GEOTEK ENGINEERING
& TESTING SERVICES, INC.
909 East 50th Street North
Sioux Falls, South Dakota 57104
605-335-5512 • FAX 605-335-0773

COPY

LSI UPDATE & CLOSURE REQUEST
GEOTEK
MARCH 18, 2004 13087

March 18, 2004

RECEIVED
MAR 2 2 2004
MPCA, MAR Division
PLR / SS Section

Montgomery Auto Parts
101 E. Front Street
Sherburn, Minnesota 56171
Attn: Mr. Charles Montgomery

Subj: LSI Update Report - **Closure Request**
Montgomery Auto Parts - Sherburn, Minnesota
GeoTek #99-913-6 MPCA #00013087

Dear Mr. Montgomery:

This correspondence provides the results of our drilling and sampling activities at the referenced site on April 17, 2003. The additional work was requested by the Minnesota Pollution Control Agency (MPCA) in written correspondence dated September 29, 2000, in response to our Limited Site Investigation Report dated June 7, 2000.

Scope of Work

The following work was completed and is presented in this report:

-Completion of seven soil borings (SB6-SB12) to depths of 15' in order to further define the extent of contamination in several areas specified by the MPCA.

-Collection of soil and groundwater samples from the soil borings for laboratory analysis of VOC, GRO and DRO compounds.

-Completion of an additional vapor survey in the sanitary and storm sewers near the site.

-Preparation of an LSI Update Report to include the information obtained from the additional soil borings.

Site Location

The site is located in the central business area of Sherburn, Minnesota on the north side of E. Front Street (Figure 1). The area south, east and west of the site is commercial - Front Street is the former US Highway 16, prior to completion of Interstate 90 in the early 1970's. The area north of the site is residential.

Previous Work

Soil borings SB1-SB5 were completed in December 16, 1999 as part of the Limited Site Investigation. The results of the initial drilling were provided in a Limited Site Investigation Report dated June 7, 2000. The initial soil boring locations (SB1-SB5) are indicated on Figure 2 of this report. Additional information can be referenced in the LSI Report previously submitted.

Recent Drilling and Soil Sampling

The additional work requested included soil borings, soil and groundwater sampling analysis, and a vapor survey of the sewers near the site. Soil borings SB6-SB12 were completed on May 2, 2003, and are indicated on Figure 3. The soil boring logs for SB6-SB12 are provided with this report.

Soil samples were collected and scanned in the field with a photoionization detector (PID) for organic vapors as an indication of petroleum contamination. Petroleum vapors were detected in soil samples collected from four of the additional seven soil borings completed at the site. The field PID readings were relatively low (below 50 ppm) in three of the borings.

Petroleum vapors were not detected in the soil samples collected from SB9 and SB10, south and southwest of the site, or in SB12 west of the site. The soil sample PID readings are indicated on the attached soil boring logs for SB7-SB12, and in Table 1.

Based on field PID readings, the majority of petroleum contamination was detected at the 7 - 9.5' depth interval. Soil samples were selected from the 7-9.5' depth interval and were submitted for laboratory analysis of BTEX, MTBE, GRO and DRO compounds. The soil laboratory report for SB7-SB10 is included with this report.

The laboratory information for the soil samples is included in Table 2, and confirms the petroleum contamination detected in soil borings SB7, SB8 and SB11, consistent with field observations. However, laboratory analysis did not confirm the field PID reading detected in SB6. The petroleum (GRO/DRO) levels detected in soil are indicated on Figure 4.

Groundwater Sampling

Groundwater samples were collected from soil borings SB6 – SB12 and were submitted for laboratory analysis of BTEX, MTBE, GRO and DRO. Based on laboratory analysis, petroleum contamination was detected in five of the seven soil borings completed April 17, 2003. It was noted that groundwater contamination was detected in SB10, where soil contamination was not.

The laboratory information for the groundwater samples is included in Table 3. The petroleum (GRO and DRO*) levels detected in groundwater are indicated on Figure 5. The laboratory report for recent (April 17, 2003) groundwater samples is included with this report.

An additional set of groundwater samples were collected from soil borings SB6-SB12 and submitted for analysis of volatile organic compounds (VOC's). The VOC compounds detected are listed in Table 4, and the additional laboratory report is attached.

Trace levels of trimethylbenzene were detected in SB6. The greatest concentrations of petroleum derived compounds were detected in the groundwater samples collected from SB7, SB8 and SB11, south (and west) of the release sources. The Benzene and Ethylbenzene levels detected in SB7 and SB8 exceed the Health Risk Limits (HRL's) established by the Minnesota Department of Health.

Petroleum contamination was not detected in groundwater samples collected from SB9 or SB12. It appears that the groundwater contamination detected in SB10 was primarily MTBE.

Groundwater Receptors

The receptor survey completed during the Initial Site Assessment concluded that no private or public supply wells were identified within 500' of this site. The City of Sherburn receives its water from two deep (275') wells located 1100' northwest of the site. It is unlikely the shallow groundwater in the area would be developed for domestic use.

The most likely groundwater receptor near the site could be the sanitary sewer below the middle of Front Street. It is constructed of clay tiles and is approximately 8' below grade – within the depth zone of petroleum contamination.

* - The laboratory report notes that the diesel range organics reported for SB7, SB8 and SB11 appear to be heavier gasoline compounds.

Petroleum Vapor Survey

The site buildings are constructed slab-on-grade and would not be susceptible to petroleum vapor accumulation. The sanitary sewer and storm sewers were scanned for petroleum vapors on the date of drilling. Petroleum vapors were not detected in the locations scanned. The utility locations are indicated on Figure 6.

Petroleum Release Sources

There are several potential petroleum release sources near this site that were identified in the LSI. A significant diesel fuel release reportedly occurred from a truck overfill at the Schwager Trucking facility to the west. The trucking facility was a John Deere dealership at one time, and also had tanks and gas pumps.

A former Mobil station is located on the south side of Front Street across from Schwager Trucking (southwest of Montgomery Auto Parts). Based on information provided to us, the tanks were removed from that site in the 1990's. The car wash directly east of the site was a former gas station where the tanks were also removed.

The source(s) of contamination this site have been gone from this site for several years – the tanks were removed or abandoned in place in 1999. The contamination extends below Front Street (south) and Manyaska Street (west), but does not appear to cross the streets.

Recommendation

It is our opinion the contaminated soil (and groundwater) below the site has limited potential to migrate further, or impact human health. Because the risks associated with the soil and groundwater contamination appear minimal, we are recommending no further work at this site.

GeoTek Engineering & Testing Services, Inc.

Respectfully submitted,

John W. Benda
Project Manager
MPCA Certified UST Supervisor #6872

Reviewed by:

Wesley C. Otheim
Project Manager

cc: Minnesota Pollution Control Agency - 520 Lafayette Road N. - St. Paul, MN 55155-4194
Attn: Ms. Sara Henderson

Table 1
Soil Sample PID Readings
Soil Borings SB6 – SB12

Depth	SB6	SB7	SB8	SB9	SB10	SB11	SB12
0 - 2'	ND	ND	ND	ND	ND	ND	ND
2 - 4.5'	ND	ND	ND	ND	ND	ND	ND
4.5 – 7'	ND	ND	ND	ND	ND	ND	ND
7 – 9.5'	**45**	**41**	**40**	**ND**	**ND**	**146**	**ND**
9.5 – 12'	4	22	ND	ND	ND	8	ND
12 – 14.5'	ND	ND	ND	ND	ND	1	ND

*Samples in **bold** submitted for laboratory analysis. ND = Non Detect*

Table 2
Soil Analytical Results

Boring, Depth(ft)	Benzene	Toluene	Ethyl-benzene	Xylenes	GRO	DRO	Lab Type
SB6 @ 7-9.5'	---	---	---	---	---	<10.0	Fixed
SB7 @ 7-9.5'	<0.025	0.048	0.770	0.420	58.00	45.20	Fixed
SB8 @ 7-9.5'	<0.025	<0.025	0.480	4.300	36.60	<10.000	Fixed
SB9 @ 7-9.5'	<0.025	<0.025	<0.025	<0.025	<10.000	<10.000	Fixed
SB10 @ 7-9.5'	<0.025	<0.025	<0.025	<0.025	<10.000	<10.000	Fixed
SB11 @ 7-9.5'	1.800	1.400	11.900	13.200	415.000	112.000	Fixed
SB12 @ 7-9.5'	<0.025	<0.025	<0.025	<0.025	<10.000	<10.000	Fixed

Results in mg/kg (ppm).

Table 3
Groundwater Analytical Results

Boring	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	GRO	DRO
SB6	---	---	---	---	---	---	3060
SB7	**720**	381	**1640**	3040	123	12800	5755*
SB8	**149**	10	**1942**	4750	4	13500	3730*
SB9	<2	<2	<2	<5	<2	<100	<100
SB10	<2	<2	<2	<5	133	142	570
SB11	75	22	187	248	<2	3780	1320*
SB12	<2	<2	<2	<5	<2	<100	<100

** - chromatographic profile indicates heavy gasoline components. Values in **bold** exceed HRL's. Results in ug/kg (ppb).*

Table 4
Volatile Organic Compounds (VOC's) in Groundwater Samples

Compound	SB6	SB7	SB8	SB9	SB10	SB11	SB12	Trip Blank
Benzene		**840**	**150**					
Bromdichloromethane								14
Chloroform								19
Dibromochloromethane								8.8
Ethylbenzene		**1700**	**1900**			160		
Isopropyl-benzene		57	56			53		
Isopropyl-toluene		2.5	2.2			4.2		
MTBE		4.4	2.5		110			
Naphthalene		130	120			12		
Propylbenzene		91	98			66		
Toluene		420	11					
1,2,4-Trimethyl-benzene	4.4	830	1400			320		
1,3,5-Trimethyl-benzene	1.1	160	340			81		
Xylenes (m, p, o)		3180	5200			216.3		

