	SAMPLE	PID/FID	REMARKS
	CLAY – Dark Gray, silty			1	0	No Odors 0 – 28'
4.5						
5	CLAY – Dark brown, silty to sandy			2	0	
10.0						
10				3	0	Water @ 13'
	SAND – Medium Brown, coarse grained with clay matrix					Stable @ 12.69'
15				4	0	
19.5						
20	CLAY – Dark Gray, silty			5	0	
25				6	0	
						Bent – 9.0'
						Sand – 11.0'
						Screen 13' – 28' .02 slot
30	Boring Terminated @ 28					

Project Name Watkins Terminals

Contractor S.E.S.

Project No. EA-97-001

Supervisor John Caudill

Location MW-4

Materials Used 2" PVC

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SUBSURFACE DRILL LOG

Date 02/06/97

DEPTH	DESCRIPTION	LITH	WELL	SAMPLE	PID/FID	REMARKS
	Gravel & Clay Fill 2.0			1	0	
	CLAY – Dark Gray, silty					No Odors 0 – 21'
5	7.5			2	0	
	CLAY – Dark brown,					Water @ 12'
10	silty to sandy 11.0			3	0	
	Sand – Brown, coarse, in clay matrix					
15	16.0			4	0	
	CLAY – Dark Brown,					
20	silty			5	0	
	Boring Terminated @ 21'					
25						
30						

Project Name Watkins Terminals

Contractor S.E.S.

Project No. EA-97-001

Supervisor John Caudill

Location B-5

Materials Used 2" PVC

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SUBSURFACE DRILL LOG

Date 02/06/97

DEPTH	DESCRIPTION	LITH	WELL	SAMPLE	PID/FID	REMARKS
	CLAY – Dark Gray, silty			1	0	No Odors 0 – 27'
	4.0					
5	CLAY – Dark brown, silty to sandy			2	0	
				3	0	Water @ 12'
10	12.0					Stable @ 11.86'
	CLAY – Dark Brown, silty			4	0	
15						
				5	0	
20	26.0					
	SAND – Medium Brown, fine grained in a clay matrix			6	0	Bent – 8.0' Sand – 10.0' Screen 13' – 27' .02 slot
25						
	Boring Terminated @ 27'					
30						

Project Name Watkins Terminals

Contractor S.E.S.

Project No. EA-97-001

Supervisor John Caudill

Location MW-6

Materials Used 2" PVC

ANALYTICAL RESULTS
Volatile Organics

NEI/GTEL Client ID: AGS01AGS01
Login Number: W7020122
Project ID (number): AGS01AGS01
Project ID (name): ATLANTIC GEOSCIENCE INC/WILLIAM ST/SNELLVILLE/GA

Method: EPA 8240B
Matrix: Aqueous

NEI/GTEL Sample Number	W7020122-01	W7020122-02	W7020122-03	W7020122-04
Client ID	MW-1	MW-2	MW-3	MW-4
Date Sampled	02/07/97	02/07/97	02/07/97	02/07/97
Date Analyzed	02/18/97	02/18/97	02/18/97	02/18/97
Dilution Factor	1.00	1.00	1.00	1.00

