American Environmental Associates, Inc.
5946 SOUTHLAND DRIVE • ERIE, PA 16509
PHONE (814) 866-7489 • FAX (814) 866-5693

UNDERGROUND STORAGE TANK FACILITY

INITIAL SITE CHARACTERIZATION REPORT

Leo's 3 Car Wash
PADEP Facility I.D. #25-90615
2938 West 26th Street
Erie, Pennsylvania 16506

November 27, 2002

Prepared for:

Leo's 3 Car Wash
2938 West 26th Street
Erie, Pennsylvania 16506
Attn: James Doleski

Prepared by:

American Environmental Associates, Inc.
5946 Southland Drive
Erie, Pennsylvania

James Sturm, P.G.
Sr. Hydrogeologist

TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

INITIAL SITE CHARACTERIZATION REPORT

Leo's 3 Car Wash
PADEP Facility I.D. #25-90615
2938 West 26th Street
Erie, Pennsylvania 16506

1.0 INTRODUCTION

American Environmental Associates, Inc. (AEA) has been contracted by Leo's 3 Car Wash to provide environmental services pursuant to Underground Storage Tank (UST) corrective action and Land Recycling and Environmental Remediation Standards Act (Act 2) regulations at the subject site. The site is a retail gasoline filling station, oil change service and automated car wash located at 2938 West 26th Street, Millcreek Township, Erie County, Pennsylvania. The site location is illustrated on a USGS Topographic Map attached as Figure 1,the Geographic Location Map attached as Figure 2 and Figure 3 is the Site Groundwater Contour Map.

Corrective actions were initiated in response to a release that was discovered during construction of a new canopy on January 23, 2002. The release was eventually found to be associated with a loose swing joint in the regular unleaded line for the middle dispenser. A minor amount of contaminated soil was removed, approximately five tons, and then the new canopy footers were poured. The swing joint leak was repaired at this time. Clean soil conditions were never obtained, and over excavation was not performed at this time due to site constraints. A Notification of Contamination was submitted to the PADEP's Meadville Office on January 23, 2002.

On August 6, 2002, a Geoprobe investigation was conducted by AEA to assess the extent of subsurface soil contamination. Confirmatory soil analysis of samples from the unleaded gasoline UST system area exhibited concentrations in excess of Act 2 Statewide Health Standards (SHS). Corrective actions pursuant to 25 PA Code 245 , administered by the Pennsylvania Department of Environmental Protection (PADEP), were implemented.

The following report outlines the work that has been performed to delineate the extent of subsurface contamination at the subject site.

2.0 SCOPE OF WORK

On October 29 & 30, 2002, AEA mobilized to the site to install six four-inch monitoring wells on the subject site utilizing a hollow-stem auger drill rig. Split spoon sampling at 3 foot intervals was performed during soil boring advancement. The split spoon samplers were decontaminated between sampling intervals with a non-phosphatic soap (Alconox) solution and thoroughly rinsed with deionized water. The collected samples were utilized for lithologic description, headspace screening and subsequent laboratory analysis, as applicable.

Each sample was divided into two portions. One sample was placed in a sealable plastic bag to be used for field headspace screening. The other was set aside for potential laboratory analysis. The samples were field screened with a RAE Industries Mini-RAE 2000 photoionization detector (PID) to determine if Volatile Organic Compounds (VOC's) are present. Prior to the initiation of drilling, the instrument was calibrated using an appropriate span gas. The tip of the instrument was placed into the sample container and the highest reading was recorded. The results are summarized on the soil boring and well completion logs included as Appendix A. Also, refer to Site Geology, section 3.0, for more detailed information of the subsurface geology of the site. The sample from each boring exhibiting the highest PID response was submitted to Environmental Laboratory Services, Inc.(ELS), New Castle, PA for analysis.

The soil samples were analyzed for benzene, toluene, ethyl benzene, xylenes (BTEX), methyl-t-butyl ether (MTBE), cumene and naphthalene via EPA Method 5035/8260B. These analytes are indicator parameters for unleaded gasoline as referenced in PADEP's Technical Document: Closure Requirements for Underground Storage Tank Systems, April 1998. Soil analytical results are summarized in Table 1 and the lab sheets are included as Appendix B. The analytical results indicate that the soil samples for MW#4, MW#5 & MW#6 exceed one or more of the PADEP's Statewide Health Standard's for Used Aquifers in soil.

The resultant soil borings were completed as 4-inch diameter PVC monitoring wells. The annular space was backfilled with well gravel and sealed with bentonite pellets. The remaining portion above the bentonite was sealed with concrete to prevent surface water infiltration. The wells were completed with eight inch diameter, bolt-down manholes and set in two feet square concrete pads. The monitoring wells were secured with watertight locking cap assemblies and keyed-alike padlocks. Soil boring and well completion logs are included as Appendix A.

A brief site reconnaissance of the nearby surroundings shows that residential and commercial dwellings rely on municipal water. Utilities running through the site exist no deeper than four feet below grade. With the shallowest static water level at the site being nearly 9 feet below grade, no potential human receptors exist at the site. Due to the detected constituents being associated with light petroleum products, no ecological screening is required.

3.0 SITE GEOLOGY

The regional geology underlying the project site is the Devonian aged Northeast Shale Formation. The Northeast Shale formation chiefly consists of variegated shale and thin-bedded sandstone. Sandstone generally yields small supplies of water. Site specific depth to bedrock is unknown since it was not encountered during the total drilling depth of twenty five feet. Unconsolidated materials, mainly silts, sands and clays, exist from grade to the total drilling depth of 25 feet. Refer to the Geologic Logs in Appendix A for further geologic information.

4.0 GROUNDWATER MONITORING

On November 7, 2002, all new site monitoring wells (MW#'s 1-6) were gauged utilizing a Solinst Model 122 electronic interface meter to measure the depth to water and to determine the potential presence of separate phase hydrocarbons (SPH's). Depth to groundwater was measured between 8.80 (MW#5) and 11.49 (MW#1) feet below ground surface. Free product or SPH's was encountered during the gauging of monitoring well MW#4. Monitoring well MW#4 was not sampled due to the presence of free product. Groundwater elevation data is presented in Table 2, and Figure 3 is a Site Groundwater Contour Map which has been generated from this data.

Each monitoring well was developed by purging at least five well volumes. The wells were then allowed to recover. Samples were collected utilizing dedicated disposable polyethylene bailers and placed in laboratory provided glassware containing an appropriate preservative. Samples were immediately placed in ice filled coolers and shipped to ELS in New Castle, PA under chain of custody protocol. The groundwater samples were analyzed for BTEX, MTBE, cumene, naphthalene, via U.S. EPA Methods 8260. These analytes are indicator parameters for unleaded gasoline as referenced in PADEP's Technical Document: Closure Requirements for Underground Storage Tank Systems, April 1998. The analytical results are summarized in Table 3 and the lab sheets are in Appendix C.

The analytical results indicate that monitoring wells MW#2, MW#3, MW#5 and MW#6 exceed Statewide Health Standards for Used Aquifers for one or more of the required parameters for unleaded gasoline in groundwater. Monitoring well MW#4 was not sampled due to the presence of free product. The results are summarized in Table 3, and the groundwater sample lab sheets are attached in Appendix C.

