



Seymour

Environmental Services, Inc.

Tel: 608-838-9120
Fax: 608-838-9121

June 6, 2012

Mr. Scott Johnson
Wisconsin Department of Natural Resources
3911 Fish Hatchery Road
Madison, Wisconsin 53711



**Re: Progress Update - Proposed Work
Former Highway Cleaners
1509 Elm Street - Boscobel, Wisconsin**

Dear Mr. Johnson:

Seymour Environmental Services, Inc. is pleased to present our proposed work and budget request for the Former Highway Cleaners property in Boscobel, Wisconsin (Figure 1). We previously submitted a budget request for additional geoprobe investigation and are including that work with this request, which also addresses additional soil investigation and vapor intrusion sampling.

SOIL AND GROUNDWATER INVESTIGATION TO DATE

Soil sampling was conducted at the site in 2005. A total of 29 soil samples collected around the subject parcel were analyzed for volatile organic compounds (VOCs). Analysis of the soil samples confirmed that two VOCs are present in soil on the subject parcel, tetrachloroethene (PCE), and methylene chloride. The PCE-impacted soils identified generally are located around the southern end of the building. The maximum concentration of PCE discovered in the soil was 5500 ug/kg at a depth of 8-10 feet near the southeast corner of the building. Sampling indicates that the soil contamination does not extend to the groundwater table (30 ft deep) in this area. A second area of soil containing PCE was identified at the edge of the pavement near the northwest corner of the building. In this area the PCE was noted in shallow soils (0-2 ft deep). The PCE level was ~200 ug/kg. No PCE was detected in soil samples collected at a depth of 8-10 feet in this area. The distribution of the PCE seems to indicate that, at least in part, the PCE originated from a surface spill since the concentrations of the dry cleaning compounds are higher in the shallow soils. A map showing the PCE distribution in soil is included as Figure 2.

In October 2005, five groundwater monitoring wells were installed around the site. Four of the wells were constructed so that the screened section intersects the water table and one was constructed so the screen was submerged approximately 25 feet below the water table (piezometer). Data from the wells was used to evaluate the vertical and horizontal hydraulic gradient and characterize the distribution of contaminants in the groundwater. The water level data showed that shallow groundwater flow is toward the west-northwest. Groundwater analytical data indicated that contamination extended beyond the initial monitoring network. A map showing the water table contour and PCE distribution in groundwater during October 2005 is attached (Figure 3).

Three additional wells were installed and in October 2007 and April 2008 groundwater level data and samples were collected from the wells at the site. The water level data shows that the water table is present at a depth of approximately 30 feet below grade and groundwater flow is toward the west-northwest (Figure 4). Water level data (Table 1) from the well nests (MW-1/PZ-1 and MW-4/PZ-4) were used to evaluate the vertical gradient. The data indicate that no substantial vertical gradient exists at the site. Thus, groundwater flow within the aquifer is primarily horizontal and dissolved contaminants are not likely to be transported downward within the aquifer.

Groundwater analytical collected during the monitoring generally are consistent. Groundwater from all of the water-table monitoring wells contained PCE at levels that exceed the NR140 groundwater quality standards. No contaminants were present in the groundwater at PZ-1 and PZ-4, which are screened deeper within the aquifer. The data show that PCE is present in the groundwater over a large area around the site. The most severe PCE contamination is present near the intersection of Dwight and Elm Streets. Additionally, the only wells where TCE was detected, MW-3 and MW-4, are located in the same area. Groundwater analytical data appear to indicate that the PCE in the groundwater contamination to the north of the site is not migrating from the east since only low levels of PCE were present at MW-5. A map showing the general distribution of PCE in groundwater was constructed using data from April 2008 (Figure 4). Groundwater analytical data is compiled in Table 2.

Based on the information that we have collected to date we will need to conduct additional investigation at the site. Our first priority is to determine if the identified contamination is infiltrating into utility trenches or neighboring structures. We then need to define the extent of both the soil and groundwater contamination in order to determine what remedial actions will be appropriate.

We describe our proposed activities below.

PROPOSED ACTIVITIES

Based on the data collected during our earlier contamination assessment work we recommend additional work at the site. The following items will be addressed to move toward site closure: These items are inter-related and tasks conducted during one step will also impact other steps.

1. Vapor intrusion
2. Migration of PCE through sewer trenches
3. Extent of the source area soil contamination
4. Additional groundwater investigation

1. Vapor Intrusion Assessment

Soil and groundwater sampling conducted at the site have identified dry cleaning chemicals at levels that may present a risk for vapor accumulating in buildings. In particular, PCE levels as high as 5,500 ug/kg were discovered in shallow soils on the subject parcel. This is a particular concern at this site since the contaminants present cannot be detected by smell at the levels that represent a long-term health risk. Therefore, this item needs immediate attention. Our plan is to first address the properties that lie within ~100 feet of the identified contamination. It is likely that the highest vapor levels are present within this area and sampling at those properties will provide an idea of the magnitude and distribution of hazardous vapors in the area.

Task 1 - Sub-slab sampling

Samples of the soil vapors will be collected from beneath the building at the site and two adjacent buildings located immediately to the north and south. Sampling points will be installed through the floor or basement floor depending on the structure. At the subject parcel a sub-slab vapor sample will be collected at both the north and south ends of the building where soil contamination has been identified. Additionally, a sample will be collected near the entry point of the sewer lateral. At the adjacent parcels a sample will be collected from beneath the buildings along the side nearest to the subject site and the other sample will be collected near the entry point for the sewer lateral. The vapor samples collected from beneath the structures will be analyzed for volatile organic compounds (VOCs). The results of the sampling will be compared to the USEPA indoor air risk screening levels. The proposed properties for sub-slab soil vapor sampling are located at the following addresses:

1507 Elm Street (Property to North - Napa Auto Parts)
1509 Elm Street (Subject Parcel - The Carriage House Gift Shop)
1515 Elm Street (Property to South - The Carriage House-Antiques Mall))

Sub-slab vapor sampling probes will be installed by drilling through the floor. The points will be extended to a depth of 9 inches below the slab. A sampling tube will be placed in the newly drilled hole and the area surrounding the tube will be filled with pea gravel to within ~1 inch of the base of the concrete slab. The hole through the slab will be sealed with expanding cement. The exposed portion of the sampling tube will be equipped with flared fitting appropriate for connection to Summa canisters.

Vapor samples will be collected using a Summa canister equipped with a flow regulator to limit flow to less than 200 ml per minute or less. Prior to collecting the sample the vapor sampling point will be purged to remove "stale" vapors. The point will be purged so that one volume of vapor contained in the sampling tube and surrounding gravel pack is removed. Purging will be performed at a rate of 200 ml/minute or less. The seal will be checked using helium and a helium meter.

The costs for this step are summarized in Cost Table 1.