Analyte	Reporting Limit	Units	Concentration:			
Chloromethane	10.	ug/L	< 10.	< 10.	< 10.	< 10.
Bromomethane	10.	ug/L	< 10.	< 10.	< 10.	< 10.
Vinyl chloride	10.	ug/L	< 10.	< 10.	< 10.	< 10.
Chloroethane	10.	ug/L	< 10.	< 10.	< 10.	< 10.
Methylene chloride	5.0	ug/L	< 5.0	< 5.0	< 5.0	6.2
Acetone	20	ug/L	< 20	< 20.	< 20.	< 20
Carbon disulfide	5.0	ug/L	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene	5.0	ug/L	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	5.0	ug/L	< 5.0	< 5.0	< 5.0	< 5.0
cis-1,2-Dichloroethene	5.0	ug/L	< 5.0	< 5.0	< 5.0	< 5.0
trans-1,2-Dichloroethene	5.0	ug/L	< 5.0	< 5.0	< 5.0	< 5.0
Chloroform	5.0	ug/L	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane	5.0	ug/L	< 5.0	< 5.0	< 5.0	< 5.0
2-Butanone	20.	ug/L	< 20.	< 20.	< 20.	< 20.
1,1,1-Trichloroethane	5.0	ug/L	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride	5.0	ug/L	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl acetate	20.	ug/L	< 20.	< 20	< 20.	< 20.
Bromodichloromethane	5.0	ug/L	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloropropane	5.0	ug/L	< 5.0	< 5.0	< 5.0	< 5.0
cis-1,3-Dichloropropene	5.0	ug/L	< 5.0	< 5.0	< 5.0	< 5.0
Trichloroethene	5.0	ug/L	< 5.0	< 5.0	58.	130
Dibromochloromethane	5.0	ug/L	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	5.0	ug/L	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	5.0	ug/L	< 5.0	< 5.0	< 5.0	< 5.0
2-Chloroethylvinyl ether	10.	ug/L	< 10.	< 10.	< 10.	< 10.
trans-1,3-Dichloropropene	5.0	ug/L	< 5.0	< 5.0	< 5.0	< 5.0
Bromoform	5.0	ug/L	< 5.0	< 5.0	< 5.0	< 5.0
4-Methyl-2-pentanone	20.	ug/L	< 20.	< 20.	< 20.	< 20.
2-Hexanone	20.	ug/L	< 20.	< 20.	< 20.	< 20.
Tetrachloroethene	5.0	ug/L	< 5.0	< 5.0	5400	1900
1,1,2,2-Tetrachloroethane	5.0	ug/L	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	5.0	ug/L	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene	5.0	ug/L	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	5.0	ug/L	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	5.0	ug/L	< 5.0	< 5.0	< 5.0	< 5.0
Xylenes (total)	5.0	ug/L	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene	10.	ug/L	< 10.	< 10.	< 10.	< 10.
1,3-Dichlorobenzene	10.	ug/L	< 10.	< 10.	< 10.	< 10.
1,4-Dichlorobenzene	10.	ug/L	< 10.	< 10.	< 10.	< 10.

ANALYTICAL RESULTS
Volatile Organics

NEI/GTEL Client ID: AGS01AGS01
Login Number: W7020122
Project ID (number): AGS01AGS01
Project ID (name): ATLANTIC GEOSCIENCE INC/WILLIAM ST/SNELLVILLE/GA

Method: EPA 8240B
Matrix: Aqueous

NEI/GTEL Sample Number	W7020122-01	W7020122-02	W7020122-03	W7020122-04
Client ID	MW-1	MW-2	MW-3	MW-4
Date Sampled	02/07/97	02/07/97	02/07/97	02/07/97
Date Analyzed	02/18/97	02/18/97	02/18/97	02/18/97
Dilution Factor	1.00	1.00	1.00	1.00

Analyte	Reporting Limit	Units	Concentration:			

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 8240B:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition including promulgated Update II

W7020122-03:

Value for Tertrachloroethene is from 10X dilution sample re-analysis preformed 2/19/97

W7020122-04:

Methylene chloride is a common laboratory contaminant. Value for Tetrachloroethane is from 25X dilution sample re-analysis performed 2/19/97.