5.0 SUMMARY AND RECOMMENDATIONS

American Environmental Associates, Inc. (AEA) has been contracted by Leo's 3 Car Wash to provide environmental services pursuant to Underground Storage Tank (UST) corrective action and Land Recycling and Environmental Remediation Standards Act (Act 2) regulations at the subject site. The site is a retail gasoline filling station, oil change service and automated car wash located at 2938 West 26th Street, Millcreek

Township, Erie County, Pennsylvania. The site location is illustrated on a USGS Topographic Map attached as Figure 1,the Geographic Location Map attached as Figure 2 and Figure 3 is the Site Groundwater Contour Map.

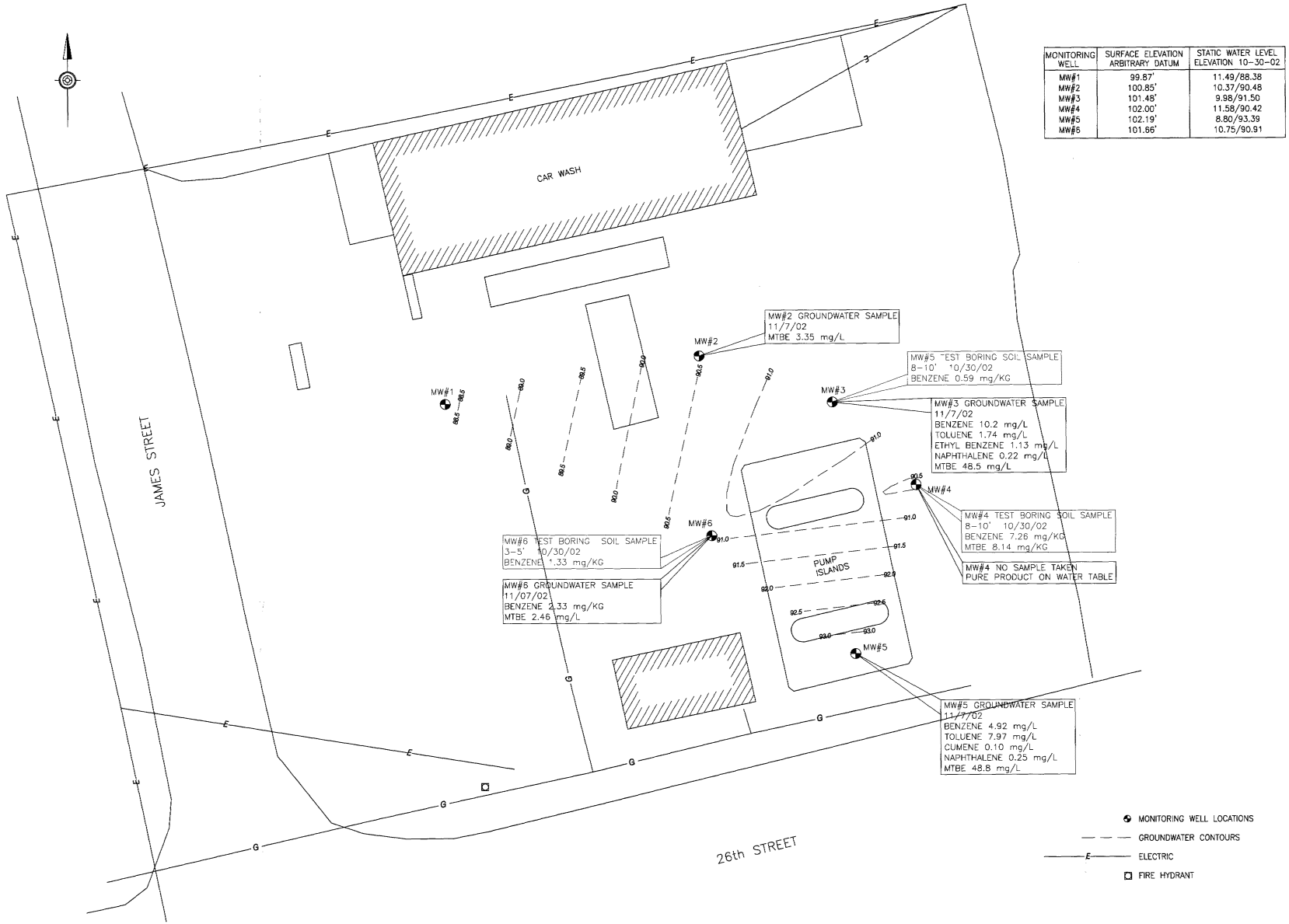
Corrective actions were initiated in response to a release that was discovered during construction of a new canopy on January 23, 2002. The release was eventually found to be associated with a loose swing joint in the regular unleaded line for the middle dispenser. A minor amount of contaminated soil was removed, approximately five tons, and then the new canopy footers were poured. The swing joint leak was repaired at this time. Clean soil conditions were never obtained, and over excavation was not performed at this time due to site constraints. A Notification of Contamination was submitted to the PADEP's Meadville Office on January 23, 2002.

On August 6, 2002, a Geoprobe investigation was conducted by AEA to assess the extent of subsurface soil contamination. Confirmatory soil analysis of samples from the unleaded gasoline UST system area exhibited concentrations in excess of Act 2 Statewide Health Standards (SHS). Corrective actions pursuant to 25 PA Code 245 , administered by the Pennsylvania Department of Environmental Protection (PADEP), were implemented.

Activities conducted during this reporting period include the installation and soil sampling of six monitoring wells (MW#1-MW#6), and the gauging and groundwater sampling of the site monitoring wells. The analytical results indicate that the soil samples for MW#4, MW#5 & MW#6 exceed one or more of the PADEP's Statewide Health Standard's for Used Aquifers in soil. The groundwater analytical data indicates that the samples from monitoring wells MW#2, MW#3, MW#5 and MW#6 exceed Statewide Health Standards for Used Aquifers for some of the required parameters for unleaded gasoline in groundwater. Monitoring well MW#4 was not sampled due to the presence of free product.

The Site Characterization work that is presently being performed is being compared to Pennsylvania Statewide Health Standards for soil and groundwater. Leo's 3 Car Wash is choosing this standard at this time.

Since the full extent of soil and groundwater contamination has not yet been determined, additional site characterization work will be performed in the near future.



MONITORING WELL	SURFACE ELEVATION ARBITRARY DATUM	STATIC WATER LEVEL ELEVATION 10-30-02
MW#1	99.87'	11.49/88.38
MW#2	100.85'	10.37/90.48
MW#3	101.48'	9.98/91.50
MW#4	102.00'	11.58/90.42
MW#5	102.19'	8.80/93.39
MW#6	101.66'	10.75/90.91

REVISIONS

NO.	DESCRIPTION	DATE

DESIGNED BY
DRAWN BY BAW DATE 11/2002
CHECKED BY CRE DATE 11/2002
APPROVED DATE
APPROVED DATE
APPROVED DATE
SCALE 1"=10'
DRAWING NO.