Task 2 - Mitigation system installation/additional sampling (potential)

The sub-slab vapor sampling results will be evaluated to determine whether additional vapor intrusion activities are necessary at the site. This may include additional sub-slab sampling or installation of vapor mitigation systems. If elevated vapor levels are detected beneath any of the initially sampled buildings sub-slab sampling will be conducted at buildings further from the source property. If sub-slab vapor levels below any of the buildings are greater than 10 times the USEPA indoor air hazard levels we will install a vapor mitigation system at that building. Since the buildings of concern are relatively small a low-vacuum blower system similar to the type used for radon mitigation will be used to create a negative pressure beneath the building slab and remove hazardous vapors that accumulate. The approximate cost to install a residential mitigation system is ~\$2,500 per property.

No costs for this item are included in this request.

2. Passive Gas Sampling of Sewer Trenches

We will collect passive vapor samples along the sewer trench leading from the building to the sewer main to determine if the sewer lateral is a source for PCE contamination in the area. The location of the mains and estimated sample points are shown on Figure 5. We will also collect passive vapor samples near the manhole on the sanitary sewer main at the intersection of Elm and Dwight and along the Elm Street main. The samplers will be left in place for 3 days and will be analyzed for chlorinated compounds, which will be presented as a mass rather than a concentration. We will drill 1-inch holes approximately 1 foot deep. The sampler will be placed in the hole and the top sealed with either tin foil or concrete, depending on the surrounding surface. The samplers will then be collected and shipped under chain-of-custody for analysis. Based on the results of the sampling we will construct a map showing the distribution of contaminants in the soil vapors. The data will be used to determine properties where active vapor sampling, sub slab sampling or vapor mitigation may be required.

The costs for this item are summarized in Cost Table 2.

3. Additional Soil Investigation-Geoprobes

Soil sampling conducted at the site to date has identified soils with significant levels of PCE in both the north and south sides of the building. The soil contamination identified is fairly shallow (2- 10 feet deep). Deeper samples collected indicate that the soil contamination does not extend to groundwater at our sampling locations. However, the lateral limit of the identified soil contamination has not been determined. Additionally, no soil sampling has been conducted inside of the building on the subject property.

Soil sampling will be conducted at the following locations:

- On the property to the north to delimit the extent of PCE in soil.
- On the property to the south to delimit the extent of PCE in soil.
- On the east side of the subject property to define the extent of PCE to the east of the building.
- Inside of the building beneath the slab during the installation of the subslab probes.

The proposed locations are shown on Figure 6. We expect to install three soil borings with a geoprobe and up to 3 beneath the slab.

The costs for this work are included in Cost Table 3.

4. Additional Groundwater Investigation

Groundwater contamination from dry cleaning chemicals has been identified across an area to the north and west of the site. The levels of VOCs in the groundwater across nearly the entire monitoring network exceed NR140 groundwater quality standards.

Task 1 - Geoprobe groundwater sampling

Geoprobos will be installed to the north and west of the existing monitoring network to collect groundwater samples from near the water table. The objective of this work is to characterize the general distribution of the groundwater contamination prior to installation of monitoring wells. We are confident that groundwater samples collected with the geoprobe samples will provide reliable information based on previous work at the site. Groundwater samples were collected using a geoprobe and subsequently monitoring wells were installed on the subject property. The analytical results from the groundwater collected from the geoprobes were similar to, although 2-5 times greater, the monitoring well data.

We propose installing up to 8 geoprobes for groundwater sample collection. Proposed sampling locations are shown on the Figure 7. Most of the proposed points are located downgradient from the known contamination. Additionally, several points will be installed along the west side of Elm Street to the north of Dwight Street. The objective of these points is to evaluate whether significant contaminants were released from the site through the sanitary sewers. This seems to be indicated by the relatively high PCE levels in the groundwater near the intersection of Elm and Dwight Street.

The costs for this task are included in Cost Table 3.

Task 2 - Groundwater monitoring well installation/sampling

Based on the results of the geoprobe groundwater data we propose to install eight additional monitoring wells. Six of the wells will be constructed as water table monitoring wells and two as piezometers. Five of the water-table monitoring wells will be installed near the margin of the contamination identified using the geoprobes to delineate the contaminant plume. One water table monitoring well will be installed ~300 feet downgradient from MW-4 to characterize the contaminant levels along the centerline of the plume. The piezometers will be installed along the central axis of the plume. We have not proposed to install an upgradient well, since MW-2 and MW-5 show that the contamination is lower up/sidegradient.


Two rounds of groundwater monitoring will then be conducted. Groundwater monitoring will consist of water level measurements and groundwater sampling. Water level data will be used to evaluate the direction of groundwater flow in the area of the site. Analytical data from the sampling will be used to construct maps showing the distribution of contaminants in the groundwater. Along with the data collected in other proposed activities we expect this data to provide a good picture of where the PCE is "entering" the groundwater and how the contaminant levels change downgradient from the site.

The costs for this task are included in Cost Table 4.

COST ESTIMATE

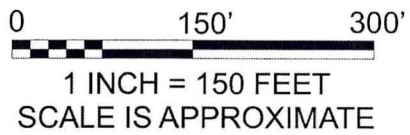
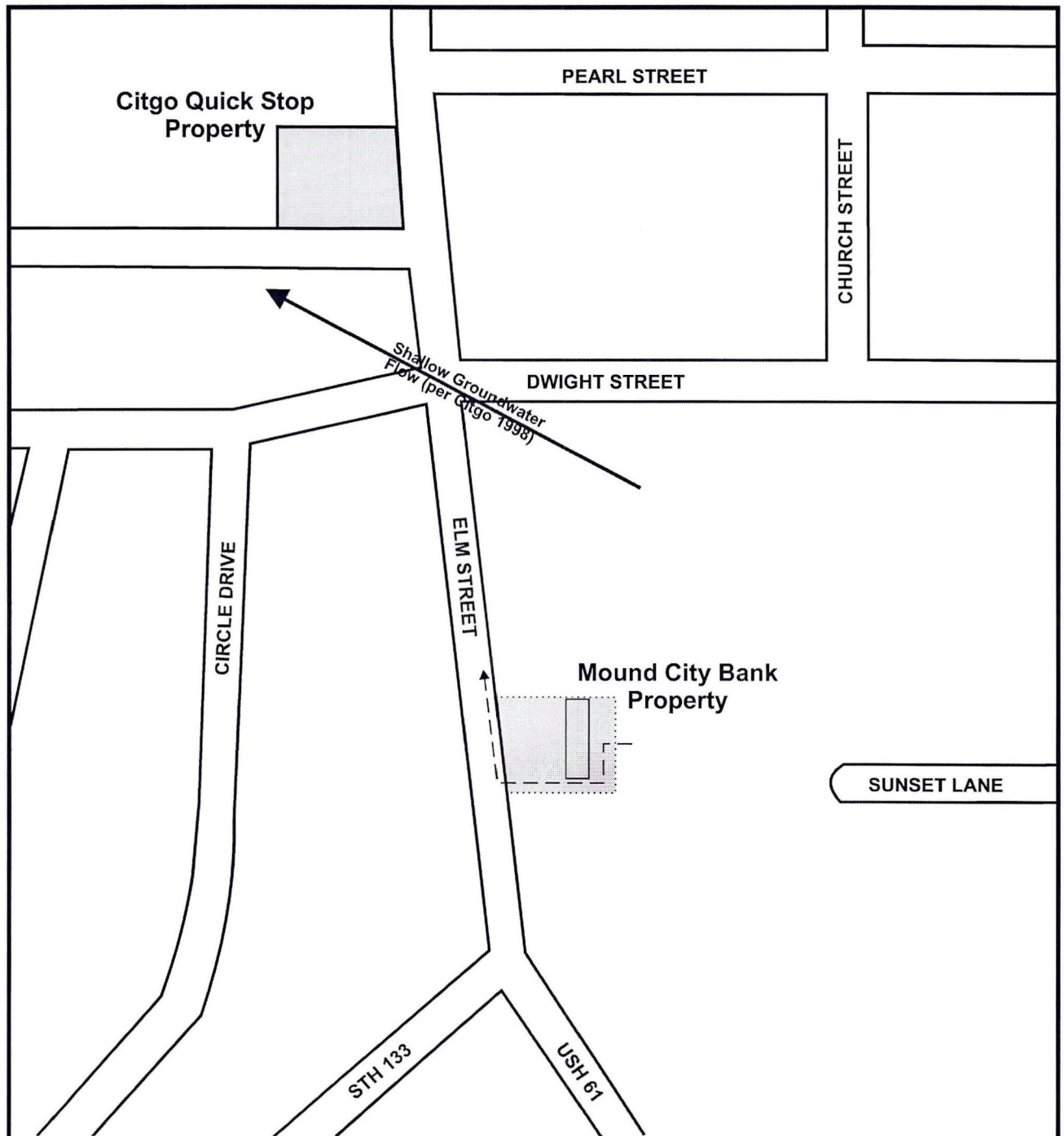
I have attached a cost estimate for the work described above. The estimate contains costs for subslab sampling of 3 properties, passive soil vapor sampling along the sewer trenches, additional onsite soil contamination assessment, and additional groundwater assessment. The costs are broken out on several tables, the subslab sampling costs and passive soil gas assessment costs are each on separate tables, the geoprobe sampling for both soil and groundwater are on a single table and the cost for well installation and groundwater monitoring are also on a single table. Please call if you have any questions and talk to Mark Fryman or me.