** - HRL – Health Risk Limit. Values in **bold** exceed HRL's. Results reported in ug/l (ppb).*

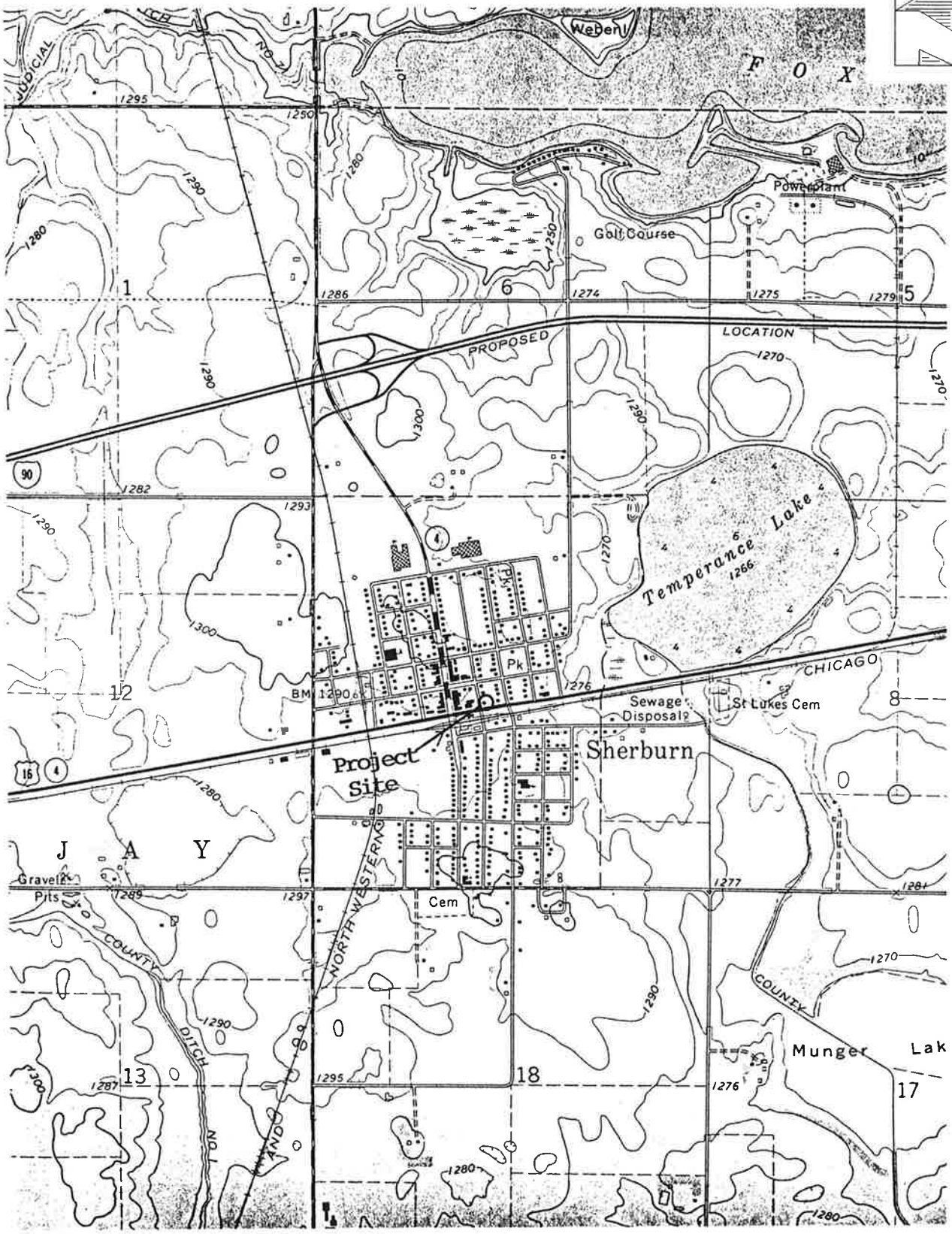
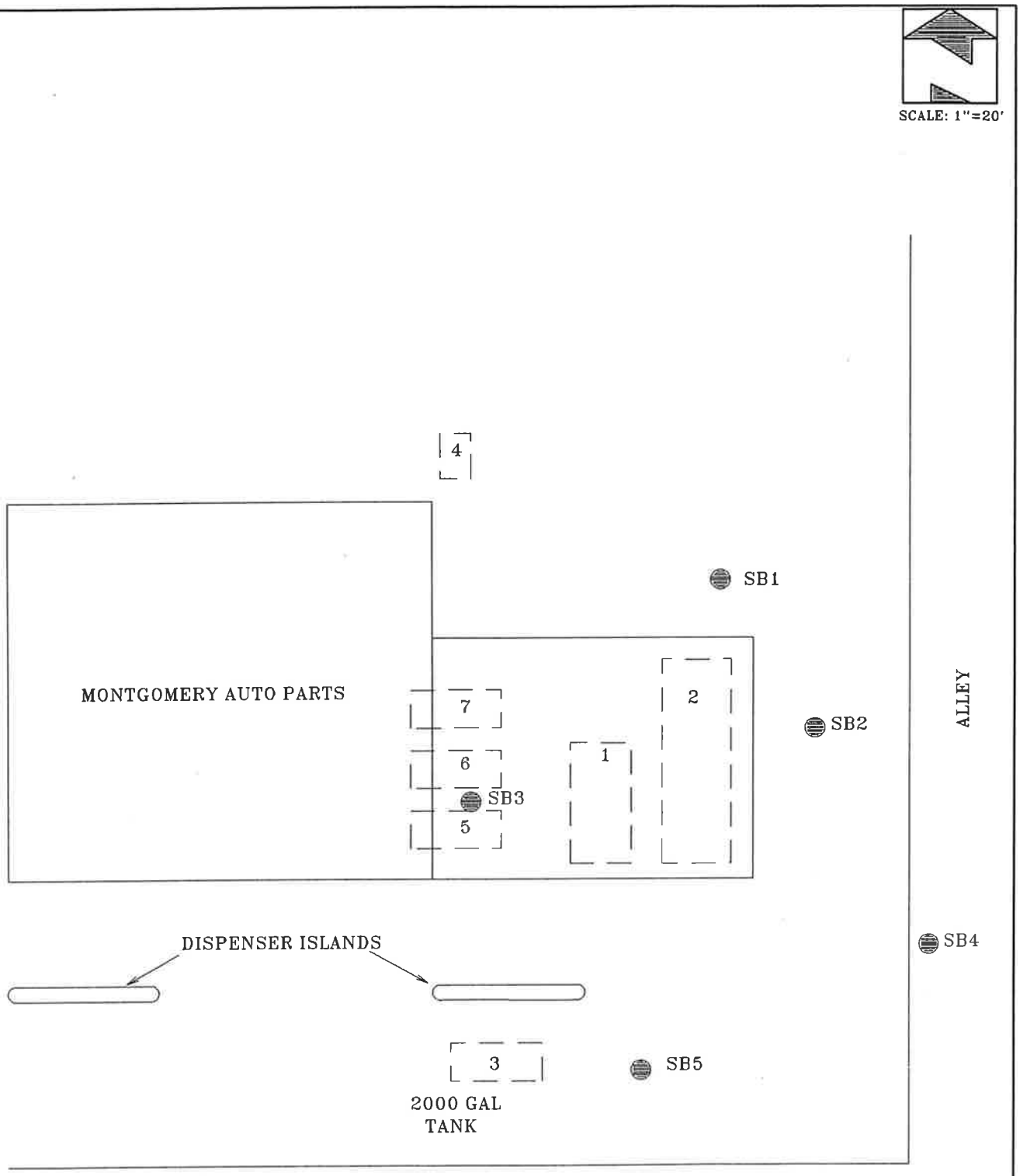


FIGURE 1
TOPOGRAPHIC SITE LOCATION MAP
MONTGOMERY AUTO PARTS
SHERBURN, MN

PROJECT #: 99-913-6

DRAWN BY: CHECKED BY:

GEOTEK ENGINEERING & TESTING SERVICES, INC.



TANKS 1–4 REMOVED 10/99
TANKS 5–7 ABANDONED IN PLACE

FIGURE 2
SOIL BORING LOCATIONS – DEC. 16, 1999
MONTGOMERY AUTO PARTS
SHERBURN, MN

PROJECT #: 99-913-6

DRAWN BY: ED CHECKED BY: JWB

GEOTEK ENGINEERING & TESTING SERVICES, INC.

JOHN\99-913-6

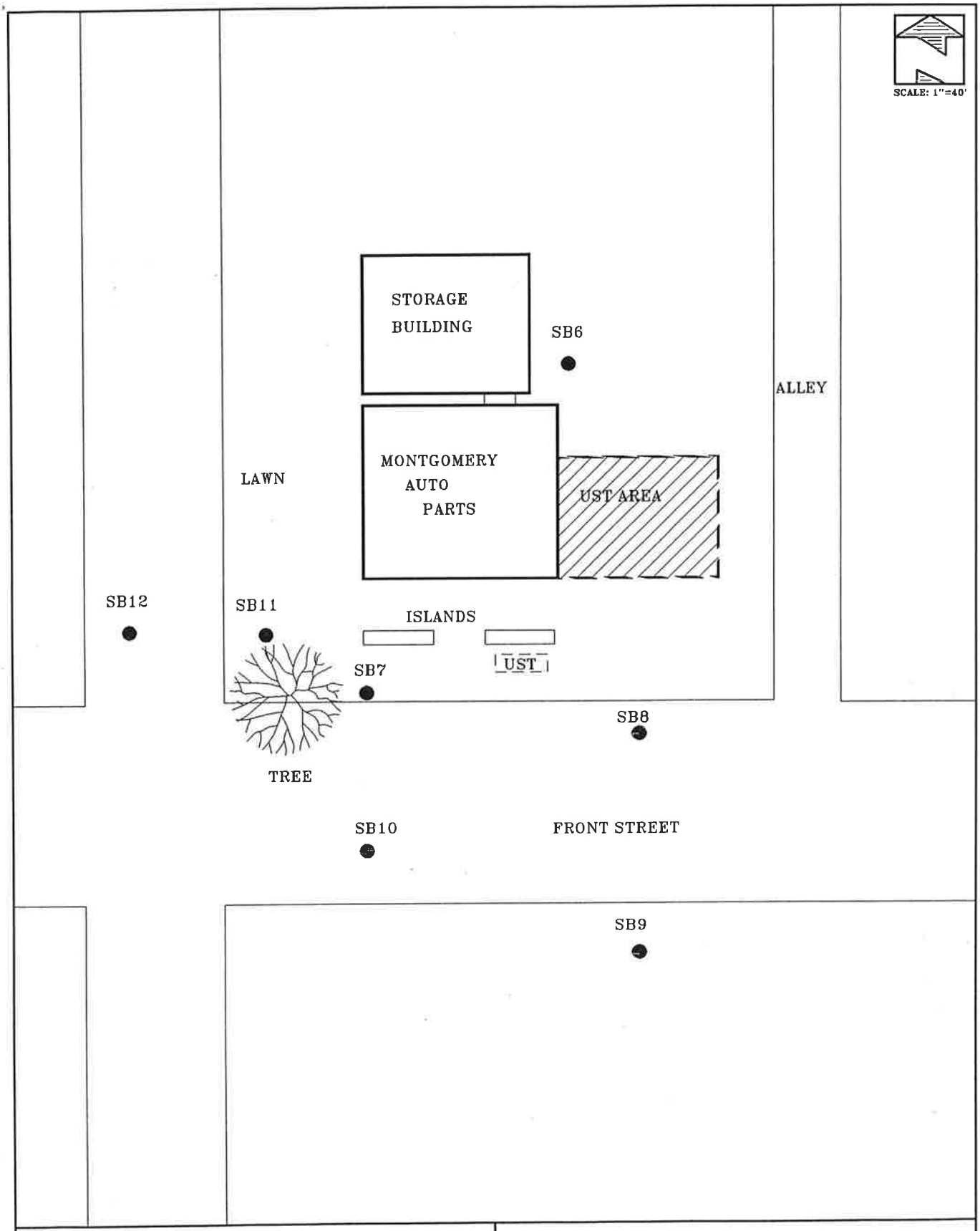


FIGURE 3
SOIL BORING LOCATIONS – APRIL 17,2003
MONTGOMERY AUTO PARTS
SHERBURN, MN.

PROJECT #: 99-913-6

DRAWN BY: KIDD CHECKED BY:

GEOTEK ENGINEERING & TESTING SERVICES, INC.