ANALYTICAL RESULTS
Volatile Organics

NEI/GTEL Client ID: AGS01AGS01
Login Number: W7020122
Project ID (number): AGS01AGS01
Project ID (name): ATLANTIC GEOSCIENCE INC/WILLIAM ST/SNELLVILLE/GA

Method: EPA 8240B
Matrix: Aqueous

NEI/GTEL Sample Number	W7020122-05	W7020122-07	W7020122-08	--
Client ID	MW-6	DUP	TRIP BLANK	--
Date Sampled	02/07/97	02/07/97		--
Date Analyzed	02/19/97	02/19/97	02/19/97	--
Dilution Factor	1.00	1.00	1.00	--

Analyte	Reporting Limit	Units	Concentration:			
Chloromethane	10.	ug/L	< 10.	< 10.	< 10.	--
Bromomethane	10.	ug/L	< 10.	< 10.	< 10.	--
Vinyl chloride	10.	ug/L	< 10.	< 10.	< 10.	--
Chloroethane	10.	ug/L	< 10.	< 10.	< 10.	--
Methylene chloride	5.0	ug/L	< 5.0	< 5.0	< 5.0	--
Acetone	20.	ug/L	< 20.	< 20.	< 20.	--
Carbon disulfide	5.0	ug/L	< 5.0	< 5.0	< 5.0	--
1,1-Dichloroethene	5.0	ug/L	< 5.0	< 5.0	< 5.0	--
1,1-Dichloroethane	5.0	ug/L	< 5.0	< 5.0	< 5.0	--
cis-1,2-Dichloroethene	5.0	ug/L	< 5.0	< 5.0	< 5.0	--
trans-1,2-Dichloroethene	5.0	ug/L	< 5.0	< 5.0	< 5.0	--
Chloroform	5.0	ug/L	< 5.0	< 5.0	< 5.0	--
1,2-Dichloroethane	5.0	ug/L	< 5.0	< 5.0	< 5.0	--
2-Butanone	20.	ug/L	< 20.	< 20.	< 20.	--
1,1,1-Trichloroethane	5.0	ug/L	< 5.0	< 5.0	< 5.0	--
Carbon tetrachloride	5.0	ug/L	< 5.0	< 5.0	< 5.0	--
Vinyl acetate	20.	ug/L	< 20.	< 20.	< 20.	--
Bromodichloromethane	5.0	ug/L	< 5.0	< 5.0	< 5.0	--
1,2-Dichloropropane	5.0	ug/L	< 5.0	< 5.0	< 5.0	--
cis-1,3-Dichloropropene	5.0	ug/L	< 5.0	< 5.0	< 5.0	--
Trichloroethene	5.0	ug/L	10.	65.	< 5.0	--
Dibromochloromethane	5.0	ug/L	< 5.0	< 5.0	< 5.0	--
1,1,2-Trichloroethane	5.0	ug/L	< 5.0	< 5.0	< 5.0	--
Benzene	5.0	ug/L	< 5.0	< 5.0	< 5.0	--
2-Chloroethylvinyl ether	10.	ug/L	< 10.	< 10.	< 10.	--
trans-1,3-Dichloropropene	5.0	ug/L	< 5.0	< 5.0	< 5.0	--
Bromoform	5.0	ug/L	< 5.0	< 5.0	< 5.0	--
4-Methyl-2-pentanone	20.	ug/L	< 20.	< 20.	< 20.	--
2-Hexanone	20.	ug/L	< 20.	< 20.	< 20.	--
Tetrachloroethene	5.0	ug/L	65.	1500	< 5.0	--
1,1,2,2-Tetrachloroethane	5.0	ug/L	< 5.0	< 5.0	< 5.0	--
Toluene	5.0	ug/L	< 5.0	< 5.0	< 5.0	--
Chlorobenzene	5.0	ug/L	< 5.0	< 5.0	< 5.0	--
Ethylbenzene	5.0	ug/L	< 5.0	< 5.0	< 5.0	--
Styrene	5.0	ug/L	< 5.0	< 5.0	< 5.0	--
Xylenes (total)	5.0	ug/L	< 5.0	< 5.0	< 5.0	--
1,2-Dichlorobenzene	10.	ug/L	< 10.	< 10.	< 10.	--
1,3-Dichlorobenzene	10.	ug/L	< 10.	< 10.	< 10.	--
1,4-Dichlorobenzene	10.	ug/L	< 10.	< 10.	< 10.	--