Sincerely,
Seymour Environmental Services, Inc.



Robyn Seymour, P.G.
Hydrogeologist

Enc.
Figures (7)
Tables (2)
Cost Tables

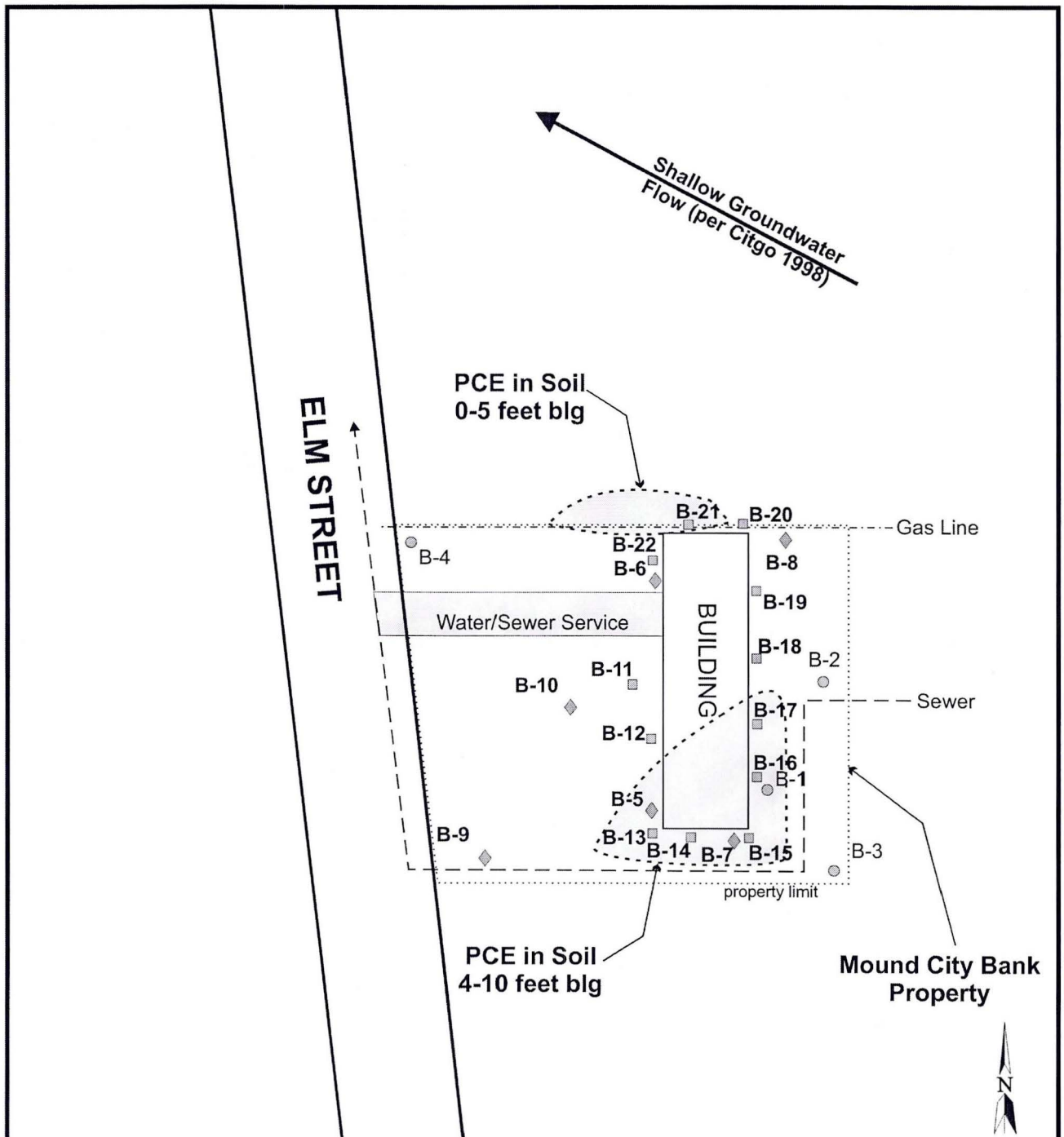


FILE/PATH: D:\PROJECTS\MOUNDCITY\REPORT\ Fig1-location.cdr
 DATE: 01/11/2005
 PREPARED: MDF APPROVED:
 SOURCE:
 DeLORME TOPO USA

**SEYMOUR
 ENVIRONMENTAL
 SERVICES, INC.**

Site Location
 Mound City Bank Property
 1509 Elm Street
 Boscobel, Wisconsin

FIGURE
1



LEGEND

- B-1 ● - Geoprobe (Jan. 2005)
- B-5 ◆ - Geoprobe (Feb. 2005)
- B-11 ■ - Geoprobe (Sept. 2005)

0 40' 80'