DC\JOHN\99-913A

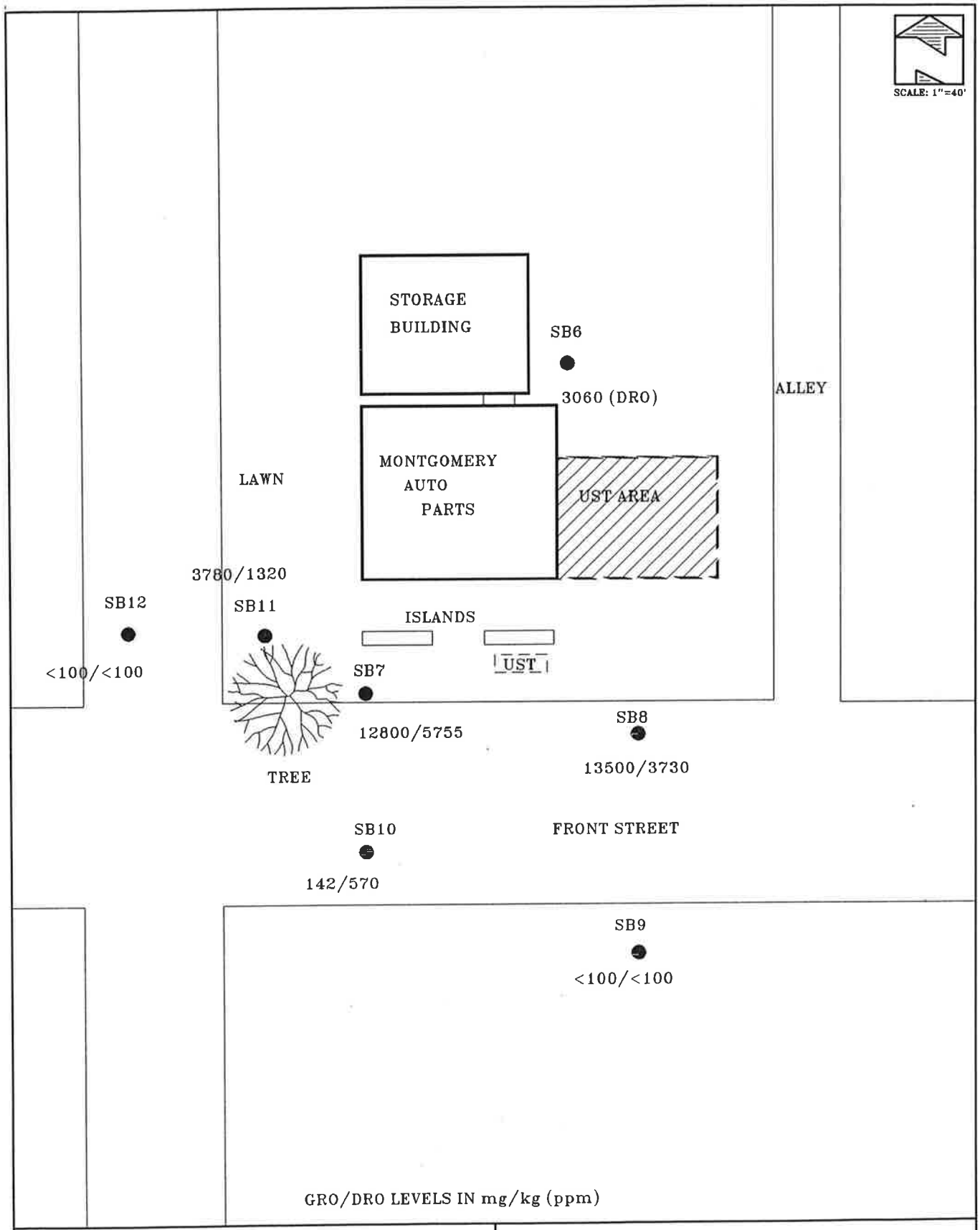


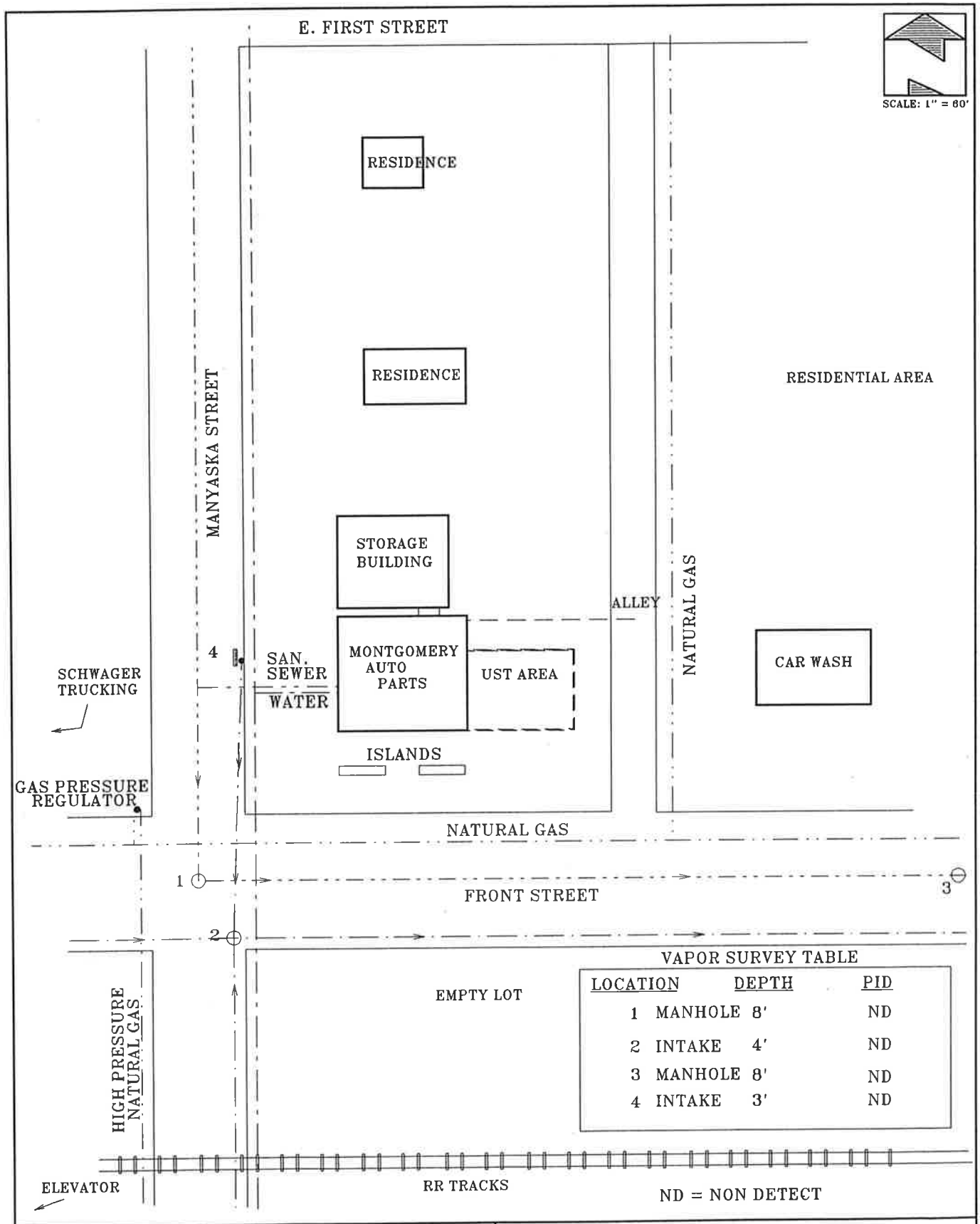
FIGURE 5
PETROLEUM LEVELS IN GROUNDWATER
MONTGOMERY AUTO PARTS
SHERBURN, MN.

PROJECT #: 99-913-6

DRAWN BY: KIDD CHECKED BY:

GEOTEK ENGINEERING & TESTING SERVICES, INC.

DC\JOHN\99-913A



LOCATION		DEPTH	PID
1	MANHOLE	8'	ND
2	INTAKE	4'	ND
3	MANHOLE	8'	ND
4	INTAKE	3'	ND

FIGURE 6
UTILITY SURVEY MAP
MONTGOMERY AUTO PARTS
SHERBURN, MN

PROJECT #: 99-913-6 DRAWN BY: GRA

EDITED BY: KK CHECKED BY:

GEOTEK ENGINEERING & TESTING SERVICES, INC.

JOHN\99-913

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ENVIRONMENTAL SOIL BORING LOG/ WELL CONSTRUCTION INFORMATION

JOB #: 99-913 BORING\WELL # : SB6

PROJECT : MONTGOMERY AUTO PARTS, SHERBURN, MINNESOTA

SURFACE ELEVATION: 97.18' TOP OF RISER (TOR) ELEVATION: _____

GENERALIZED WELL CROSS-SECTION

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GEOLOGIC ORIGIN	SAMPLE NO	SAMPLE TYPE	PID DATA (PPM)	WL
	FILL, mixture of lean clay and silty sand, black and brown, a layer of gravel at the surface	FILL	1	AUGER	ND	
			2	SB	ND	
4	FILL, mostly silty sand, with gravel, reddish brown		3	SB	ND	▼
9	LEAN CLAY, trace of gravel, gray mottled (CL)	TILL	4	SB	45	
			5	SB	4	
			6	SB	ND	
14 1/2	END OF BORING					

WATER LEVEL MEASUREMENTS

DATE	TIME	DEPTH BELOW SURFACE	DEPTH BELOW TOR	ELEVATION OF WATER
4-17-03	9:30	8 1/2'	NONE	88.68'

DATE STARTED: 4-17-03

DATE FINISHED: 4-17-03 @ 9:35

METHOD OF DRILLING: 3 1/4" HSA: 0'-12'

CREW CHIEF : HANSON

FORME5

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ENVIRONMENTAL SOIL BORING LOG/ WELL CONSTRUCTION INFORMATION

JOB #: 99-913 BORING\WELL # : SB7

PROJECT : MONTGOMERY AUTO PARTS, SHERBURN, MINNESOTA

SURFACE ELEVATION: 96.88' TOP OF RISER (TOR) ELEVATION: _____

GENERALIZED WELL CROSS-SECTION

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GEOLOGIC ORIGIN	SAMPLE NO	SAMPLE TYPE	PID DATA (PPM)	WL
	FILL, mixture of lean clay and silty sand, black and dark brown, a layer of topsoil at the surface	FILL	1	AUGER	ND	
			2	SB	ND	
4	LEAN CLAY, black (CL)	TOPSOIL	3	SB	ND	
6 1/2	LEAN CLAY, a trace of gravel, brown and gray mottled, laminations of sand below 10' (CL)	TILL	4	SB	41	
			5	SB	22	
			6	SB	ND	
14 1/2	END OF BORING					

WATER LEVEL MEASUREMENTS

DATE	TIME	DEPTH BELOW SURFACE	DEPTH BELOW TOR	ELEVATION OF WATER
4-17-03	10:10	NONE	NONE	

DATE STARTED: 4-17-03

DATE FINISHED: 4-17-03 @ 10:15

METHOD OF DRILLING: 3 1/4" HSA: 0'-12'

CREW CHIEF : HANSON

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ENVIRONMENTAL SOIL BORING LOG/ WELL CONSTRUCTION INFORMATION

JOB #: 99-913 BORING\WELL # : SB8

PROJECT : MONTGOMERY AUTO PARTS, SHERBURN, MINNESOTA

SURFACE ELEVATION: 96.83' TOP OF RISER (TOR) ELEVATION:

GENERALIZED WELL CROSS-SECTION

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GEOLOGIC ORIGIN	SAMPLE NO	SAMPLE TYPE	PID DATA (PPM)	WL
	FILL, mixture of silty sand, and lean clay, brown and dark brown 2" asphalt over 4" of concrete at the surface	FILL	1	AUGER	ND	
2	LEAN CLAY, black (CL)	TOPSOIL	2	SB	ND	
			3	SB	ND	
6 1/2	LEAN CLAY, a trace of gravel, brown and gray mottled, laminations of sand at 11' (CL)	TILL	4	SB	40	
			5	SB	ND	
			6	SB	ND	
13 1/2	LEAN CLAY, a little gravel, gray (CL)					
14 1/2	END OF BORING					

WATER LEVEL MEASUREMENTS

DATE	TIME	DEPTH BELOW SURFACE	DEPTH BELOW TOR	ELEVATION OF WATER
4-17-03	10:45	NONE	NONE	

DATE STARTED: 4-17-03

DATE FINISHED: 4-17-03 @ 10:50

METHOD OF DRILLING: 3 1/4" HSA: 0'-12'

CREW CHIEF : HANSON

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SIOUX FALLS, SOUTH DAKOTA 57104
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ENVIRONMENTAL SOIL BORING LOG/ WELL CONSTRUCTION INFORMATION

JOB #: 99-913 BORING\WELL # : SB9

PROJECT : MONTGOMERY AUTO PARTS, SHERBURN, MINNESOTA

SURFACE ELEVATION: 97.21' TOP OF RISER (TOR) ELEVATION: _____

GENERALIZED WELL CROSS-SECTION

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GEOLOGIC ORIGIN	SAMPLE NO	SAMPLE TYPE	PID DATA (PPM)	WL
	FILL, mixture of silty sand and lean clay, black and dark brown	FILL	1	AUGER	ND	
2	LEAN CLAY, black (CL)	TOPSOIL	2	SB	ND	
4	LEAN CLAY, a little gravel, brown and gray mottled, a few laminations of sand (CL)	TILL	3	SB	ND	
			4	SB	ND	
			5	SB	ND	
12 1/2	LEAN CLAY, a little gravel, gray (CL)		6	SB	ND	
14 1/2	END OF BORING					

WATER LEVEL MEASUREMENTS

DATE	TIME	DEPTH BELOW SURFACE	DEPTH BELOW TOR	ELEVATION OF WATER
4-17-03	11:25	NONE	NONE	

DATE STARTED: 4-17-03

DATE FINISHED: 4-17-03 @ 11:30

METHOD OF DRILLING: 3 1/4" HSA: 0'-12'

CREW CHIEF : HANSON

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ENVIRONMENTAL SOIL BORING LOG/ WELL CONSTRUCTION INFORMATION

JOB #: 99-913 BORING\WELL # : SB10

PROJECT : MONTGOMERY AUTO PARTS, SHERBURN, MINNESOTA

SURFACE ELEVATION: 97.16' TOP OF RISER (TOR) ELEVATION: _____

GENERALIZED WELL CROSS-SECTION

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GEOLOGIC ORIGIN	SAMPLE NO	SAMPLE TYPE	PID DATA (PPM)	WL
	FILL, mostly silty sand, dark brown, a layer of asphalt at the surface	FILL	1	AUGER	ND	
3	LEAN CLAY, black (CL)	TOPSOIL	2	SB	ND	
			3	SB	ND	
6	LEAN CLAY, a trace of gravel, brown and gray mottled, a few laminations of sand at 8 1/2' (CL)	TILL	4	SB	ND	
			5	SB	ND	
12	LEAN CLAY, a little gravel, brown and dark brown (CL)		6	SB	ND	
14 1/2	END OF BORING					

WATER LEVEL MEASUREMENTS

DATE	TIME	DEPTH BELOW SURFACE	DEPTH BELOW TOR	ELEVATION OF WATER
4-17-03	11:57	NONE	NONE	

DATE STARTED: 4-17-03

DATE FINISHED: 4-17-03 @ 12:00

METHOD OF DRILLING: 3 1/4" HSA: 0'-12'

CREW CHIEF : HANSON

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605-335-5512 FAX 605-335-0773

ENVIRONMENTAL SOIL BORING LOG/ WELL CONSTRUCTION INFORMATION

JOB #: 99-913 BORING\WELL # : SB11

PROJECT : MONTGOMERY AUTO PARTS, SHERBURN, MINNESOTA

SURFACE ELEVATION: 96.79' TOP OF RISER (TOR) ELEVATION:

GENERALIZED WELL CROSS-SECTION

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GEOLOGIC ORIGIN	SAMPLE NO	SAMPLE TYPE	PID DATA (PPM)	WL
	FILL, mixture lean clay and silty sand, black and brown, a layer of asphalt over concrete at the surface	FILL	1	AUGER	ND	
3	LEAN CLAY, black (CL)	TOPSOIL	2	SB	ND	
			3	SB	ND	
7	LEAN CLAY, a trace of gravel, brown and gray mottled (CL)	TILL	4	SB	146	
			5	SB	8	
			6	SB	1	
14 1/2	END OF BORING					

WATER LEVEL MEASUREMENTS

DATE	TIME	DEPTH BELOW SURFACE	DEPTH BELOW TOR	ELEVATION OF WATER
4-17-03	1:25	NONE	NONE	

DATE STARTED: 4-17-03

DATE FINISHED: 4-17-03 @ 1:30

METHOD OF DRILLING: 3 1/4" HSA: 0'-12'

CREW CHIEF: HANSON

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ENVIRONMENTAL SOIL BORING LOG/ WELL CONSTRUCTION INFORMATION

JOB #: 99-913 BORING\WELL # : SB12

PROJECT : MONTGOMERY AUTO PARTS, SHERBURN, MINNESOTA

SURFACE ELEVATION: 97.09' TOP OF RISER (TOR) ELEVATION: _____

GENERALIZED WELL CROSS-SECTION

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GEOLOGIC ORIGIN	SAMPLE NO	SAMPLE TYPE	PID DATA (PPM)	WL
	FILL, mixture of silty sand and lean clay, black and brown, a layer of asphalt over concete at the surface	FILL	1	AUGER	ND	
3	LEAN CLAY, black (CL)	TOPSOIL	2	SB	ND	
			3	SB	ND	
6	LEAN CLAY, a trace of gravel, brown and gray mottled (CL)	TILL	4	SB	ND	
			5	SB	ND	
12 1/2	LEAN CLAY, a little gravel, gray (CL)		6	SB	ND	
14 1/2	END OF BORING					

WATER LEVEL MEASUREMENTS

DATE	TIME	DEPTH BELOW SURFACE	DEPTH BELOW TOR	ELEVATION OF WATER
4-17-03	2:25	NONE	NONE	

DATE STARTED: 4-17-03

DATE FINISHED: 4-17-03 @ 2:30

METHOD OF DRILLING: 3 1/4" HSA: 0'-12'

CREW CHIEF : HANSON

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LIMITED SITE INVESTIGATION REPORT
MONTGOMERY AUTO PARTS
SHERBURN, MINNESOTA

GEOTEK #99-913
MPCA SITE ID #13087

GEOTEK ENGINEERING & TESTING SERVICES, INC.

GEOTEK ENGINEERING
& TESTING SERVICES, INC.
909 East 50th Street North
Sioux Falls, South Dakota 57104
605-335-5512 • FAX 605-335-0773

June 7, 2000

Montgomery Auto Parts
101 East Front Street
Sherburn, Minnesota 56171
Attn: Mr. Charles Montgomery

Subj: Limited Site Investigation Report
Montgomery Auto Parts - Sherburn, MN
GeoTek #99-913-6 MPCA Site ID #13087

Dear Mr. Montgomery:

This correspondence presents the Limited Site Investigation (LSI) Report for soil borings completed at the referenced site. The UST Excavation Report is provided as Appendix A of the LSI report. We are transmitting two copies of the report.

The report is being forwarded to the MPCA as indicated below. We are recommending no further Remedial Investigation activities at this site. Following review of the report, the MPCA will likely respond with a request for additional work, or a closure letter.

We thank you for the opportunity of providing our services to you on this project and look forward to its completion. Please contact us at **1-800-354-5512** if you have any questions regarding the project or the report.

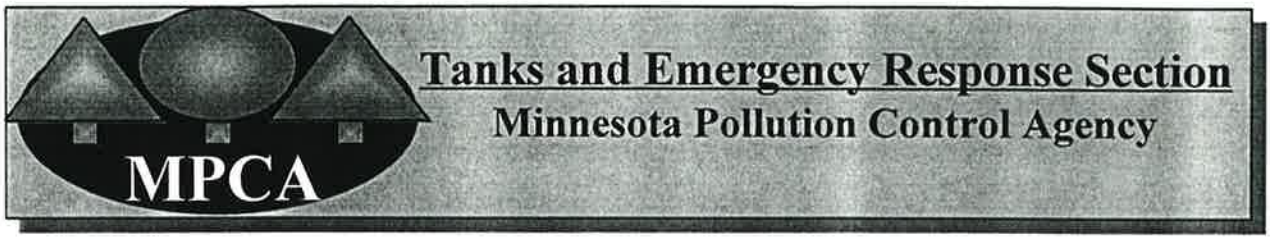
GeoTek Engineering & Testing Services, Inc.

Respectfully Submitted,

John W. Benda

John W. Benda
Project Manager
Minnesota UST Supervisor #6872

cc: Minnesota Pollution Control Agency - Ms. Denise Oakes
18 Woodlake Drive SE
Rochester, Minnesota 55904



Remedial Investigation Report Form

Fact Sheet #3.24
January 1997

This form must be completed for all sites in which a remedial investigation (RI) is conducted--this includes either a *Limited Site Investigation (LSI)* or a *full RI*. Completing this form will provide the MPCA with the minimum amount of information necessary for a *full RI*. Additional information should be included if deemed important for making a site cleanup decision. If the consultant has concluded that a *LSI* is applicable to this site, Section 6 and Section 7 may be deleted from this report.

Refer to Minnesota Pollution Control Agency (MPCA) fact sheet #3.1, "Leaking Underground Storage Tank Investigation and Cleanup Policy" for guidance for the overall objectives of an RI and other MPCA fact sheets regarding investigations.

When a tank has been excavated, refer to fact sheets #3.6, "Excavtion of Petroleum Contaminated Soil" and #3.7, "Excavation Report Worksheet for Petroleum Release Sites" for reporting requirements.

If free product is discovered the initial reporting should be done in accordance with fact sheet #3.3 "Free Product: Evaluation and Recovery" and factsheet #3.4, "Free Product Recovery Report Worksheet."

Leak Number: LEAK00013087 Date: June 7, 2000

Responsible Party: Charles Montgomery R.P. phone # (507) 764-7331

Facility Name: Montgomery Auto Parts

Facility Address: 101 East Front Street City: Sherburn, MN

County: Martin Zip Code: 56171

Location of site: LAT: 43°39'10" LONG: 94°43'08" UTM

TABLE OF CONTENTS

Section 1: Emergency and High Priority Sites

1. Is an existing drinking water well impacted? *YES* ***NO***

2. Are there existing vapor impacts? *YES* ***NO***

3. Is there an existing surface water impact as indicated by 1) a product sheen on the surface water or 2) a product sheen or volatile organic compounds in the part per million (ppm) range in ground water in a well located close to the surface water. *YES* ***NO***

4. Has the release occurred in the last 30 days? *YES* ***NO***

5. Has free product been detected at the site? *YES* ***NO***

6. Is sand or gravel aquifer impacted which is tapped by water wells within or potentially within 500 feet from the edge of the plume **or** does impacted soil overlie a karsted limestone or fractured bedrock? If yes, explain: *YES* ***NO***

If you answered *YES* to any of questions 1 through 6 above describe below the actions taken to date to reduce or eliminate the risk posed by the release.