ANALYTICAL RESULTS
Volatile Organics

NEI/GTEL Client ID: AGS01AGS01
Login Number: W7020115
Project ID (number): AGS01AGS01
Project ID (name): ATLANTIC GEOSCIENCE INC/WILLIAM ST/SNELLVILLE/GA

Method: EPA 8240B
Matrix: Low Soil

NEI/GTEL Sample Number	W7020115-01	W7020115-02	W7020115-03	W7020115-04
Client ID	MW-3 1'	MW-3 6'	MW-2 1'	MW-2 6'
Date Sampled	02/06/97	02/06/97	02/06/97	02/06/97
Date Analyzed	02/16/97	02/16/97	02/16/97	02/16/97
Dilution Factor	1.00	1.00	1.00	1.00

Analyte	Reporting Limit	Units	Concentration:Wet Weight			
Chloromethane	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
Bromomethane	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
Vinyl chloride	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
Chloroethane	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
Methylene chloride	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
Acetone	20.	ug/kg	< 20.	< 20.	< 20.	< 20.
Carbon disulfide	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
cis-1,2-Dichloroethene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
trans-1,2-Dichloroethene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Chloroform	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
2-Butanone	20.	ug/kg	< 20.	< 20.	< 20.	< 20.
1,1,1-Trichloroethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl acetate	20.	ug/kg	< 20.	< 20.	< 20.	< 20.
Bromodichloromethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloropropane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
cis-1,3-Dichloropropene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Trichloroethene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Dibromochloromethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
2-Chloroethylvinyl ether	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
trans-1,3-Dichloropropene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Bromoform	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
4-Methyl-2-pentanone	20.	ug/kg	< 20.	< 20.	< 20.	< 20.
2-Hexanone	20.	ug/kg	< 20.	< 20.	< 20.	< 20.
Tetrachloroethene	5.0	ug/kg	< 5.0	30.	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Xylenes (total)	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
1,3-Dichlorobenzene	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
1,4-Dichlorobenzene	10.	ug/kg	< 10.	< 10.	< 10.	< 10.

ANALYTICAL RESULTS
Volatile Organics

NEI/GTEL Client ID: AGS01AGS01
Login Number: W7020115
Project ID (number): AGS01AGS01
Project ID (name): ATLANTIC GEOSCIENCE INC/WILLIAM ST/SNELLVILLE/GA

Method: EPA 8240B
Matrix: Low Soil

NEI/GTEL Sample Number	W7020115-01	W7020115-02	W7020115-03	W7020115-04
Client ID	MW-3 1'	MW-3 6'	MW-2 1'	MW-2 6'
Date Sampled	02/06/97	02/06/97	02/06/97	02/06/97
Date Analyzed	02/16/97	02/16/97	02/16/97	02/16/97
Dilution Factor	1.00	1.00	1.00	1.00

Analyte	Reporting Limit	Units	Concentration:Wet Weight			
Percent Solids	--	%	90.9	83.8	84.5	82.8

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 8240B:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition including promulgated Update II

ANALYTICAL RESULTS
Volatile Organics

NEI/GTEL Client ID: AGS01AGS01
Login Number: W7020115
Project ID (number): AGS01AGS01
Project ID (name): ATLANTIC GEOSCIENCE INC/WILLIAM ST/SNELLVILLE/GA

Method: EPA 8240B
Matrix: Low Soil

NEI/GTEL Sample Number	W7020115-08	W7020115-09	W7020115-13	W7020115-14
Client ID	MW-1 1'	MW-1 6'	MW-6 1'	MW-6 6'
Date Sampled	02/06/97	02/06/97	02/06/97	02/06/97
Date Analyzed	02/16/97	02/16/97	02/17/97	02/17/97
Dilution Factor	1.00	1.00	1.00	1.00