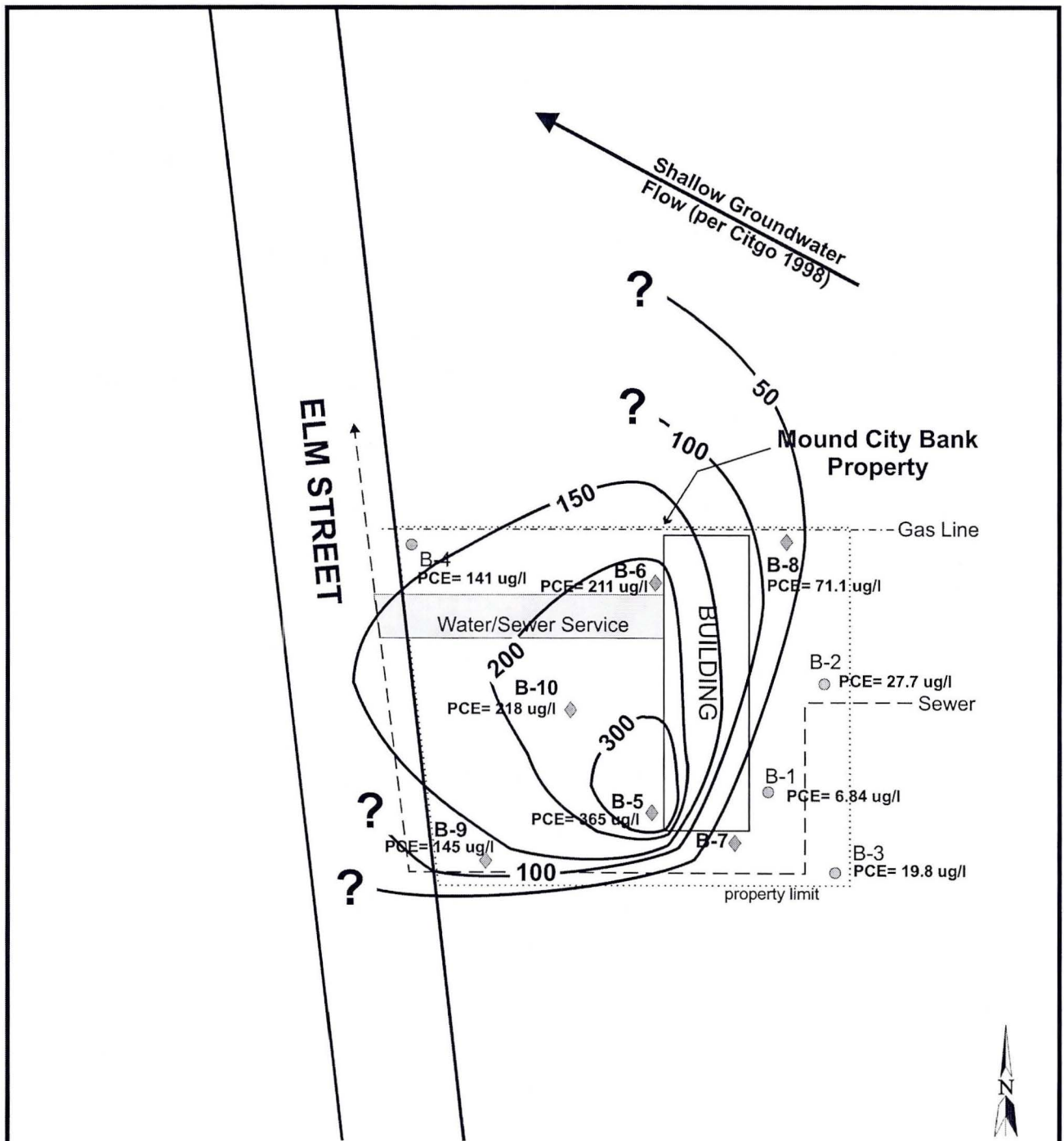
1 INCH = 40 FEET
SCALE IS APPROXIMATE

FILE/PATH: D:\PROJECTSMOUNDCITY\Fig2-PCESoil
DATE: 10/11/2005
PREPARED: MDF APPROVED:
SOURCE:
DeLORME TOPO USA

SEYMOUR
ENVIRONMENTAL
SERVICES, INC.

Extent of PCE-Impacted Soil
Mound City Bank Property
1509 Elm Street
Boscobel, Wisconsin

FIGURE
2



LEGEND

B-1 ○ - Geoprobe (Jan. 2005)

B-5 ◇ - Geoprobe (Feb. 2005)

0 40' 80'

1 INCH = 40 FEET
SCALE IS APPROXIMATE

FILE/PATH: D:\PROJECTS\MOUND CITY\REPORT
Fig3-PCEFeb2005.cdr

DATE: 03/15/2005

PREPARED: MDF APPROVED:

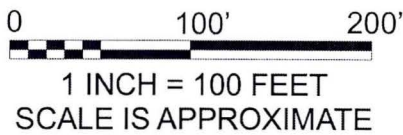
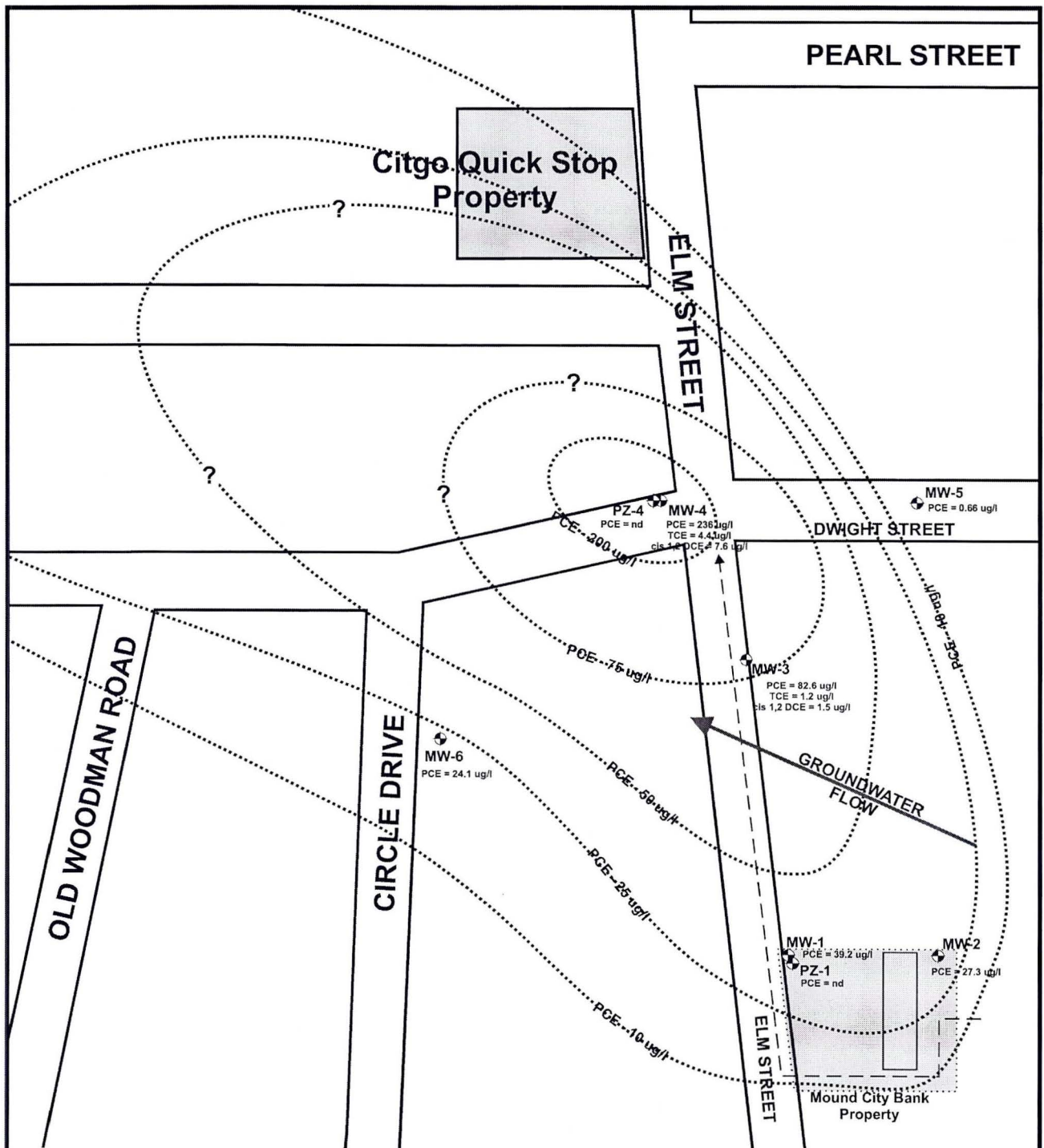
SOURCE:
DeLORME TOPO USA /
FIELD MEASUREMENTS