DRAWING TITLE:
LEO'S #3 CAR WASH
ERIE, PA
FIGURE 3:
GROUNDWATER CONTOUR MAP

RAR engineering group, inc.
1138 Butler Avenue, New Castle, Pennsylvania 16101
telephone 724.652.1004 facsimile 724.652.3814
email rarengineering@rarengineering.com

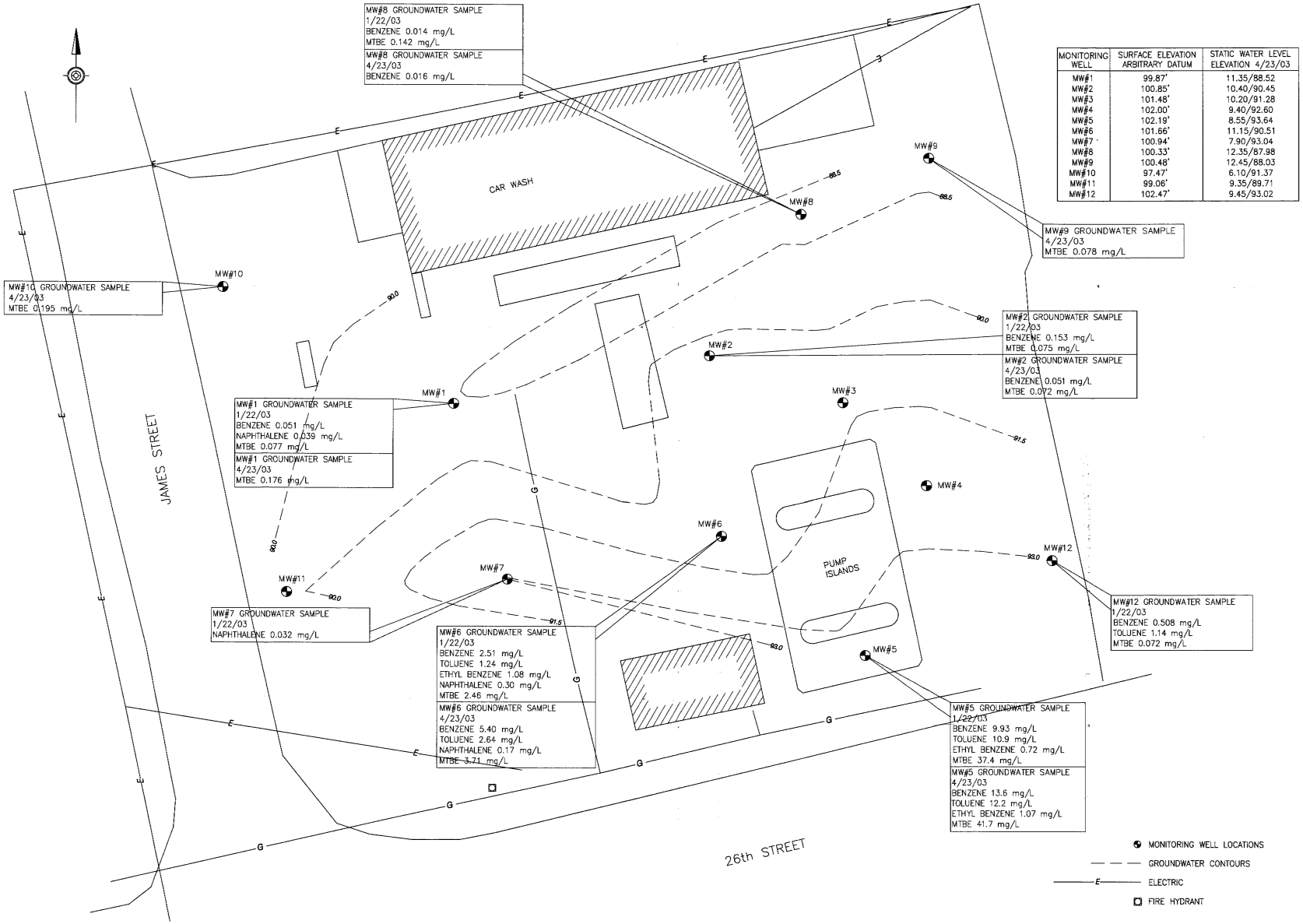
SEAL
SIGNATURE DATE

SHEET NUMBER 1 of 1

FIGURE 1
Leo's 3 Car Wash

USGS 7.5 Minute Topographic Map
1:24,000 Scale

 1000 ft Scale: 1 : 25,000 Detail: 13-0 Datum: WGS84



MONITORING WELL	SURFACE ELEVATION ARBITRARY DATUM	STATIC WATER LEVEL ELEVATION 4/23/03
MW#1	99.87'	11.35/88.52
MW#2	100.85'	10.40/90.45
MW#3	101.48'	10.20/91.28
MW#4	102.00'	9.40/92.60
MW#5	102.19'	8.55/93.64
MW#6	101.66'	11.15/90.51
MW#7	100.94'	7.90/93.04
MW#8	100.33'	12.35/87.98
MW#9	100.48'	12.45/88.03
MW#10	97.47'	6.10/91.37
MW#11	99.06'	9.35/89.71
MW#12	102.47'	9.45/93.02

REVISIONS

NO.	DATE	DESCRIPTION

DESIGNED BY
DRAWN BY BWW DATE 1/2003
CHECKED BY CRE DATE 1/2003
APPROVED DATE
APPROVED DATE
APPROVED DATE
SCALE 1"=10'
DRAWING NO.

DRAWING TITLE:
LEO'S #3 CAR WASH
ERIE, PA
FIGURE 3:
GROUNDWATER CONTOUR MAP

RAR engineering group, inc.
1135 Butler Avenue, New Castle, Pennsylvania 16101
telephone 724.652.3009 facsimile 724.652.3034
email rarengineering@rarengineering.com