Analyte	Reporting Limit	Units	Concentration:Wet Weight			
Chloromethane	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
Bromomethane	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
Vinyl chloride	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
Chloroethane	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
Methylene chloride	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
Acetone	20.	ug/kg	< 20.	< 20.	< 20.	< 20.
Carbon disulfide	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
cis-1,2-Dichloroethene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
trans-1,2-Dichloroethene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Chloroform	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
2-Butanone	20.	ug/kg	< 20.	< 20.	< 20.	< 20.
1,1,1-Trichloroethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl acetate	20.	ug/kg	< 20.	< 20.	< 20.	< 20.
Bromodichloromethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloropropane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
cis-1,3-Dichloropropene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Trichloroethene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Dibromochloromethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
2-Chloroethylvinyl ether	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
trans-1,3-Dichloropropene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Bromoform	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
4-Methyl-2-pentanone	20.	ug/kg	< 20.	< 20.	< 20.	< 20.
2-Hexanone	20.	ug/kg	< 20.	< 20.	< 20.	< 20.
Tetrachloroethene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Xylenes (total)	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
1,3-Dichlorobenzene	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
1,4-Dichlorobenzene	10.	ug/kg	< 10.	< 10.	< 10.	< 10.

ANALYTICAL RESULTS
Volatile Organics

NEI/GTEL Client ID: AGS01AGS01
Login Number: W7020115
Project ID (number): AGS01AGS01
Project ID (name): ATLANTIC GEOSCIENCE INC/WILLIAM ST/SNELLVILLE/GA

Method: EPA 8240B
Matrix: Low Soil

NEI/GTEL Sample Number	W7020115-08	W7020115-09	W7020115-13	W7020115-14
Client ID	MW-1 1'	MW-1 6'	MW-6 1'	MW-6 6'
Date Sampled	02/06/97	02/06/97	02/06/97	02/06/97
Date Analyzed	02/16/97	02/16/97	02/17/97	02/17/97
Dilution Factor	1.00	1.00	1.00	1.00

Analyte	Reporting Limit	Units	Concentration:Wet Weight			
Percent Solids	--	%	84.7	83.4	77.0	80.6

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution

EPA 8240B:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition including promulgated Update II.

ANALYTICAL RESULTS
Volatile Organics

NEI/GTEL Client ID: AGS01AGS01
Login Number: W7020115
Project ID (number): AGS01AGS01
Project ID (name): ATLANTIC GEOSCIENCE INC/WILLIAM ST/SNELLVILLE/GA

Method: EPA 8240B
Matrix: Low Soil

NEI/GTEL Sample Number	W7020115-18	W7020115-19	W7020115-23	W7020115-24
Client ID	MW-4 1'	MW-4 6'	B-5 1'	B-5 6'
Date Sampled	02/06/97	02/06/97	02/06/97	02/06/97
Date Analyzed	02/18/97	02/18/97	02/19/97	02/19/97
Dilution Factor	1.00	1.00	1.00	1.00

Analyte	Reporting Limit	Units	Concentration:Wet Weight			
Chloromethane	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
Bromomethane	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
Vinyl chloride	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
Chloroethane	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
Methylene chloride	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
Acetone	20.	ug/kg	< 20.	< 20.	< 20.	< 20.
Carbon disulfide	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
cis-1,2-Dichloroethene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
trans-1,2-Dichloroethene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Chloroform	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
2-Butanone	20.	ug/kg	< 20.	< 20.	< 20.	< 20.
1,1,1-Trichloroethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Carbon tetrachloride	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl acetate	20.	ug/kg	< 20.	< 20.	< 20.	< 20.
Bromodichloromethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloropropane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
cis-1,3-Dichloropropene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Trichloroethene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	16.
Dibromochloromethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
2-Chloroethylvinyl ether	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
trans-1,3-Dichloropropene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Bromoform	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
4-Methyl-2-pentanone	20.	ug/kg	< 20.	< 20.	< 20.	< 20.
2-Hexanone	20.	ug/kg	< 20.	< 20.	< 20.	< 20.
Tetrachloroethene	5.0	ug/kg	420	120	< 5.0	130
1,1,2,2-Tetrachloroethane	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Styrene	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
Xylenes (total)	5.0	ug/kg	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
1,3-Dichlorobenzene	10.	ug/kg	< 10.	< 10.	< 10.	< 10.
1,4-Dichlorobenzene	10.	ug/kg	< 10.	< 10.	< 10.	< 10.