SEYMOUR
ENVIRONMENTAL
SERVICES, INC.

PCE Distribution in Groundwater 2005
Mound City Bank Property
1509 Elm Street
Boscobel, Wisconsin

FIGURE

3



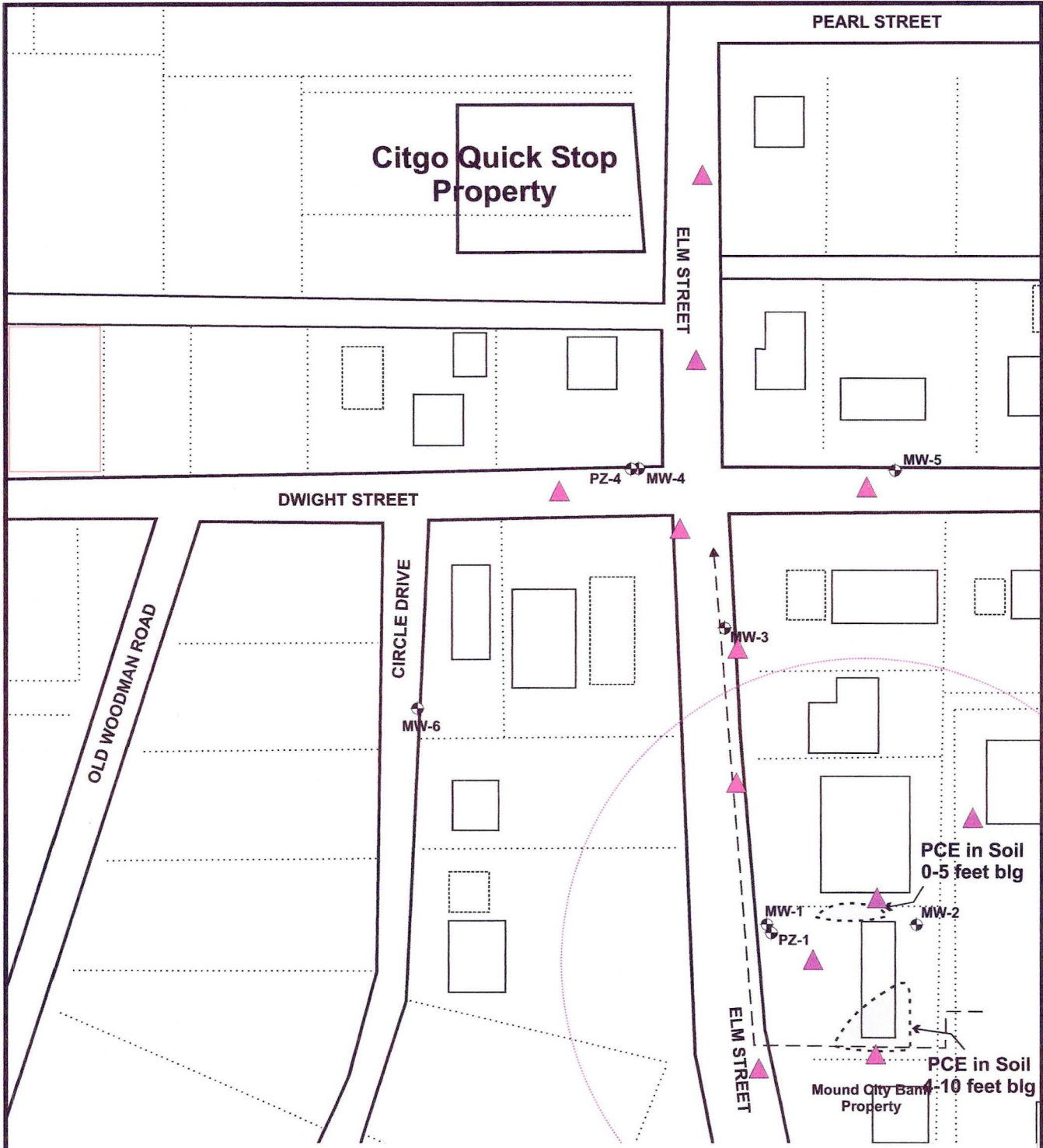
FILE/PATH: D:\PROJECTS\MOUND\CITY\REPORT\FEB2006\Fig3-gwchem.cdr
 DATE: 02/24/2006
 PREPARED: MDF APPROVED:
 SOURCE:
 DeLORME TOPO USA /
 FIELD MEASUREMENTS

SEYMOUR
 ENVIRONMENTAL
 SERVICES, INC.