Section 2: Site and Release Information

2.1 Describe the land use and pertinent geographic features within 1,000 feet of the site.

The site is located near the center of Sherburn, Minnesota (Figure 1). The site includes a service station building and a storage building to the north (Figure 2). Several residences are located north of the site. The areas south, east and west of the site are primarily commercial businesses such as trucking companies and grain elevators. The car wash located east of the site is a former gas station.

Table 1.

Provide the following for all tanks that have been at the site:

Tank #	UST or AST	Capacity	Contents	Age	Status	Condition
1	UST	10000 gal.	Gasoline	34 yrs.	Removed Oct. 29, 1999	Fair – Surface corrosion and pitting observed.
2	UST	6000 gal.	Gasoline	34 yrs.	Removed Oct. 29, 1999	Fair – Surface corrosion and pitting observed.
3	UST	2000 gal.	Diesel Fuel	18 yrs.	Removed Oct. 29, 1999	Poor –Surface corrosion & many deep pits.
4	UST	560 gal	Waste Oil	34 yrs.	Removed Nov. 5, 1999	Poor – hole opened after lifting the tank.
5-7	UST	2000 gal.	Unknown	Unk.	Abandoned	Not observed

Notes: Former UST locations are indicated on Figure 3. The UST Excavation Report is provided as Appendix A. Tanks 5-7 were located below the east wall of the building and could not be safely removed.

2.2 Describe the status of the other components of the tank system(s), (i.e., piping and dispensers) for those tanks listed above.

The product lines between the dispenser islands were drained and capped. All other lines, including vent lines were removed during UST removal.

2.3 Identify and describe the source or suspected source(s) of the release.

The three abandoned tanks (out of service for many years) likely had problems in years past. The larger tanks did not appear to be leaking upon removal. The diesel UST south of the east dispenser island and its product lines may have been leaking.

2.4 What was the volume of the release? *Unknown*

2.5 When did the release occur? *The release most likely occurred over a period of time.*

Section 3: Excavated Soil Information

3.1 Was soil excavated for off-site treatment? Yes **No**

3.2 Indicate soil treatment type: N/A

Section 4: Extent and Magnitude of Soil Contamination

4.1 Were soil borings conducted in or immediately adjacent to all likely source areas (e.g., underground storage tank basins, above ground storage tank areas, piping, dispensers, remote fill pipes, known spill areas)? ***YES*** *NO*

4.2 To adequately define the vertical extent of contamination soil borings should be completed at least five feet below the water table or ten feet below the deepest measurable (field screening and visual observation) contamination, whichever is deeper. Were all soil borings completed to the required depth? ***YES*** *NO*

4.3 To adequately evaluate site stratigraphy at least one boring should be completed 20 feet below the water table, unless a confining layer is present. Was this done? ***YES*** *NO*

4.4 Indicate the drilling method: *Hollow-stem auger.*

Table 2.

Jar headspace results in parts-per-million (ppm).

ASTM soil classification	Depth (ft)	Soil Boring 1	2	3	4	5	6	7	8	9
Fill	0-2'	ND	6	2	8	ND				
Lean Clay -	2-4.5'	ND	90	4	ND	50				
Brown	4.5-7'	ND	75	260*	ND	65				
"	7-9.5'	ND	150*	150	ND	200*				
"	9.5-12'	ND*	65	105	ND*	30				
"	12-14.5'	ND	ND	6	ND	2				
"	14.5-17'	ND	---	---	---	---				
Lean Clay-	19.5-22'	ND	---	---	---	---				
Gray	24.5-27'	ND	---	---	---	---				
"	29.5-32'	ND	---	---	---	---				

***Notes**: Jar headspace vapor readings in ppm with an hNu PI-101 photoionization instrument. ND - No petroleum vapors detected. * - Soil samples submitted for laboratory analysis. Soil boring locations are indicated on Figure 4.*

** - soil sample submitted for laboratory analysis.*

Table 3.

Laboratory analytical results for soil samples in mg/kg.

Well/Boring, Depth(ft)	Date Analyzed	Benzene	Toluene	Ethylbenzene	Xylene	GRO	DRO
SB1 @ 12-14.5'	12-24-99	<0.05	<0.05	<0.05	<0.05	<10	---
SB2 @ 7-9.5'	12-24-99	<0.05	0.25	1.8	10.1	53	<10
SB3 @ 7-9.5'	12-24-99	0.14	1.3	1.3	10.2	390	45
SB4 @ 14.5-17'	12-24-99	<0.05	<0.05	<0.05	<0.05	<10	---
SB5 @ 12-14.5'	12-29-99	2.2	19	28	134	880	<10

Notes: ** - Laboratory report indicated higher boiling hydrocarbons present.*
Soil analytical results are indicated on Figure 5.

Table 4.

Other notable contaminants detected in soil samples (mg/kg).

Well/Boring, Depth (ft)	Date Analyzed	MTBE					
SB1	12-29-99	1.4					

Notes:

4.5 If any non-petroleum compounds were detected list them below and identify possible sources of these compounds. *MTBE is a common gasoline anti-knock additive.*

4.6 Describe the vertical and horizontal extent and magnitude of soil contamination.

The site topography slopes gradually east. The groundwater likely migrates east toward Temperance Lake. Petroleum contamination was detected below the abandoned tanks on the east side of the building. Although contamination was detected a few feet east of the UST area (SB2) it was not detected in the alley (SB4). Based on PID readings the majority of the contamination is less than 10' below grade, and does not appear to extend deeper than 15'.

Section 5: Aquifer Characteristics/Ground Water Contamination Assessment

5.1 Hydraulic conductivity is used to evaluate risk to present or potential ground water receptors. The level of potential risk determines the level of confidence required of the hydraulic conductivity values. Indicate average hydraulic conductivity and methods used for measurement and estimation.

Measurement
Methods of measuring aquifer parameters are *aquifer* and *permeameter* tests. Aquifer tests such as pumping and slug tests are necessary to evaluate parameters of the actual undisturbed aquifer material. Pumping tests evaluate the largest volume of aquifer material, providing the best measurement of *in situ* aquifer parameters. Slug tests provide *in situ* parameters representing a smaller portion of the aquifer. Permeameter tests are laboratory methods used for the evaluation of discrete samples collected from the aquifer. Permeameter tests require an adequate number of representative field samples, and, inherent sampling and analysis technique limitations must be considered when evaluating results.

Estimation
Methods of estimating hydraulic conductivity may involve grain size analysis or correlating a field description with a reference range of values. As with laboratory measurements, estimation methods require an adequate number of representative field samples. Use the most conservative value of a range when using estimates. If there is any question that sediments may be permeable enough to comprise a resource aquifer, confirm by conducting test(s).

Provide hydraulic conductivity values that support the level of investigation based on risk and remediation potential. Be sure to have tests and estimations performed and analyzed by personnel trained and/or experienced in hydrogeologic investigations. Improperly performed or analyzed tests may be returned as incomplete. Attach all supporting information for the determination in the Methodologies appendix:

Hydraulic conductivity estimate: *10^{-6} to 10^{-8} cm/sec*
Reference from Groundwater; Freeze, R.A. and Cherry, J.A.; Prentice-Hall; 1979; Page 29.

5.2 Indicate the thickness of the aquifer. If the investigation does not provide enough information to determine the aquifer thickness, assume the aquifer is greater than 20 feet thick: *Not an aquifer.*

5.3 Describe in detail the geology underlying the site including confining layers, bedrock formations and the lateral extent of these formations:

The site is underlain by glacial tills (mostly clay), which are several hundred feet thick in the Sherburn area. There are no known shallow aquifers below the site

The impacted aquifer or the aquifer that is likely to be impacted at the site is considered a resource aquifer if one of the following situations exist:

- The aquifer is a current water supply source.
- The water bearing unit has a hydraulic conductivity greater than 1 X 10^{-2} cm/sec and a minimum thickness of 10 feet.
- The water bearing unit has a hydraulic conductivity between 1 X 10^{-4} cm/sec and 1 X 10^{-2} cm/sec and a minimum thickness of 20 feet.
- The water bearing unit has a hydraulic conductivity less than 1 X 10^{-4} cm/sec and no other viable source of water supply is available. (*Bedrock may be considered a resource aquifer if it is the only water supply available.)*

5.4 Based on the aquifer characteristics and water supply availability, is the aquifer at the site a resource aquifer? *YES* ***NO***

If other water supplies are available, explain.

The site and nearby residences and businesses are connected to the municipal water supply.

5.6 Are there any other reasons the impacted aquifer should not be considered a resource aquifer? *Based on permeability and potential yield, clay soils are not considered an aquifer. Groundwater is limited to fractures and minor, discontinuous sand lenses in the clay till.*

Table 5.

Water level measured in the soil borings.

	Soil Boring									
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Water level depth, ft	8'	8'	9'	None	9'					

Notes:

5.7 Is contaminated soil in contact with ground water? ***YES*** *NO*

Table 6.

Laboratory analytical results for water samples collected from the borings.

Boring Number	Date Analyzed	Depth	Benzene	Toluene	Ethylbenzene	Xylene	GRO	DRO
SB1	12-30-99	8'	<1.0	<1.0	<1.0	<1.0	<100	---
SB2	01-03-00	8'	110	670	4700	20800	36000	---
SB3	01-03-00	9'	4200	26000	4500	11600	60000	---
SB5	01-03-00	9'	2000	2400	2600	12400	26000	---

Notes: ug/l is equivalent to parts-per-billion.
Groundwater analytical results are indicated on Figure 6.

Table 7.

Other contaminants detected in water samples collected from the borings

Well/Boring Number	Date Analyzed	Butyl benzene	1,3,5-Tri-methylbenzene	1,2,4-Tri-methylbenzene	Isopropyl-benzene	Propyl benzene	p-Isopropyl toluene
SB2	12-24-99	4.4	560	2100	97	210	---
SB3	12-24-99	38	420	1300	95	240	5.2
SB5	12-24-99	9.8	330	1200	53	130	---
Well/Boring Number	**Date Analyzed**	Naphthalene	MTBE	Styrene			
SB2	12-24-99	180	---	---			
SB3	12-24-99	130	3.4	5.6			
SB5	12-24-99	150	5.4	---			

Notes:

5.8 If any non-petroleum compounds were, detected list them below and indicate whether they exceed the Health Risk Limits (HRLs). Also, identify possible sources of these compounds.

The volatile organic compounds detected are common gasoline constituents.

5.9 If contaminated soil is not in contact with ground water, what is the distance separating the deepest contamination from the surface of the water table? Was this distance measured during site activities, referenced from geologic information, or estimated based on professional opinion during a site visit?

_____ feet
Not an aquifer

5.10 Describe observations of any evidence of a fluctuating water table and a seasonal high water table (e.g., mottling). Also, from other sources of information describe the range of natural water table fluctuations in the area.