SEAL

SIGNATURE DATE

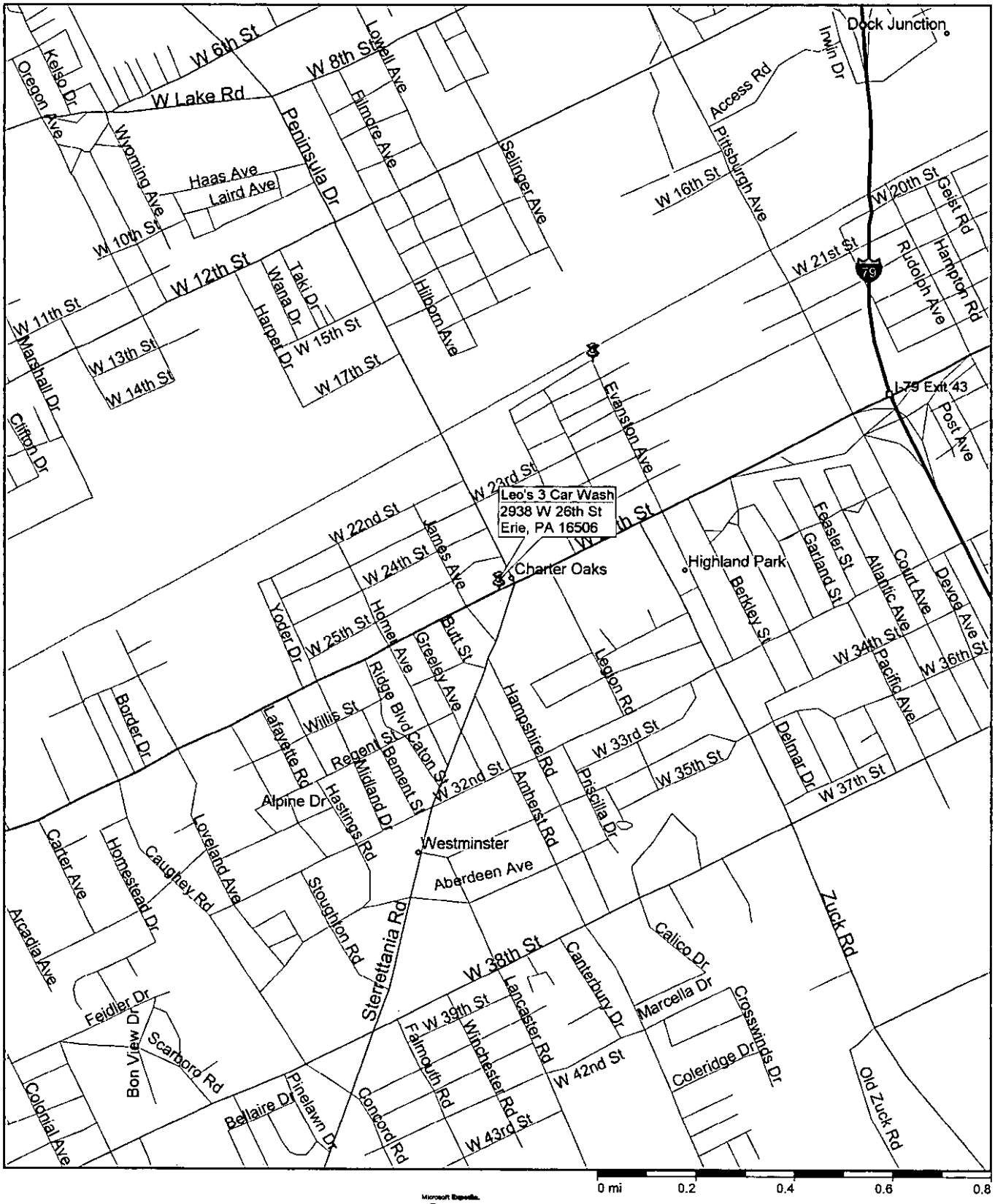
SHEET NUMBER 1 of 1

FIGURE 2
Leo's 3 Car Wash

Geographic Location Map

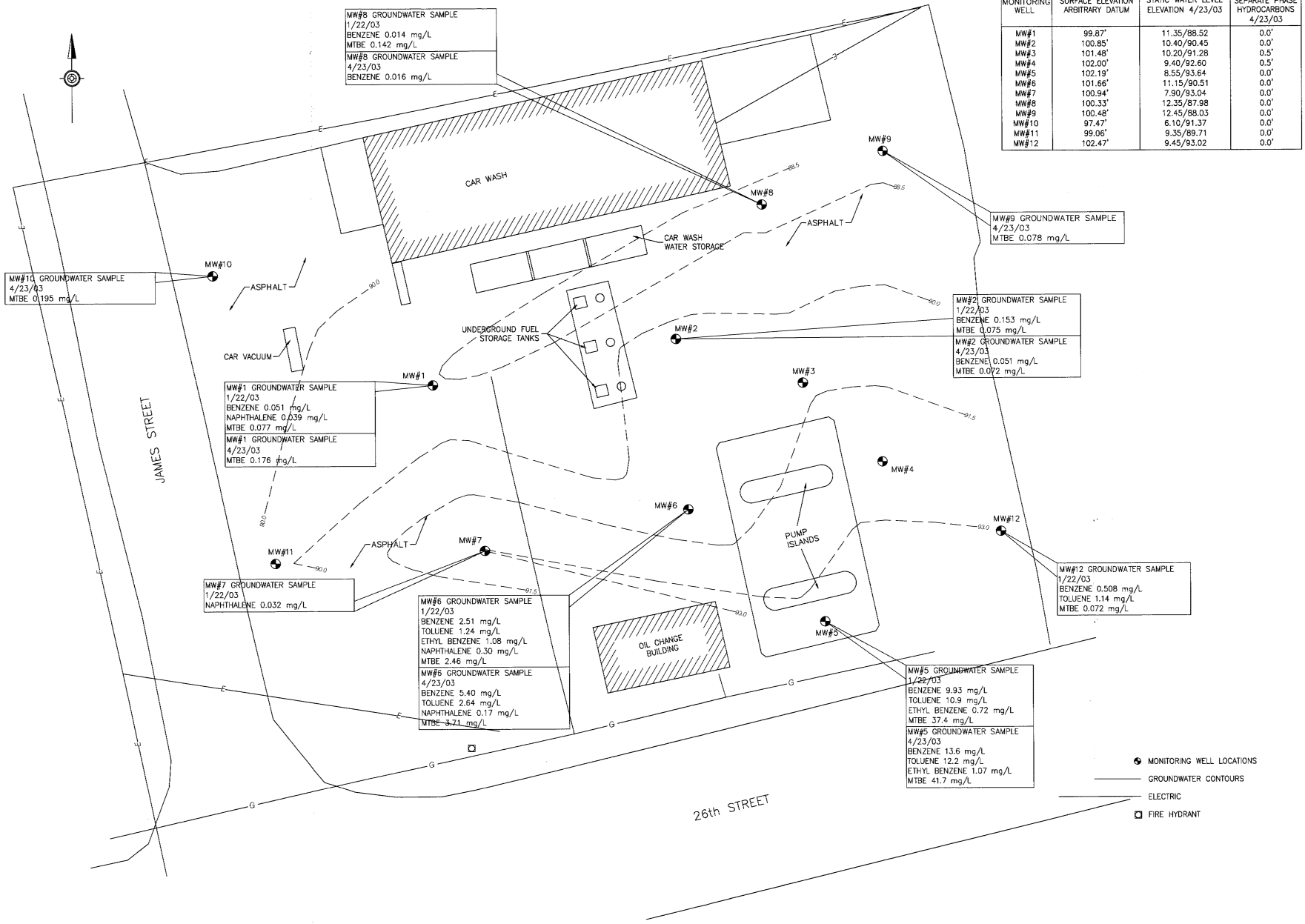
Figure 2. Geographic Location Map

Leo's 3 Car Wash



Microsoft Expedia

Streets98



MONITORING WELL	SURFACE ELEVATION ARBITRARY DATUM	STATIC WATER LEVEL ELEVATION 4/23/03	THICKNESS OF SEPARATE PHASE HYDROCARBONS 4/23/03
MW#1	99.87'	11.35/88.52	0.0'
MW#2	100.85'	10.40/90.45	0.0'
MW#3	101.48'	10.20/91.28	0.5'
MW#4	102.00'	9.40/92.60	0.5'
MW#5	102.19'	8.55/93.64	0.0'
MW#6	101.66'	11.15/90.51	0.0'
MW#7	100.94'	7.90/93.04	0.0'
MW#8	100.33'	12.35/87.98	0.0'
MW#9	100.48'	12.45/88.03	0.0'
MW#10	97.47'	6.10/91.37	0.0'
MW#11	99.06'	9.35/89.71	0.0'
MW#12	102.47'	9.45/93.02	0.0'

REVISIONS

NO.	DATE	DESCRIPTION

DESIGNED BY
DRAWN BY BMW DATE 7/2003
CHECKED BY JSW DATE 7/2003
APPROVED DATE
APPROVED DATE
APPROVED DATE
SCALE 1"=10'
DRAWING NO.