PCE IN SHALLOW GROUNDWATER (Apr. 08)
 Mound City Bank Property
 1509 Elm Street
 Boscobel, Wisconsin

FIGURE

4

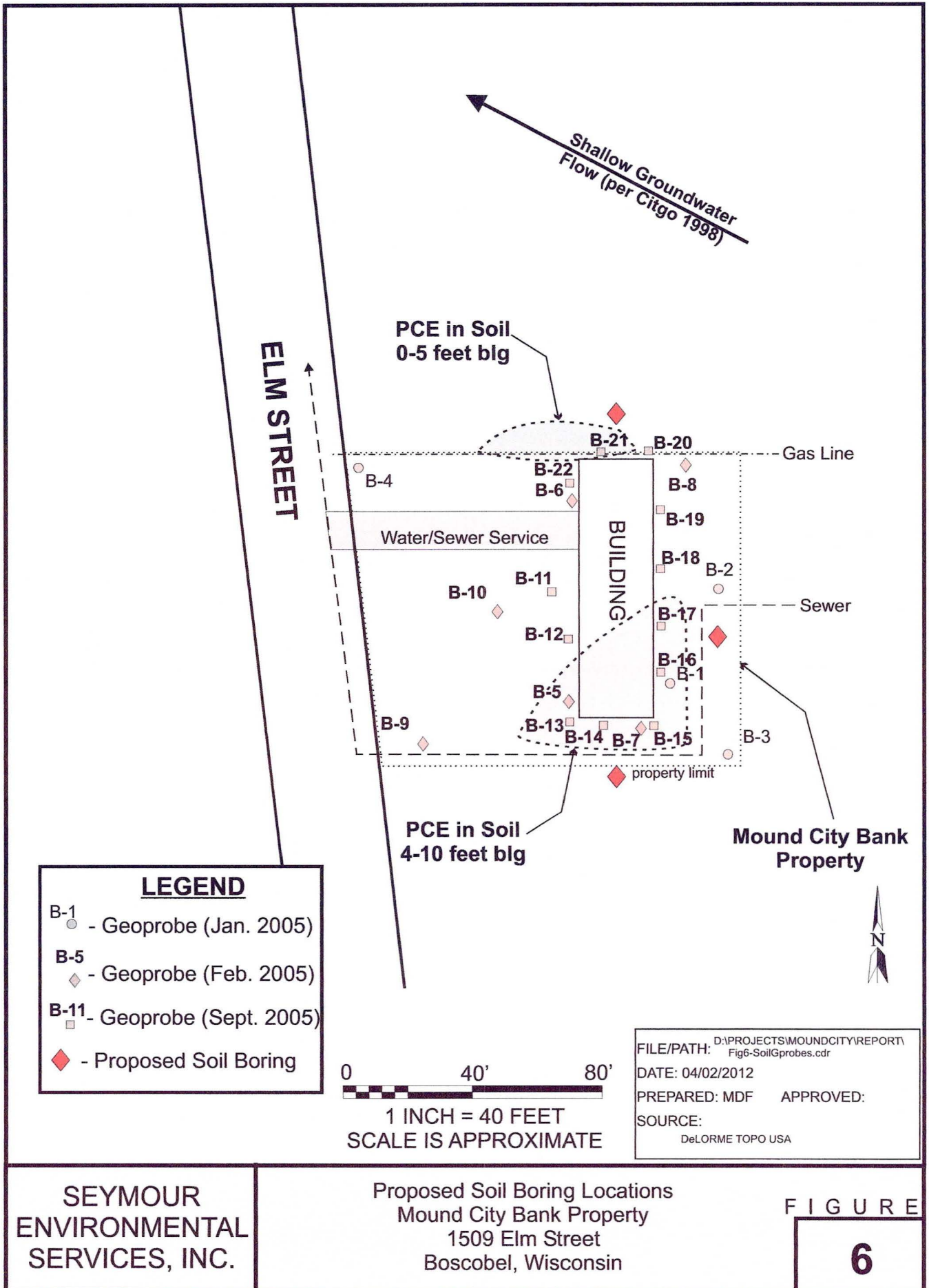


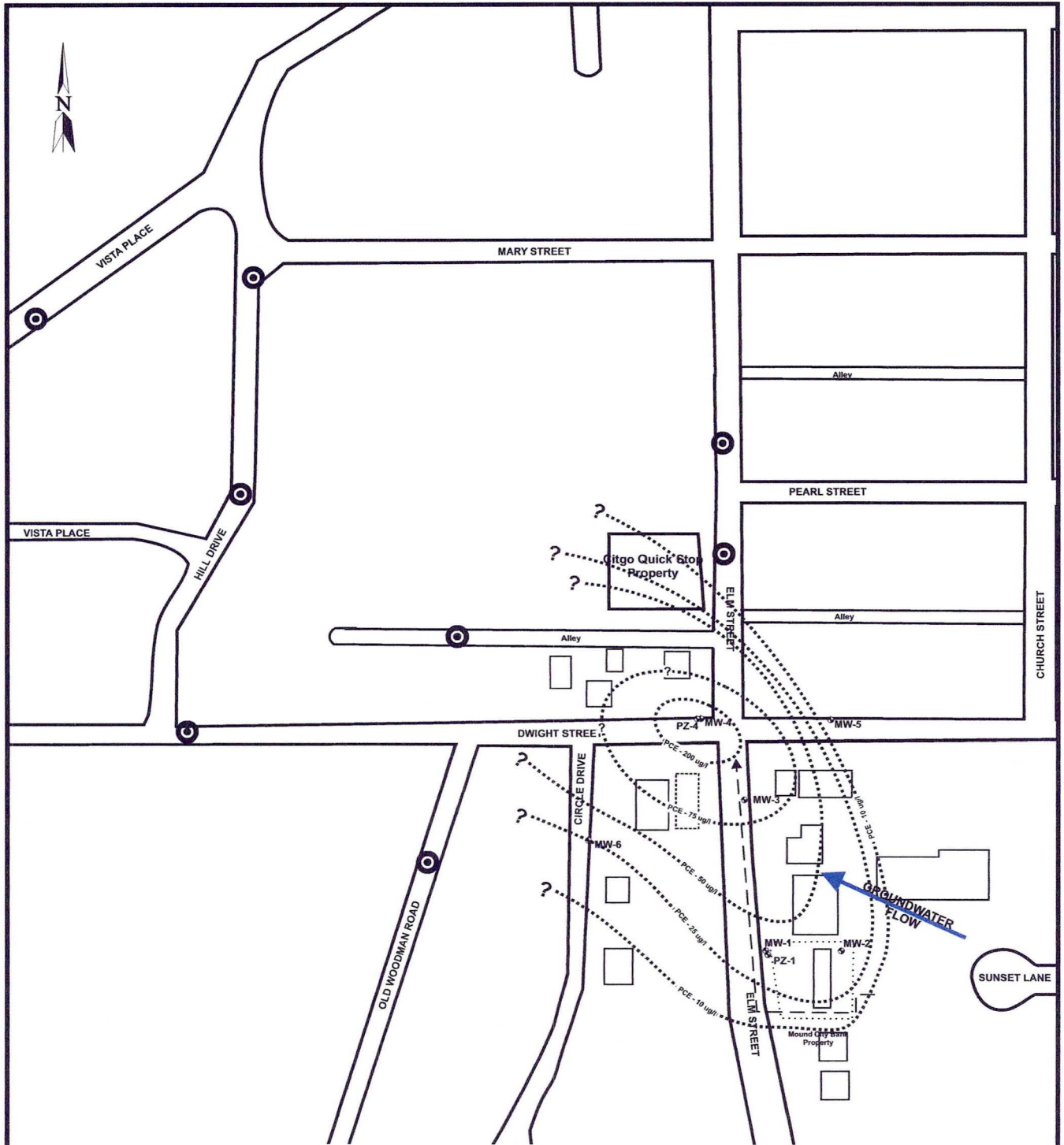
FILE/PATH: D:\PROJECTS\MOUND\CITY\REPORTS\Fig5-passivegas.cdr
 DATE: 04/02/2012
 PREPARED: MDF APPROVED:
 SOURCE:
 DeLORME TOPO USA /
 FIELD MEASUREMENTS

SEYMOUR
 ENVIRONMENTAL
 SERVICES, INC.