5.11 In your judgment, is there a sufficient distance separating the petroleum contaminated soil (or an impacted non-resource aquifer) from the underlying resource aquifer to prevent petroleum contamination of the resource aquifer? Please explain in detail. In your explanation consider the data and information of this section as well as the nature of the petroleum release (i.e., volume, when it occurred, petroleum product).

YES *NO*

Section 8: Well Receptor Information/Assessment

Include in the appendices of this report: 1) A list of addresses within 500 feet from the edge of the plume and confirmation of status of water supply from the city utility billing department; 2) well logs; and 3) map showing ½ mile radius, 500 foot radius, water supply wells, other potential petroleum sources, and addresses for properties within 500 feet.

Table 13.

Complete the following table for all water supply wells located within 500 feet of the edge of the plume and any municipal or industrial wells found within ½ mile.

Unique Well #	Ground Elevation	Total Depth (ft)	Base of Casing (ft)	Static Elevation	Aquifer	Use	Owner	Distance & Direction from site
217092		280'	255'	Not listed	Glacial	Municipal	City of Sherburn	1100' NW
217093		275'	245'	Not listed	Glacial	Municipal	City of Sherburn	1100' NW

Notes: No private or public supply wells were identified within 500' of the site. The location of the municipal supply wells is indicated on a map provided in Appendix D.

8.1 Is municipal water available in the area? *YES* *NO*

8.2 Were all property owners within 500 feet of the nearest edge of the contaminant plume successfully contacted to determine if water wells are present? If No, please explain. *YES* *NO*

8.3 Discuss the results of the ground water receptor survey and any analytical results from sampling conducted at nearby water wells. Comment on the risks to water supply wells identified within 500 feet from the edge of the plume as well as the risk posed by or to any municipal or industrial wells found within ½ mile. Specifically indicate whether water supply wells identified utilize the impacted aquifer

The contaminated groundwater is limited to the UST area on the east side of the building, and from the east dispenser island to the southeast corner of the site. The contamination does not migrate off site to the east, but may extend below Front Street to a limited extent. The availability of groundwater is variable due to the impermeable clay soils below the site. Soil boring SB4 (in the alley) was dry upon completion.

8.4 Are there any plans for ground water development in the impacted aquifer within 1/2 mile of the site, or one mile down gradient of the site if the aquifer is fractured? Please give the name, title and telephone number of the person that was contacted for this information. *YES* ***NO***

Ron Quade – Sherburn Water Department (507) 764-2200

Section 9: Surface Water Risk Assessment

9.1 Are there any surface waters or wetlands located within ¼ mile of the site? *YES* ***NO***

If *YES*, indicate its name:_____

9.2 If surface water is present downgradient of the site, is there a clean down gradient soil boring or monitoring well located between the site and the surface water? *YES* *NO* ***N/A***

If *NO*, we assume that contamination discharges to surface water. Therefore, complete the following information:

Name of receiving water:	_____
Plume width, (W):	_____ feet
Plume thickness, (H):	_____ feet
Hydraulic conductivity, (K):	_____ gal/day/ft^2
Horizontal gradient, (dh/dl):	_____ (unitless)
Discharge, (Q) = H*W*K*(dh/dl)/1440	_____ gal/min

If *YES*, identify them and indicate the distance to these features and discuss the contamination risk potential.

Section 10: Vapor Risk Assessment/Survey

10.1 Is there a history of vapor impacts in the vicinity of the site ? *YES* ***NO***

10.2 Is there any indication that free product or highly contaminated ground water may be traveling offsite within the utility corridors? If YES, have they been investigated with borings or push probes? *YES* ***NO***

10.3 Discuss the potential for vapor migration/accumulation near the site. In your discussion consider: Soil types, product type, presence and distribution of free product or high concentrations of dissolved product. Also, compare the depth of contamination with the location of underground utility lines, location and depth of storm and sanitary sewers and location of nearby basements.

The potential for vapor migration is minimal. The nearby building is slab-on-grade. The nearest buried utility is a telephone cable in the alley east of the former UST area. The water and sanitary sewer enter the west side of the building from Manyaska Street (Figure 8).

Contaminated soils were detected southeast of soil boring SB5, and may extend below Front Street. The sanitary sewer accesses were scanned at the nearest intersections east and west of the site.

If the vapor risk assessment indicated a risk of vapor impacts to buildings or utilities, complete the following table with vapor monitoring data collected. Location numbers should be mapped on an accompanying figure of the surveyed area.

Table 14.

Location #	Date	PID reading (ppm)	Percent of the LEL
1 - Sanitary Sewer	May 4, 2000	7	0
2 - Storm Sewer	May 4, 2000	ND	0
3 - Sanitary Sewer	May 4, 2000	ND	0

Notes: Vapor Survey Locations are indicated on Figure 8.

10.4 Describe and interpret the results of the vapor survey. *A detection of 7 ppm was indicated in the first sanitary sewer access, which is not a hazardous (explosive) level. The site buildings and adjacent car wash do not have basements. Receptor survey questionnaires were provided to approximately 20 residents and business owners within 500' of the site. None of the twelve residents that responded have noticed petroleum odors in their basements. The completed groundwater and vapor receptor survey forms are provided in Appendix D.*

Section 11: Discussion

11.1 Discuss the risks associated with the remaining soil contamination?

Risks associated with the remaining soil contamination appear to be minimal due to limited quantity, relatively low concentration and limited mobility. The site is underlain by glacial till soils several hundred feet thick. Migration is limited to fractures and discontinuous sand lenses within the clay. It is unlikely that the contaminant would migrate deeper than 20' without a vertical conduit, such as a well or boring.

11.2 Discuss the risks associated with the impacted ground water?

The impacted groundwater is limited in quantity and would not be considered a resource aquifer. The rate of vertical (downward) migration of perched groundwater in clay soils can be estimated (theoretically) but is usually extremely low. The nearest wells identified during the receptor survey are the municipal supply wells that 1100' from the site and are 275' and 285' deep. We do not anticipate contamination of deep aquifers from the petroleum release at this site.

11.3 Discuss other concerns not mentioned above:

The site is located on Front Street that was U.S. Highway 16 until the early 1970's, when Interstate Highway 90 was completed. There were many sites along Front Street that operated as gasoline stations in years past. The owner has expressed concerns regarding other former gas stations identified in the immediate area (A, B, and C on Figure 7) that may or may not have complied with UST removal and/or release reporting (and investigation) requirements.

Section 12: Conclusions and Recommendations

Recommendation for site:

_x_ site closure
____ additional vapor monitoring
____ additional ground water monitoring
____ active cleanup

The recommendation above should be based on fact sheet #3.1, "Leaking Underground Storage Tank Investigation and Cleanup Policy." Describe below how you applied the policy to support your recommendation.

By applying the MPCA risk-based considerations, further investigation or corrective action should not be necessary at this site. Contaminated groundwater below the site has little or no potential to impact human health. Because municipal water is available, there would be little reason to utilize the limited shallow groundwater in the area.

The Limited Site Assessment has not indicated any significant potential risks that would justify additional assessment of the petroleum release at this site. Unless future problems or risks are identified, the petroleum contamination at this site should be left to natural attenuation processes.

If additional monitoring is recommended, indicate the proposed monitoring schedule and frequency: *No additional work recommended.*

If active cleanup is proposed, then MPCA staff will review this RI report at a higher than normal priority to determine if active cleanup is required. We will respond with either a request for proposal for additional monitoring or a Corrective Action Design report. Please indicate below what cleanup technology you are considering at this time.

Section 13: Figures

Figure 1 Topographic Site Location Map
Figure 2 Site Vicinity Map
Figure 3 UST Locations
Figure 4 Soil Boring Locations
Figure 5 Petroleum in Soil
Figure 6 Petroleum in Groundwater
Figure 7 Receptor Survey Map
Figure 8 Utility Survey Map

Section 14: Appendices

Appendix A	Excavation Report Worksheet for Petroleum Release Sites.
Appendix B	Laboratory Analytical Reports for Soil and Ground Water.
Appendix C	Soil Boring Logs
Appendix D	Receptor Survey Information
Appendix E	Methods

Section 15: Consultant (or other) Information

By signing this document, I/we acknowledge that we are submitting this document on behalf of and as agents of the responsible person or volunteer for this leaksite. I/we acknowledge that if information in this document is inaccurate or incomplete, it will delay the completion of remediation and may harm the environment and may result in reduction of reimbursement awards. In addition, I/we acknowledge on behalf of the responsible person or volunteer for this leaksite that if this document is determined to contain a false material statement, representation, or certification, or if it omits material information, the responsible person or volunteer may be found to be in violation of Minn. Stat. § 115.075 (1994) or Minn. Rules 7000.0300 (Duty of Candor), and that the responsible person or volunteer may be liable for civil penalties.

Name and Title:	Signature:	Date signed:
John W. Benda – Project Manager	John W. Benda	6/7/00
Wesley C. Otheim – Project Manager		/ /

Company and mailing address: GeoTek Engineering & Testing Services, Inc.
909 East 50th Street North
Sioux Falls, South Dakota 57104