DRAWING TITLE: LEO'S #3 CAR WASH
ERIE, PA
FIGURE 2:
FIELD INVESTIGATION MAP

RAR engineering group, inc.
1135 Butler Avenue, New Castle, Pennsylvania 16101
telephone 724.652.1004 facsimile 724.652.3814
email rareengineering@rareengineering.com

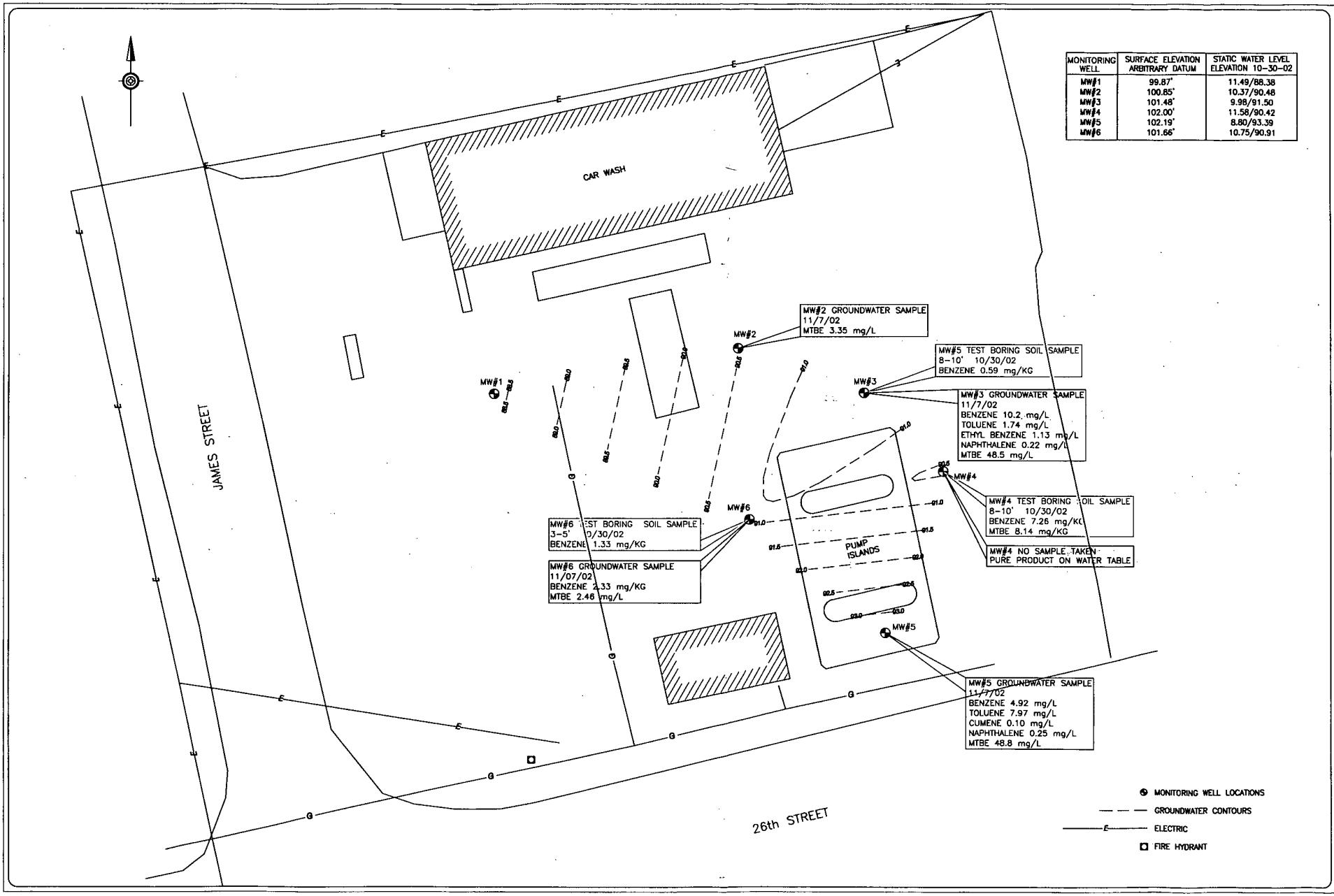
SEAL
SIGNATURE DATE

SHEET NUMBER
1 of 1

FIGURE 3

Leo's 3 Car Wash

Site Groundwater Contour Map



MONITORING WELL	SURFACE ELEVATION ARBITRARY DATUM	STATIC WATER LEVEL ELEVATION 10-30-02
MW#1	99.87'	11.49/88.38
MW#2	100.85'	10.37/90.48
MW#3	101.48'	9.98/91.50
MW#4	102.00'	11.58/90.42
MW#5	102.19'	8.80/93.39
MW#6	101.66'	10.75/90.91

REVISIONS

NO.	DATE	DESCRIPTION

DESIGNED BY: DATE
DRAWN BY: BNW DATE: 11/2002
CHECKED BY: CRE DATE: 11/2002
APPROVED: DATE
APPROVED: DATE
APPROVED: DATE
SCALE: 1"=20'
DRAWING NO.

DRAWING TITLE:
LEO'S #3 CAR WASH
ERIE, PA
FIGURE 3: GROUNDWATER CONTOUR MAP

RAR engineering group, inc.
1133 Parker Avenue, New Castle, Pennsylvania 16101
telephone 724.652.5324 facsimile 724.652.5814
email rarengineering@rarengineering.com

SEAL

SIGNATURE DATE

SHEET NUMBER
1 of 1

TABLES

Table 1. Summary of Analytical Results- Soil Samples
Leo's 3 Car Wash
Erie, PA

Parameter	MW#1	MW#2	MW#3	MW#4	MW#5	MW#6	*SHS
Benzene	<0.1	0.26	0.10	**7.26**	**0.59**	**1.33**	**0.5**
Toluene	<0.2	<0.2	1.23	61.8	0.31	0.58	**100**
Ethyl benzene	0.90	3.39	3.45	17.6	0.38	14.9	**70**
Xylenes	1.56	2.03	11.5	98.8	1.33	65.5	**1000**
Cumene	<0.2	0.50	1.07	4.81	<0.2	0.55	**18**
Naphthalene	0.29	0.82	1.71	3.42	<0.2	0.57	**10**
MTBE	<0.2	<0.2	0.25	**8.14**	<0.2	<0.2	**2**

Note: All results are in mg/kg or ppm.
Bolded numbers exceed allowable limits.
*SHS=Statewide Health Standard for Soil.