Proposed Passive Gas Sampling Locations
 Mound City Bank Property
 1509 Elm Street
 Boscobel, Wisconsin

FIGURE
5





FILE/PATH: D:\PROJECTS\MOUND\CITY\REPORT\ Fig7-gwprobes.cdr
 DATE: 03/02/2012
 PREPARED: MDF APPROVED:
 SOURCE:
 DeLORME TOPO USA /
 FIELD MEASUREMENTS

0 200' 400'
 1 INCH = 200 FEET
 SCALE IS APPROXIMATE

SEYMOUR
 ENVIRONMENTAL
 SERVICES, INC.

PROPOSED GROUNDWATER GEOPROBES
 Mound City Bank Property
 1509 Elm Street
 Boscobel, Wisconsin

FIGURE

7

TABLE 1
SUMMARY OF WELL DETAILS AND GROUNDWATER LEVEL DATA
Mound City Bank Property - 1509 Elm Street - Boscobel, Wisconsin

WELL CONSTRUCTION INFORMATION								
WELL	Date Installed	TOC Elevation	Well Depth	Screen Length	Top of Screen Elevation	Base of Screen Elevation		
MW-1	10/10/05	993.99	38.41	15	970.58	955.58		
MW-2	10/11/05	994.52	38.45	15	971.07	956.07		
MW-3	10/11/05	994.76	39.45	15	970.31	955.31		
MW-4	10/12/05	994.83	39.42	15	970.41	955.41		
PZ-1	10/10/05	994.09	58.70	5	940.39	935.39		
MW-5	9/11/07	994.78	39.85	15	969.93	954.93		
MW-6	9/11/07	993.68	39.51	15	969.17	954.17		
PZ-4	9/10/07	994.51	59.80	5	939.71	934.71		
WATER LEVEL DATA								
Date	10/19/05		01/25/06		10/3/07		04/02/08	
WELL	Depth	Elevation	Depth	Elevation	Depth	Elevation	Depth	Elevation
MW-1	30.34	963.65	30.52	963.47	28.31	965.68	28.53	965.46
MW-2	30.70	963.82	30.92	963.60	28.69	965.83	28.92	965.60
MW-3	31.21	963.55	31.39	963.37	29.26	965.50	29.45	965.31
MW-4	31.49	963.34	31.63	963.20	29.56	965.27	29.74	965.09
PZ-1	30.41	963.68	30.61	963.48	28.43	965.66	28.64	965.45
MW-5	--	--	--	--	29.17	965.61	29.38	965.40
MW-6	--	--	--	--	28.47	965.21	28.62	965.06
PZ-4	--	--	--	--	* 32.46	* 962.05	29.40	965.11
VERTICAL GRADIENT DATA								
MW1/PZ1	0.001381		0.000462		-0.00088		-0.00001	
MW4/PZ4	na		na		* -0.13921		0.00002	
<p>- All data is listed in feet or feet above mean sea level</p> <p>- Vertical gradient values listed in ft/ft. Positive value indicates upward gradient.</p> <p>* Data from PZ-4 collected on 10/03/07 may be erroneous because of poor well development</p>								

TABLE 2 (page 1 of 2)
 SUMMARY OF GROUNDWATER CHEMISTRY
 Mound City Bank Property - 1509 Elm Street - Boscobel, Wisconsin

WELL	Date	Select VOCs					
		Tetrachloroethene	Trichloroethene	cis 1,2 dichloroethene	trans 1,2 dichloroethene	Vinyl chloride	Toluene
MW-1	10/19/05	25	<0.20	<0.50	<0.50	<0.20	<0.20
	1/25/06	18	<0.20	<0.50	<0.50	<0.20	<0.20
	10/3/07	23	<0.48	<0.83	<0.89	<0.18	<0.67
	4/2/08	39.2	<0.48	<0.83	<0.89	<0.18	<0.67
MW-2	10/19/05	10	<0.20	<0.50	<0.50	<0.20	<0.20
	1/25/06	15	<0.20	<0.50	<0.50	<0.20	<0.20
	10/3/07	9.8	<0.48	<0.83	<0.89	<0.18	<0.67
	4/2/08	27.3	<0.48	<0.83	<0.89	<0.18	<0.67
MW-3	10/19/05	13	<0.20	<0.50	<0.50	<0.20	<0.20
	1/25/06	5.8	<0.20	<0.50	<0.50	<0.20	<0.20
	10/3/07	77	1.2	1.6	<0.89	<0.18	<0.67
	4/2/08	82.6	1.2	1.5	<0.89	<0.18	<0.67
MW-4	10/19/05	210	1.9	3.4	<2.5	<1.0	<1.0
	1/25/06	34	0.39	0.89	<0.50	<0.20	<0.20
	10/3/07	110	2.0	4.1	<0.89	<0.18	<0.67
	4/2/08	236	4.4	7.6	<0.89	<0.18	<0.67
MW-5	10/3/07	6.2	<0.48	<0.83	<0.89	<0.18	<0.67
	4/2/08	0.66	<0.48	<0.83	<0.89	<0.18	<0.67
MW-6	10/3/07	51	<0.48	<0.83	<0.89	<0.18	<0.67
	4/2/08	24.1	<0.48	<0.83	<0.89	<0.18	<0.67
NR140 PAL		0.5	0.5	7	20	0.02	200
NR140 ES		5	5	70	100	0.2	1000

- All concentrations are listed in ug/l
 * Sample could not be analyzed because of high sediment levels

- NR140 PAL = Preventative action level (bold)
 - NR140 ES = Enforcement standard (shaded)

TABLE 2 (page 2 of 2)
 SUMMARY OF GROUNDWATER CHEMISTRY
 Mound City Bank Property - 1509 Elm Street - Boscobel, Wisconsin

WELL	Date	Select VOCs					
		Tetrachloroethene	Trichloroethene	cis 1,2 dichloroethene	trans 1,2 dichloroethene	Vinyl chloride	Toluene
PZ-1	10/19/05	<0.50	<0.20	<0.50	<0.50	<0.20	<0.20
	1/25/06	<0.50	<0.20	<0.50	<0.50	<0.20	<0.20
	10/3/07	<0.45	<0.48	<0.83	<0.89	<0.18	<0.67
	4/2/08	<0.45	<0.48	<0.83	<0.89	<0.18	<0.67
PZ-4	10/3/07*	na	na	na	na	na	na
	4/2/08	<0.45	<0.48	<0.83	<0.89	<0.18	<0.67
NR140 PAL		0.5	0.5	7	20	0.02	200
NR140 ES		5	5	70	100	0.2	1000