Phone: (605) 335-5512
Fax: (605) 335-0773

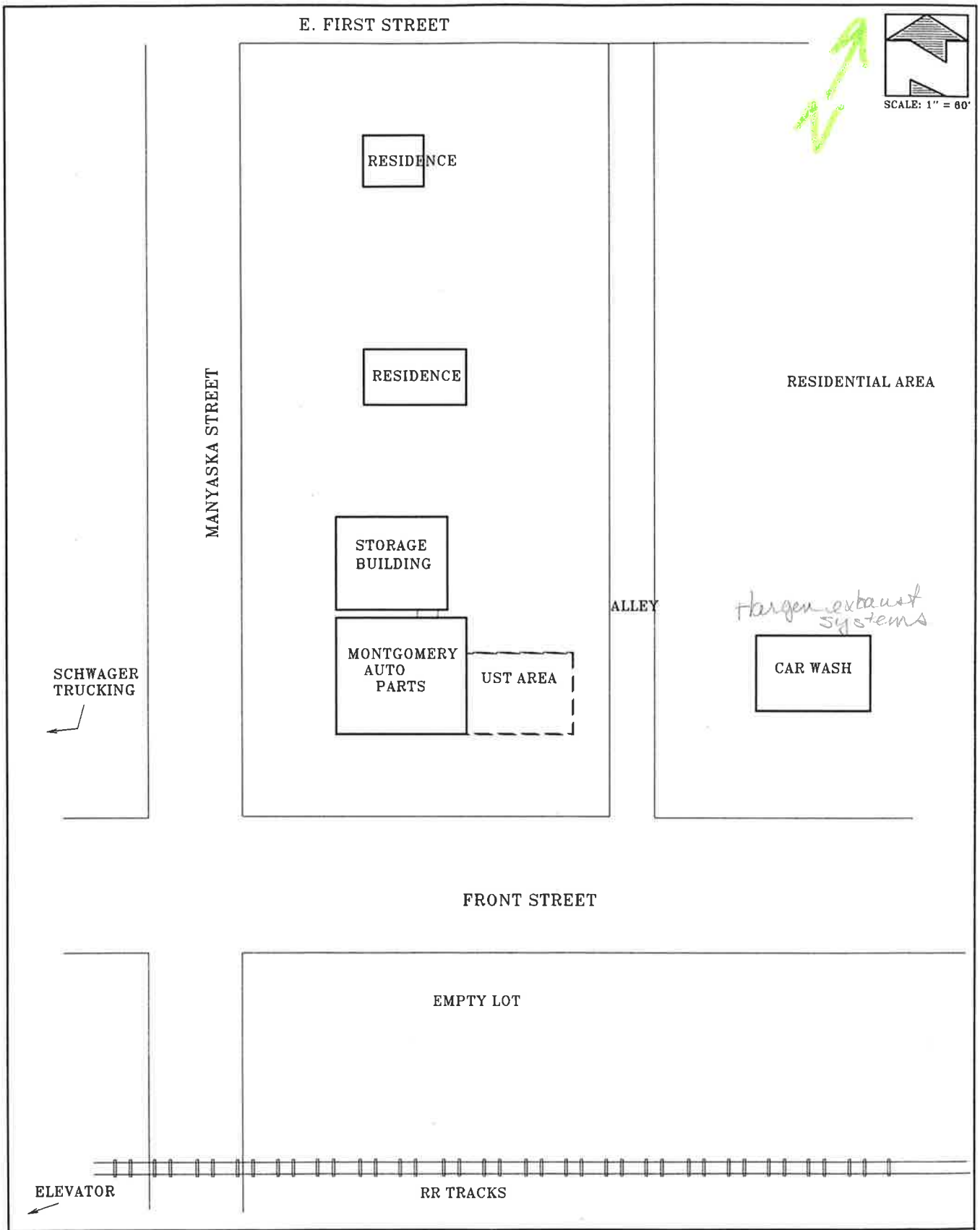


FIGURE 2
SITE VICINITY MAP
MONTGOMERY AUTO PARTS
SHERBURN, MN

PROJECT #: 99-913-6 DRAWN BY: GRA

EDITED BY: ED CHECKED BY:

GEOTEK ENGINEERING & TESTING SERVICES, INC.

JOHN\99-913

SCALE: 1"=20'

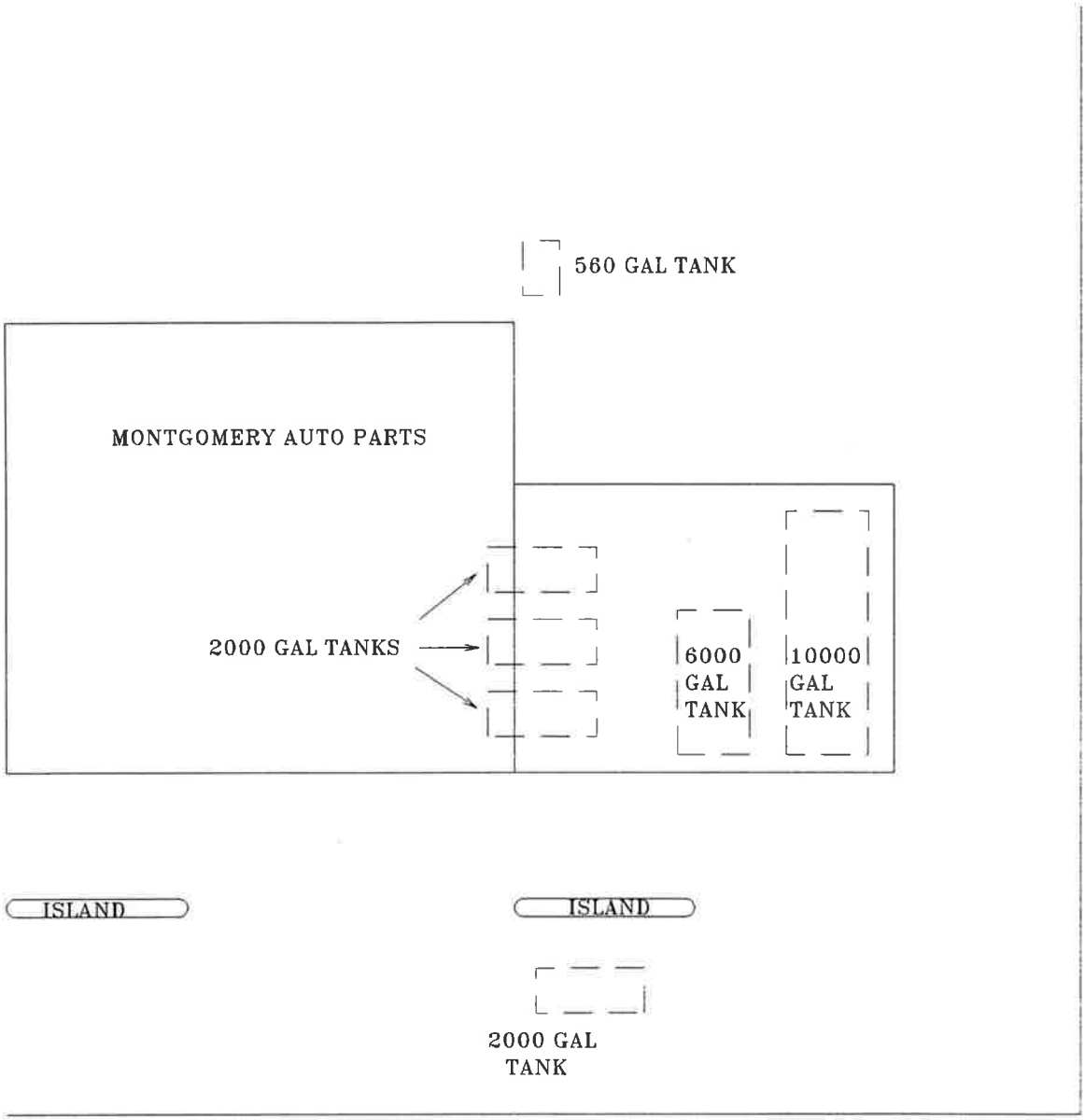


FIGURE 3
UST LOCATIONS
MONTGOMERY AUTO PARTS
SHERBURN, MN

PROJECT #: 99-913-6

DRAWN BY: ED CHECKED BY:

GEOTEK ENGINEERING & TESTING SERVICES, INC.