Table 2. Groundwater/ SPH Gauging Data
Leo's 3 Car Wash
Erie, PA

Monitoring Well	Depth to SPH	Depth to Groundwater
MW#1	None	11.49'
MW#2	None	10.37'
MW#3	None	9.98'
MW#4	9.90'	11.58'
MW#5	None	8.80'
MW#6	None	10.75'

Note: SPH = Separate Phase Hydrocarbons

Table 3. Summary of Analytical Results- Monitoring Well Samples
Leo's 3 Car Wash
Erie, PA

Parameter	MW#1	MW#2	MW#3	MW#4	MW#5	MW#6	**SHS
Benzene	<0.001	0.001	**10.2**	*NS	**4.92**	**2.33**	**0.005**
Toluene	<0.002	<0.002	**1.74**	NS	**7.97**	0.49	**1.0**
Ethyl benzene	0.013	<0.002	**1.13**	NS	0.62	0.125	**0.70**
Xylenes	0.008	<0.002	3.90	NS	3.69	0.519	**10.0**
Cumene	<0.002	<0.002	<0.1	NS	**0.10**	<0.002	**0.025**
Naphthalene	0.002	<0.002	**0.22**	NS	**0.25**	0.017	**0.020**
MTBE	0.009	**3.35**	**48.5**	NS	**48.8**	**2.46**	**0.020**

Note: All results are in mg/l or ppm.
Bolded numbers exceed allowable limits.
*NS=No Sample. This MW was not sampled due to the presence of Free Product.
**SHS=Statewide Health Standard for Groundwater.

APPENDIX A

Test Boring Logs

MONITORING WELL LOG

MW#1

Surface Elevation (MSL): N/A

Casing Stickup: _____

Borehole Diameter: 8 inches, From 0 To 25'

_____ inches, From _____ To _____

Total Depth: 25'

Depth of Ground Water: -

Date Measured: -

Drilling Method: HOLLOW-STEM AUGER

Date Drilled: 10/29/02

Drilled By: CHATFIELD DRILLING

Logged By: CHET ELEWSKI

County: ERIE

Township or Municipality: MILLCREEK TWP

Project Name: LEO'S CARWASH

Depth (Ft.)	Lithologic Discription	Strat. Symbol	Samples No.	Samples Rec/Att	PID Meter Response	Comments	Depth (Ft.)
0	6" ASPHALT 6"-3' SAND & BROWN SILTY SOIL					MANHOLE COVER W/ LOCKING CAP CONCRETE COLLAR	0
	BROWN SILTY SAND & GRAVEL			18"	36.2	BENTONITE CLAY SEAL 1' ABOVE SCREEN	
5	BROWN GRAY SANDY SILT					5' OF SOLID WALL 2" PVC PIPE	5
	BROWN GRAY SANDY SILT			16"	2379		
10	BROWN GRAY SANDY SILT						10
	GRAY SILTY SAND			16"	65		
15	GRAY SILT & SHALE					SAND PACK	15
20						20' OF 0.010 SLOT 2" PVC SCREEN	20
25						PVC END CAP	25
30							30
35							35
40							40

MONITORING WELL LOG

MW#2

Surface Elevation (MSL): N/A

Casing Stickup: _____

Borehole Diameter: 8 inches, From 0 To 25'

_____ inches, From _____ To _____

Total Depth: 25'

Depth of Ground Water: -

Date Measured: -

Drilling Method: HOLLOW-STEM AUGER

Date Drilled: 10/29/02

Drilled By: CHATFIELD DRILLING

Logged By: CHET ELEWSKI

County: ERIE

Township or Municipality: MILLCREEK TWP

Project Name: LEO'S CARWASH

Depth (Ft.)	Lithologic Discription	Strat. Symbol	Samples No.	Samples Rec/Att	PID Meter Response	Comments
0	6" ASPHALT 6"-3' SAND & DARK BROWN SILTY SOIL, HEAVY PRODUCT ODOR				1158	MANHOLE COVER W/ LOCKING CAP CONCRETE COLLAR
	DARK BROWN SANDY SILT, HEAVY PRODUCT ODOR			14"	2871	BENTONITE CLAY SEAL 1' ABOVE SCREEN
5	DARK BROWN SANDY SILT					5' OF SOLID WALL 2" PVC PIPE
	BROWN DENSE SILTY CLAY			16"	427	
10	BROWN DENSE SILTY CLAY					
	BROWN GRAY SILTY SAND, WET			10"	10	
15	GRAY SILT & CLAY W/SHALE LAYERS					SAND PACK 20' OF 0.010 SLOT 2" PVC SCREEN PVC END CAP
20						
25						
30						
35						
40						

MONITORING WELL LOG

MW#3

Surface Elevation (MSL): N/A

Casing Stickup: _____

Borehole Diameter: 9 inches, From 0 To 24'9"

_____ inches, From _____ To _____

Total Depth: 24'9"

Depth of Ground Water: -

Date Measured: -

Drilling Method: HOLLOW-STEM AUGER

Date Drilled: 10/30/02

Drilled By: CHATFIELD DRILLING

Logged By: JEREMY HOUK

County: ERIE

Township or Municipality: MILLCREEK TWP

Project Name: LEO'S CARWASH

Depth (Ft.)	Lithologic Discription	Strat. Symbol	Samples No.	Samples Rec/Att	PID Meter Response
0	2" ASPHALT DARK GRAY FINE SAND & ROCK FRAGMENTS				142
	GRAY SAND & ROCK FRAGMENTS			8"	166
5	GRAY SILT & SAND W/ROCK FRAGMENTS				
	DENSE GRAY SILT			14"	22
10	DENSE GRAY SILT				
	0-7" DENSE GRAY SILT 7-14" BROWN SAND & ROCK FRAGMENTS, WET			14"	8
15					
	GRAY SHALE				
20					
25					
30					
35					
40					

Comments:

- MANHOLE COVER W/ LOCKING CAP CONCRETE COLLAR
- BENTONITE CLAY SEAL 1' ABOVE SCREEN
- 4'-7" OF SOLID WALL 2" PVC PIPE
- SAND PACK
- 20' OF 0.010 SLOT 2" PVC SCREEN
- PVC END CAP

MONITORING WELL LOG

MW#4

Surface Elevation (MSL): N/A

Casing Stickup: _____

Borehole Diameter: 9 inches, From 0 To 24'8"

_____ inches, From _____ To _____

Total Depth: 24'8"

Depth of Ground Water: –

Date Measured: –

Drilling Method: HOLLOW-STEM AUGER

Date Drilled: 10/30/02

Drilled By: CHATFIELD DRILLING

Logged By: JEREMY HOUK

County: ERIE

Township or Municipality: MILLCREEK TWP

Project Name: LEO'S CARWASH

Depth (Ft.)	Lithologic Discription	Strat. Symbol	Samples No.	Samples Rec/Att	PID Meter Response	Comments	Depth (Ft.)
0	4" ASPHALT FINE DARK GRAY SAND & ROCK FRAGMENTS				136	MANHOLE COVER W/ LOCKING CAP CONCRETE COLLAR	0
5	BROWN & GRAY SAND, STRONG ODOR			15"	192	BENTONITE CLAY SEAL 1' ABOVE SCREEN 4'-6" OF SOLID WALL 2" PVC PIPE	5
	GREENISH GRAY SILT						
10	BROWN & GRAY SILT W/ ROCK FRAGMENTS			10"	210		10
	GRAY SILT & SAND, WET @12'						
15	0-8" DENSE GRAY SILT 8-15" BROWN SAND 15-17" DENSE GRAY SILT			17"	120	SAND PACK	15
20	GRAY SILT & SHALE					20' OF 0.010 SLOT 2" PVC SCREEN	20
25						PVC END CAP	25
30							30
35							35
40							40

MONITORING WELL LOG

MW#5

Surface Elevation (MSL): N/A

Casing Stickup: _____

Borehole Diameter: 9 inches, From 0 To 19.5'