ANALYTICAL RESULTS
Volatile Organics

NEI/GTEL Client ID: AGS01AGS01
Login Number: W7020115
Project ID (number): AGS01AGS01
Project ID (name): ATLANTIC GEOSCIENCE INC/WILLIAM ST/SNELLVILLE/GA

Method: EPA 8240B
Matrix: Low Soil

NEI/GTEL Sample Number	W7020115-18	W7020115-19	W7020115-23	W7020115-24
Client ID	MW-4 1'	MW-4 6'	B-5 1'	B-5 6'
Date Sampled	02/06/97	02/06/97	02/06/97	02/06/97
Date Analyzed	02/18/97	02/18/97	02/19/97	02/19/97
Dilution Factor	1.00	1.00	1.00	1.00

Analyte	Reporting Limit	Units	Concentration:Wet Weight			
Percent Solids	--	%	86.5	82.1	--	85.6

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution

EPA 8240B:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition including promulgated Update II

W7020115-18:

1 out of 3 surrogates was outside control limits due to matrix effects.

W7020115-19:

1 out of 3 surrogates was outside control limits due to matrix effects.

ANALYTICAL RESULTS
Volatile Organics

NEI/GTEL Client ID: AGS01AGS01
Login Number: W7020115
Project ID (number): AGS01AGS01
Project ID (name): ATLANTIC GEOSCIENCE INC/WILLIAM ST/SNELLVILLE/GA

Method: EPA 8240B
Matrix: Low Soil

NEI/GTEL Sample Number	W7020115-18	W7020115-19	W7020115-23	W7020115-24
Client ID	MW-4 1'	MW-4 6'	B-5 1'	B-5 6'
Date Sampled	02/06/97	02/06/97	02/06/97	02/06/97
Date Analyzed	02/18/97	02/18/97	02/19/97	02/19/97
Dilution Factor	1.00	1.00	1.00	1.00

Analyte	Reporting Limit	Units	Concentration:Wet Weight			
Percent Solids	--	%	86.5	82.1	--	85.6

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 8240B:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition including promulgated Update II.

W7020115-18:

1 out of 3 surrogates was outside control limits due to matrix effects.

W7020115-19:

1 out of 3 surrogates was outside control limits due to matrix effects.

ANALYTICAL RESULTS
Volatile Organics

NEI/GTEL Client ID: AGS01AGS01
Login Number: W7020115
Project ID (number): AGS01AGS01
Project ID (name): ATLANTIC GEOSCIENCE INC/WILLIAM ST/SNELLVILLE/GA

Method: EPA 8240B
Matrix: Low Soil

NEI/GTEL Sample Number	W7020115-18	W7020115-19	W7020115-23	W7020115-24
Client ID	MW-4 1'	MW-4 6'	B-5 1'	B-5 6'
Date Sampled	02/06/97	02/06/97	02/06/97	02/06/97
Date Analyzed	02/18/97	02/18/97	02/19/97	02/19/97
Dilution Factor	1.00	1.00	1.00	1.00

Analyte	Reporting Limit	Units	Concentration:Wet Weight			
Percent Solids	--	%	86.5	82.1	--	85.6

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA 8240B:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition including promulgated Update II.

W7020115-18:

1 out of 3 surrogates was outside control limits due to matrix effects.

W7020115-19:

1 out of 3 surrogates was outside control limits due to matrix effects.