- All concentrations are listed in ug/l

* Sample could not be analyzed because of high sediment levels

- NR140 PAL = Preventative action level (bold)

- NR140 ES = Enforcement standard (shaded)

**SUMMARY OF PROJECTED VAPOR INTRUSION /CONTAMINATION ASSESSMENT COSTS
Former Highway Cleaners (BRRTS:02-22-543001)**

Vapor Intrusion

Estimated Costs for Subslab Sampling (3 properties) - COST TABLE 1

Consulting	\$3,945.00
Contracting	\$0.00
Analytical	\$1,750.00
Miscellaneous	\$850.00
Subtotal	\$6,545.00

Passive Gas Sampling of Sewer Trenches

Estimated Costs for Passive Gas Sampling of Sewer Trenches - COST TABLE 2

Consulting	\$2,785.00
Contracting	\$0.00
Analytical	\$3,500.00
Miscellaneous	\$780.00
Subtotal	\$7,065.00

Geoprobe Investigation

Estimated Costs for Soil and Groundwater Sampling - COST TABLE 3

Consulting	\$2,915.00
Contracting	\$3,000.00
Analytical	\$900.00
Miscellaneous	\$350.00
Subtotal	\$7,165.00

Groundwater Contamination Assessment-Monitoring Wells

Estimated Costs for Groundwater Assessment/Monitoring - COST TABLE 4

Consulting	\$8,365.00
Contracting	\$20,000.00
Analytical	\$2,550.00
Miscellaneous	\$3,450.00
Subtotal	\$34,365.00

ESTIMATED PROJECT TOTAL \$55,140.00

COST TABLE 1
Estimated Sub-Slab Vapor Assessment Costs

SAMPLING POINT INSTALLATION (3 properties)

PROFESSIONAL FEES

	Senior Hydrogeologist	Project Hydrogeologist	Field Geologist	Field Technician	CAD	Word Processing	Cost
Rate/hour	\$90	\$80	\$75	\$65	\$65	\$35	
Access Coordination		6			1		\$545
Field Work			8	8			\$1,120

Total \$1,665

DIRECT COSTS

	Unit Price	No. Units	Lump Sum	Cost
Mileage	\$0.50	200		
Probe Installation	\$25.00	7		\$175.00
Field Consumables	\$50.00	7		\$350.00

Total \$525

Total Costs for Probe Installation \$2,190

VAPOR POINT SAMPLING

PROFESSIONAL FEES

	Senior Hydrogeologist	Project Hydrogeologist	Field Geologist	Field Technician	CAD	Word Processing	Cost
Rate/hour	\$90	\$80	\$75	\$65	\$65	\$35	
Field Work			8	8			\$1,120
Report/Recommendations		12			2	2	\$1,160

Total \$2,280

DIRECT COSTS

	Unit Price	No. Units	Lump Sum	Cost
Mileage	\$0.50	200		
Helium Meter	\$75.00	1		\$75.00
OVM	\$75.00	1		\$75.00
Lab Fees				
Summa Canisters	\$75.00	7		\$525.00
Analysis (TO15)	\$175.00	7		\$1,225.00
Field Consumables	\$25.00	7		\$175.00

Total \$2,075

Total Costs for Vapor Sample Collection \$4,355

Total Estimated Cost for SubSlab Sampling \$6,545

COST TABLE 2
Estimated Passive Gas Sampling of Sewer Trenches-Up to 20 Points

SAMPLING POINT INSTALLATION

PROFESSIONAL FEES

	Senior Hydrogeologist	Project Hydrogeologist	Field Geologist	Field Technician	CAD	Word Processing	Cost
Rate/hour	\$90	\$80	\$75	\$65	\$65	\$35	
Access Coordination		2			1		\$225
Field Work			8	8			\$1,120

Total \$1,345

DIRECT COSTS

	Unit Price	No. Units	Lump Sum	Cost
Mileage	\$0.50	200		
Field Consumables		1	\$500.00	\$500.00

Total \$500

Total Costs for Probe Installation \$1,845

VAPOR POINT SAMPLING

PROFESSIONAL FEES

	Senior Hydrogeologist	Project Hydrogeologist	Field Geologist	Field Technician	CAD	Word Processing	Cost
Rate/hour	\$90	\$80	\$75	\$65	\$65	\$35	
Field Work			8				\$600
Report/R recommendations		8			2	2	\$840

Total \$1,440

DIRECT COSTS

	Unit Price	No. Units	Lump Sum	Cost
Mileage	\$0.50	200		
OVM	\$75.00			\$75.00
Lab Costs				
Passive Sampler Analysis	\$175.00	20		\$3,500.00
Field Consumables	\$14.00	20		\$280.00

Total \$3,855

Total Costs for Passive Sample Collection \$5,295

Total Estimated Cost for Passive Soil Sampling \$7,140

COST TABLE 3
Estimated Geoprobe Soil and Groundwater Assessment

SOIL AND GROUNDWATER SAMPLING

PROFESSIONAL FEES

	Senior Hydrogeologist	Project Hydrogeologist	Field Geologist	Field Technician	CAD	Word Processing	Cost
Rate/hour	\$90	\$80	\$75	\$65	\$65	\$35	
Access Coordination		1			1		\$145
Field Work			24				\$1,800
Reporting		8			4	2	\$970

Total \$2,915

DIRECT COSTS

	Unit Price	No. Units	Lump Sum	Cost
OVM	\$75.00	2		\$150.00
AMS Probe	\$100.00	1		\$100.00
Geoprobe Costs				\$3,000.00
Lab Fees				
VOCs (soil)	\$75.00	6		\$450.00
VOCs (water)	\$75.00	6		\$450.00
Field Consumables	\$100.00	1		\$100.00

Total \$4,250

Total Costs for Soil Assessment \$7,165

COST TABLE 4
Estimated Monitoring Well and Groundwater Sampling Assessment Cost

Well Installation /Groundwater Sampling

PROFESSIONAL FEES

	Senior Hydrogeologist	Project Hydrogeologist	Field Geologist	Field Technician	CAD	Word Processing	Cost
Rate/hour	\$90	\$80	\$75	\$65	\$65	\$35	
Access Coordination		8			1		\$705
Drilling Oversight			40				\$3,000
GW Survey/Sampling			20	20			\$2,800
Reporting		20			4		\$1,860

Total \$8,365

DIRECT COSTS

	Unit Price	No. Units	Lump Sum	Cost
OVM	\$75.00	2		\$150.00
Drilling Costs				\$20,000.00
Lab Fees				
VOCs (soil)	\$75.00	0		\$0.00
VOCs (water)	\$75.00	34		\$2,550.00
Waste Disposal			\$3,000.00	\$3,000.00
Field Consumables	\$50.00	6		\$300.00

Total \$26,000

Total Costs for Groundwater Assessment \$34,365