_____ inches, From _____ To _____

Total Depth: 19.5'

Depth of Ground Water: -

Date Measured: -

Drilling Method: HOLLOW-STEM AUGER

Date Drilled: 10/30/02

Drilled By: CHATFIELD DRILLING

Logged By: JEREMY HOUK

County: ERIE

Township or Municipality: MILLCREEK TWP

Project Name: LEO'S CARWASH

Depth (Ft.)	Lithologic Discription	Strat. Symbol	Samples No.	Samples Rec/Att	PID Meter Response	Comments
0	6" CONCRETE BROWN SAND & ROCK FRAGMENTS					MANHOLE COVER W/ LOCKING CAP CONCRETE COLLAR
	BROWN SAND & ROCK FRAGMENTS			12"	42	BENTONITE CLAY SEAL 1' ABOVE SCREEN
5	BROWN & GRAY SAND AND ROCK FRAGMENTS					4'-3" OF SOLID WALL 2" PVC PIPE
	DENSE GRAY SILT & ROCK FRAGMENTS			12"	24	
10	DENSE GRAY SILT					
	0-14" DENSE GRAY SILT, WET @ 15'; 14-20" BROWN SAND & ROCK FRAGMENTS			20"	5.4	SAND PACK
15	GRAY SHALE					15' OF 0.010 SLOT 2" PVC SCREEN
20	AUGER REFUSAL @ 19.5'					PVC END CAP
25						
30						
35						
40						

MONITORING WELL LOG

MW#6

Surface Elevation (MSL): N/A

Casing Stickup: _____

Borehole Diameter: 9 inches, From 0 To 24'9"

_____ inches, From _____ To _____

Total Depth: 24'9"

Depth of Ground Water: -

Date Measured: -

Drilling Method: HOLLOW-STEM AUGER

Date Drilled: 10/30/02

Drilled By: CHATFIELD DRILLING

Logged By: JEREMY HOUK

County: ERIE

Township or Municipality: MILLCREEK TWP

Project Name: LEO'S CARWASH

Depth (Ft.)	Lithologic Discription	Strat. Symbol	Samples No.	Samples Rec/Att	PID Meter Response	Comments	Depth (Ft.)
0	3" ASPHALT BROWN SAND & ROCK FRAGMENTS					MANHOLE COVER W/ LOCKING CAP CONCRETE COLLAR	0
	GRAY SAND & ROCK FRAGMENTS			24"	114	BENTONITE CLAY SEAL 1' ABOVE SCREEN	
5	GRAY-GREEN SILT					4'-7" OF SOLID WALL 2" PVC PIPE	5
	DENSE GRAY SILT				114		
10	GRAY SILT & SAND						10
	0-4" WET GRAY SAND 4-18" DENSE BROWN SILT			18"	10.4		
15						SAND PACK	15
20	GRAY SHALE & SILT					20' OF 0.010 SLOT 2" PVC SCREEN	20
25						PVC END CAP	25
30							30
35							35
40							40

APPENDIX B

Laboratory Analytical Report- Soil

Environmental Laboratory Services, Inc.
1135 Butler Avenue New Castle, PA 16101
Phone (724) 652-5770 • Fax (724) 652-3814

ANALYSIS REQUEST/ENVIRONMENTAL SERVICES CHAIN OF CUSTODY

Client: American Environmental Services, Inc.
Billing Address:
Project Name/#: Leo's #3 Carwash
Project Manager: P.O. #:

Sample Identification	Date Collect	Time Collect	Matrix: Grab	Composite	Soil	Water	Other	Total # Containers	Analysis Requested: Unleaded Gas										
Test Boring MW#1(8-10') Soil Sample	10/29/02				X			2	X										
Test Boring MW#2(3-5') Soil Sample	10/29/02				X			2	X										
Test Boring MW#3(3-5') Soil Sample	10/30/02				X			2	X										
Test Boring MW#4(8-10') Soil Sample	10/30/02				X			2	X										
Test Boring MW#5(3-5') Soil Sample	10/30/02				X			2	X										
Test Boring MW#6(8-10') Soil Sample	10/30/02				X			2	X										

Method of Shipment:
U.P.S.
Federal Express
E.L.S. Pick Up
Personal Delivery

Remarks

Turnaround Time Requested: Normal Rush
(Rush TAT is subject to E.L.S. approval & surcharge)

Rush Results Requested By:

FAX Fax #:

PHONE Phone #:

Relinquished By:	Date	Time	Received By:	Date	Time
[signature]	11/01/2002		[signature]	11/1/02	
Relinquished By:	Date	Time	Received By:	Date	Time
Relinquished By:	Date	Time	Received By:	Date	Time
Relinquished By:	Date	Time	Received By:	Date	Time

Environmental
Laboratory
Services, Inc.

(724) 652-5770
1135 Butler Avenue • New Castle, PA 16101
FAX (724) 652-3814

REPORT DATE: 11/05/02

Customer: American Environmental
Generator: Leo's Car Wash
Sample Name: Test Boring MW#1 (8-10') Soil Sample
Sample Date: 10/29/02
Lab Sample #: HW37583

EPA METHOD 5035/8260B
LABORATORY RESULTS

Parameter	Result as Received, (mg/kg)	Detection Limit, (mg/kg)
Benzene, mg/kg	<0.1	0.1
Toluene, mg/kg	<0.2	0.2
Ethyl Benzene, mg/kg	0.90	0.2
Xylenes, (Total, mg/kg	1.56	0.2
Cumene, mg/kg	<0.2	0.2
Naphthalene, mg/kg	0.29	0.2
MTBE, mg/kg	<0.2	0.2

Mark Swansiger
Lab Director

Environmental
Laboratory
Services, Inc.

(724) 652-5770
1135 Butler Avenue • New Castle, PA 16101
FAX (724) 652-3814

REPORT DATE: 11/05/02

Customer: American Environmental
Generator: Leo's #3 Car Wash
Sample Name: Test Boring MW#4 (8-10') Soil Sample

Environmental
Laboratory
Services, Inc.

(724) 652-5770
1135 Butler Avenue • New Castle, PA 16101
FAX (724) 652-3814

REPORT DATE: 11/05/02

Customer: American Environmental
Generator: Leo's #3 Car Wash
Sample Name: Test Boring MW#2 (3-5') Soil Sample
Sample Date: 10/30/02
Lab Sample #: HW37584

EPA METHOD 5035/8260B
LABORATORY RESULTS

Parameter	Result as Received, (mg/kg)	Detection Limit, (mg/kg)
Benzene, mg/kg	0.26	0.1
Toluene, mg/kg	<0.2	0.2
Ethyl Benzene, mg/kg	3.39	0.2
Xylenes, (Total, mg/kg	2.03	0.2
Cumene, mg/kg	0.50	0.2
Naphthalene, mg/kg	0.82	0.2

Environmental
Laboratory
Services, Inc.

(724) 652-5770
1135 Butler Avenue • New Castle, PA 16101
FAX (724) 652-3814

REPORT DATE: 11/05/02

Customer: American Environmental
Generator: Leo's #3 Car Wash
Sample Name: Test Boring MW#5 (3-5') Soil Sample
Sample Date: 10/30/02
Lab Sample #: HW37587

EPA METHOD 5035/8260B
LABORATORY RESULTS

Parameter	Result as Received, (mg/kg)	Detection Limit, (mg/kg)
Benzene, mg/kg	0.59	0.1
Toluene, mg/kg	0.31	0.2
Ethyl Benzene, mg/kg	0.38	0.2
Xylenes, (Total, mg/kg	1.33	0.2
Cumene, mg/kg	<0.2	0.2
Naphthalene, mg/kg	<0.2	0.2
MTBE, mg/kg	<0.2	0.2

Mark Swansiger
Lab Director

Environmental
Laboratory
Services, Inc.

(724) 652-5770
1135 Butler Avenue • New Castle, PA 16101
FAX (724) 652-3814

REPORT DATE: 11/05/02

Customer: American Environmental
Generator: Leo's #3 Car Wash
Sample Name: Test Boring MW#6 (8-10') Soil Sample
Sample Date: 10/30/02
Lab Sample #: HW37588

EPA METHOD 5035/8260B
LABORATORY RESULTS

Parameter	Result as Received, (mg/kg)	Detection Limit, (mg/kg)
Benzene, mg/kg	1.33	0.1
Toluene, mg/kg	0.58	0.2
Ethyl Benzene, mg/kg	14.9	0.8
Xylenes, (Total, mg/kg	65.5	0.8
Cumene, mg/kg	0.55	0.2
Naphthalene, mg/kg	0.57	0.2
MTBE, mg/kg	<0.2	0.2

Mark Swansiger
Lab Director

APPENDIX C

Laboratory Analytical Report- Groundwater

Environmental
Laboratory
Services, Inc.
1135 Butler Avenue New Castle, PA 16101
Phone (724) 652-5770 • Fax (724) 652-3814

ANALYSIS REQUEST/ENVIRONMENTAL SERVICES
CHAIN OF CUSTODY

Client: AMERICAN ENV.
Billing Address:
Project Name/#: LEO'S CARWASH
Project Manager: P.O. #:

Sample Identification	Date Collect	Time Collect	Matrix: Grab	Composite	Soil	Water	Other	Total # Containers	Analysis Requested: UNLEADED GAS.										Remarks
MW#1	11/7					X		2	X										
MW#2	11/7					X		2	X										
MW#3	11/7					X		2	X										
MW#5	11/7					X		2	X										
MW#6	11/7					X		2	X										

Method of Shipment:
U.P.S.
Federal Express
E.L.S. Pick Up
Personal Delivery

Turnaround Time Requested: Normal Rush
(Rush TAT is subject to E.L.S. approval & surcharge)

Rush Results Requested By:

FAX Fax #:

PHONE Phone #:

Relinquished By:	Date	Time	Received By:	Date	Time
	11/7/02			11/7/02	
Relinquished By:	Date	Time	Received By:	Date	Time
Relinquished By:	Date	Time	Received By:	Date	Time
Relinquished By:	Date	Time	Received By:	Date	Time

Environmental
Laboratory
Services, Inc.

1135 Butler Avenue • New Castle, PA 16101

(724) 652-5770
FAX (724) 652-3814

REPORT DATE: 11/14/02

Customer: American Environmental
Generator: Leo's Car Wash
Sample Name: MW#1
Sample Date: 11/07/02
Lab Sample #: HW37712

EPA METHOD 5030B/8260B
LABORATORY RESULTS

Parameter	Result as Received, (mg/l)	Detection Limit, (mg/l)
Benzene, mg/l	<0.001	0.001
Toluene, mg/l	<0.002	0.002
Ethyl Benzene, mg/l	0.013	0.002
Xylenes, (Total, mg/l)	0.008	0.002
Cumene, mg/l	<0.002	0.002
Naphthalene, mg/l	0.002	0.002
MTBE, mg/l	0.009	0.002

Mark Swansiger
Lab Director

Environmental
Laboratory
Services, Inc.

(724) 652-5770
1135 Butler Avenue • New Castle, PA 16101
FAX (724) 652-3814

REPORT DATE: 11/14/02

Customer: American Environmental
Generator: Leo's Car Wash
Sample Name: MW#2
Sample Date: 11/07/02
Lab Sample #: HW37713

EPA METHOD 5030B/8260B
LABORATORY RESULTS

Parameter	Result as Received, (mg/l)	Detection Limit, (mg/l)
Benzene, mg/l	0.001	0.001
Toluene, mg/l	<0.002	0.002
Ethyl Benzene, mg/l	<0.002	0.002
Xylenes, (Total, mg/l)	<0.002	0.002
Cumene, mg/l	<0.002	0.002
Naphthalene, mg/l	<0.002	0.002
MTBE, mg/l	3.35	0.1

Mark Swansiger
Lab Director

Environmental
Laboratory
Services, Inc.

(724) 652-5770
1135 Butler Avenue • New Castle, PA 16101
FAX (724) 652-3814

REPORT DATE: 11/14/02

Customer: American Environmental
Generator: Leo's Car Wash
Sample Name: MW#3
Sample Date: 11/07/02
Lab Sample #: HW37714

EPA METHOD 5030B/8260B
LABORATORY RESULTS

Parameter	Result as Received, (mg/l)	Detection Limit, (mg/l)
Benzene, mg/l	10.2	0.05
Toluene, mg/l	1.74	0.1
Ethyl Benzene, mg/l	1.13	0.1
Xylenes, (Total, mg/l)	3.90	0.1
Cumene, mg/l	<0.1	0.1
Naphthalene, mg/l	0.22	0.1
MTBE, mg/l	48.5	1.0

Mark Swansiger
Lab Director

Environmental
Laboratory
Services, Inc.

(724) 652-5770
1135 Butler Avenue • New Castle, PA 16101
FAX (724) 652-3814

REPORT DATE: 11/14/02

Customer: American Environmental
Generator: Leo's Car Wash
Sample Name: MW#5
Sample Date: 11/07/02
Lab Sample #: HW37715

EPA METHOD 5030B/8260B
LABORATORY RESULTS

Parameter	Result as Received, (mg/l)	Detection Limit, (mg/l)
Benzene, mg/l	4.92	0.2
Toluene, mg/l	7.97	0.4
Ethyl Benzene, mg/l	0.62	0.01
Xylenes, (Total, mg/l)	3.69	0.4
Cumene, mg/l	0.10	0.01
Naphthalene, mg/l	0.25	0.01
MTBE, mg/l	48.8	1.0

Mark Swansiger
Lab Director

Environmental
Laboratory
Services, Inc.

(724) 652-5770
1135 Butler Avenue • New Castle, PA 16101
FAX (724) 652-3814

REPORT DATE: 11/14/02

Customer: American Environmental
Generator: Leo's Car Wash
Sample Name: MW#6
Sample Date: 11/07/02
Lab Sample #: HW37716

EPA METHOD 5030B/8260B
LABORATORY RESULTS

Parameter	Result as Received, (mg/l)	Detection Limit, (mg/l)
Benzene, mg/l	2.33	0.1
Toluene, mg/l	0.49	0.2
Ethyl Benzene, mg/l	0.125	0.002
Xylenes, (Total, mg/l)	0.519	0.002
Cumene, mg/l	<0.002	0.002
Naphthalene, mg/l	0.017	0.002
MTBE, mg/l	2.46	0.2

Mark Swansiger
Lab Director