JOHN\99-913-6

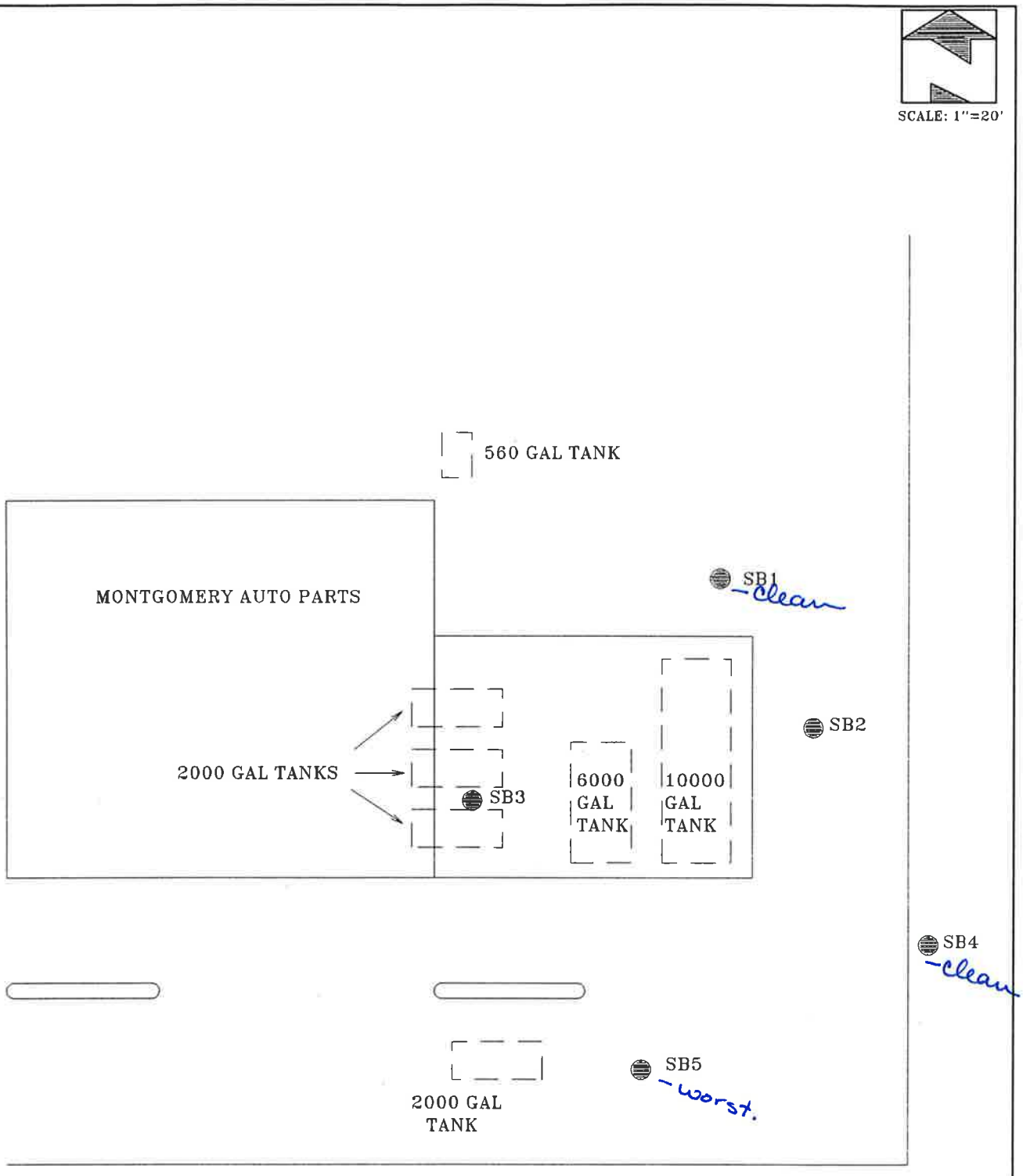


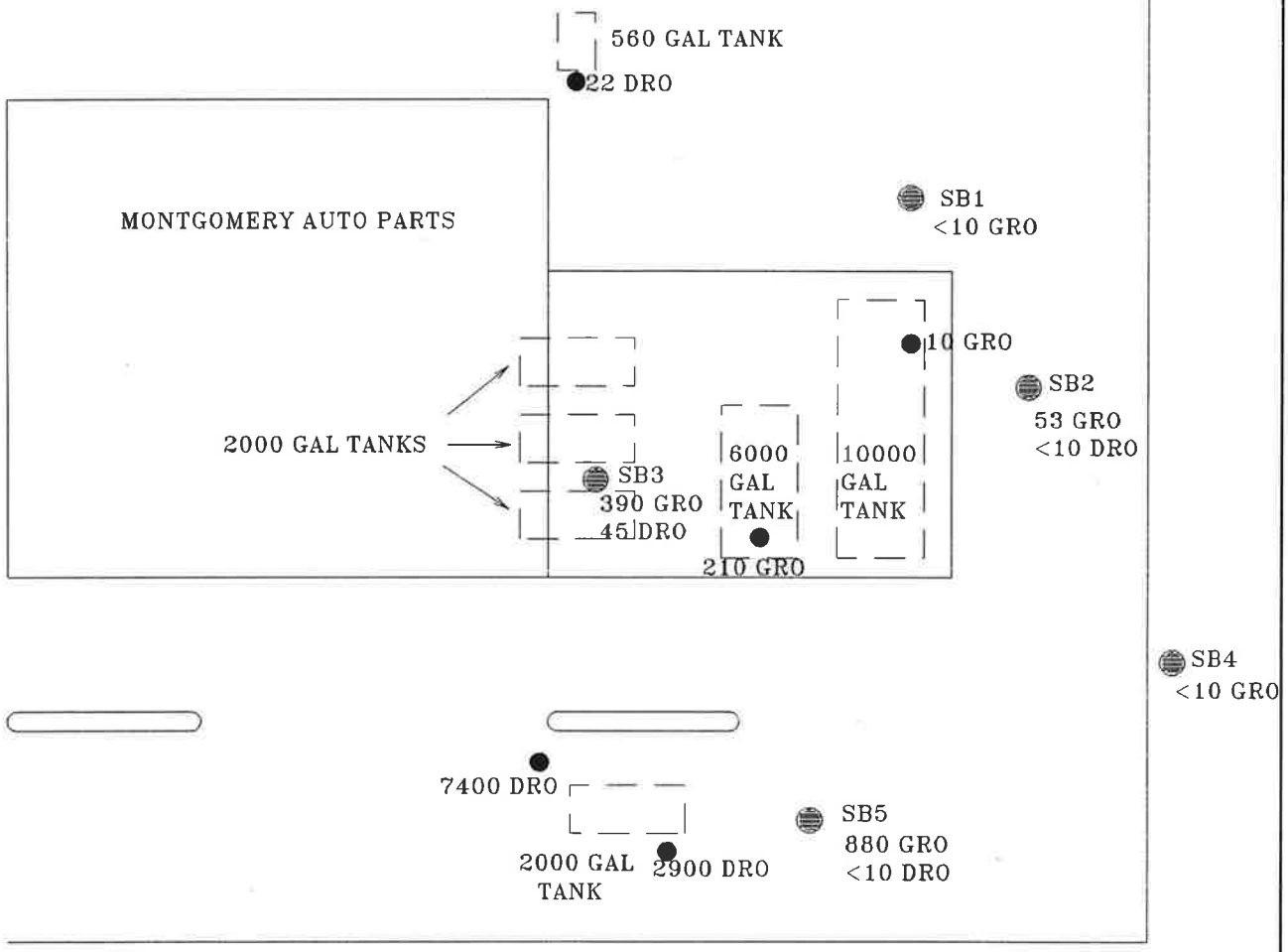
FIGURE 4
SOIL BORING LOCATIONS
MONTGOMERY AUTO PARTS
SHERBURN, MN

PROJECT #: 99-913-6

DRAWN BY: ED CHECKED BY:

GEOTEK ENGINEERING & TESTING SERVICES, INC.

JOHN\99-913-6



NOTE: PETROLEUM LEVEL IN mg/Kg (PPM)

FIGURE 5
PETROLEUM CONCENTRATIONS IN SOIL
MONTGOMERY AUTO PARTS
SHERBURN, MN

PROJECT #: 99-913-6

DRAWN BY: ED CHECKED BY:

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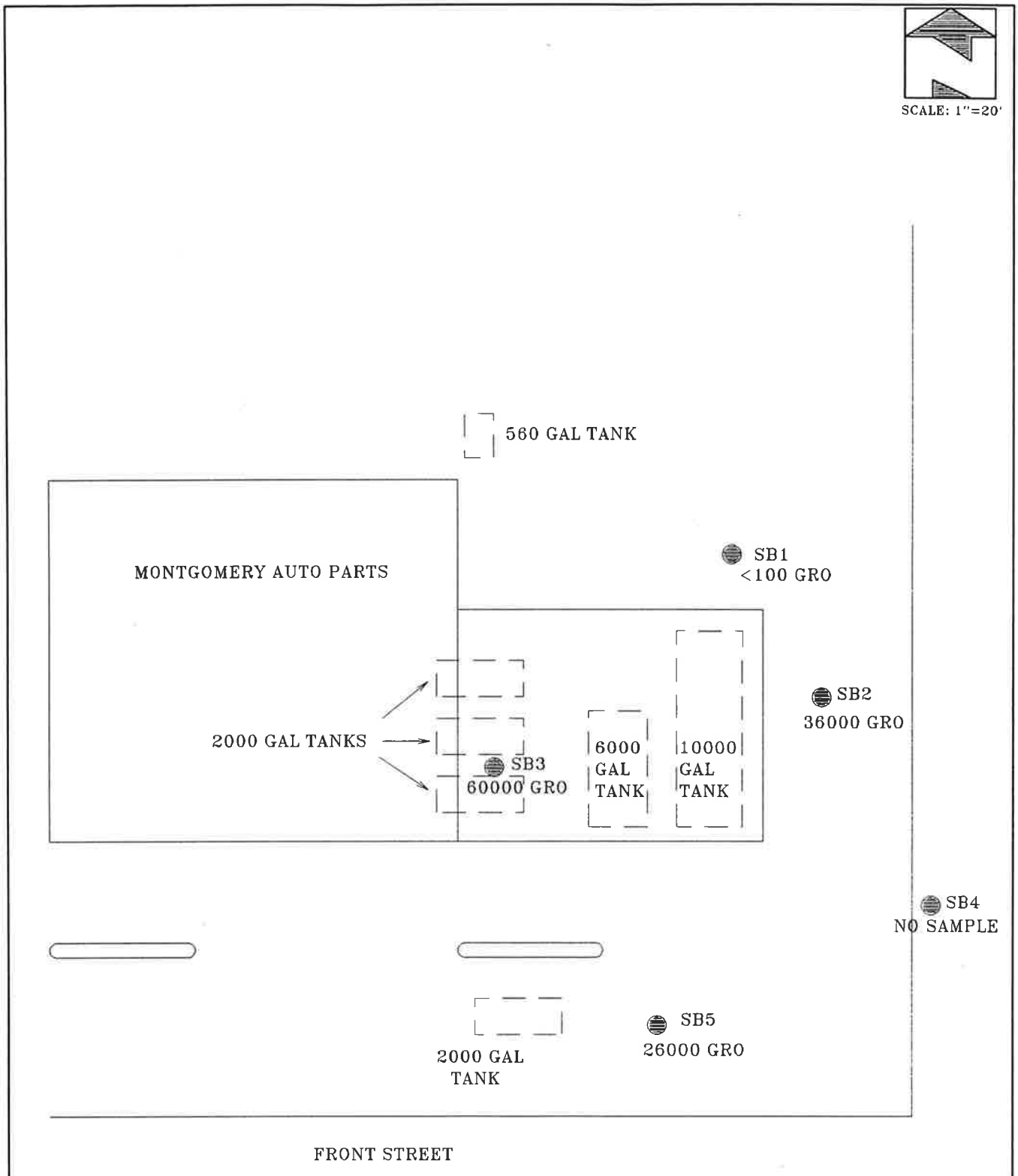
JOHN\99-913-6



NOTE: PETROLEUM LEVELS IN ug/L (PPB)

FIGURE 6
PETROLEUM CONCENTRATIONS IN GROUNDWATER
MONTGOMERY AUTO PARTS
SHERBURN, MN

PROJECT #: 99-913-6

DRAWN BY: ED CHECKED BY:

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JOHN\99-913-6

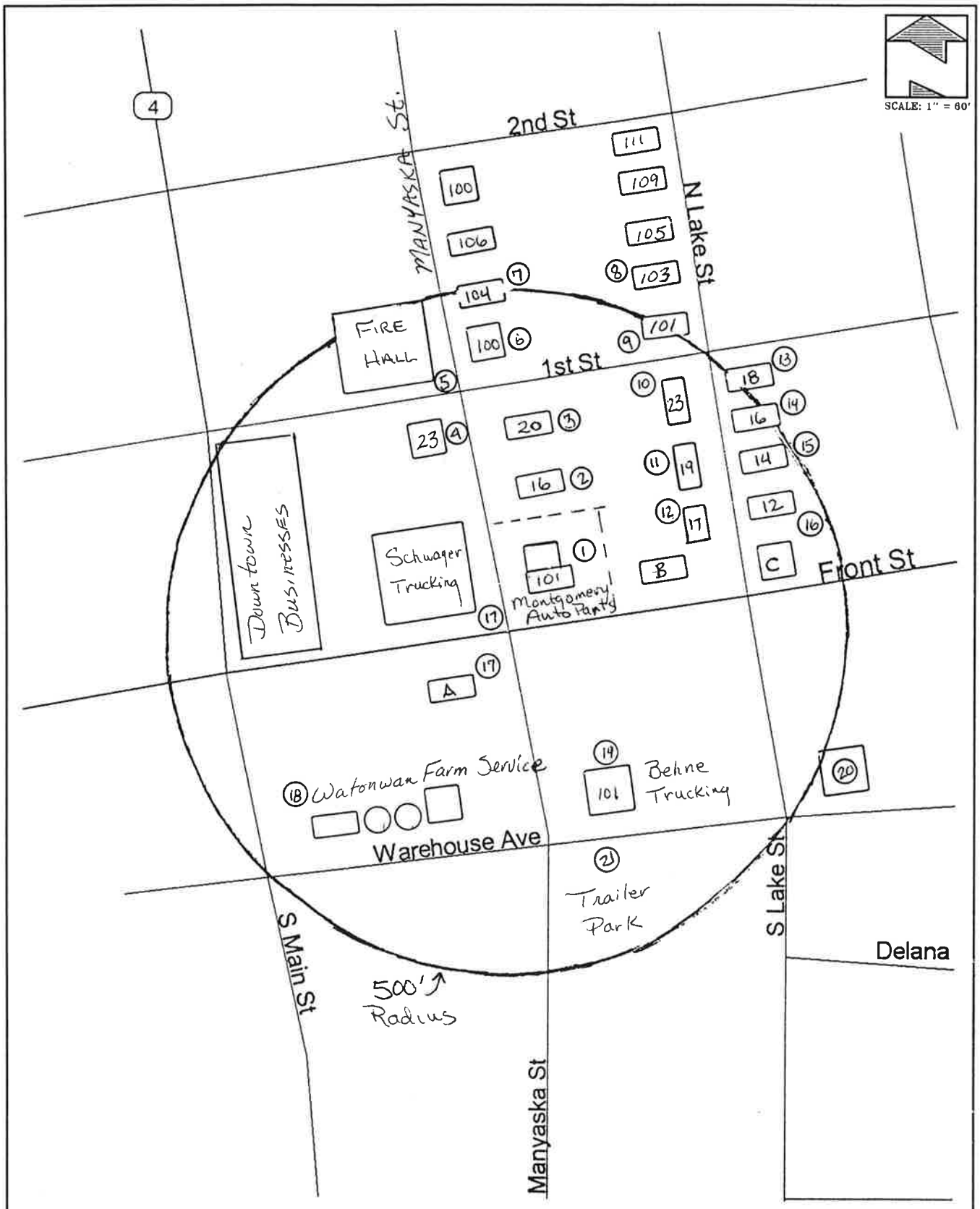

FIGURE 7
RECEPTOR SURVEY MAP
MONTGOMERY AUTO PARTS
SHERBURN, MN

PROJECT #: 99-913-6

DRAWN BY: ED CHECKED BY:

GEOTEK ENGINEERING & TESTING SERVICES, INC.

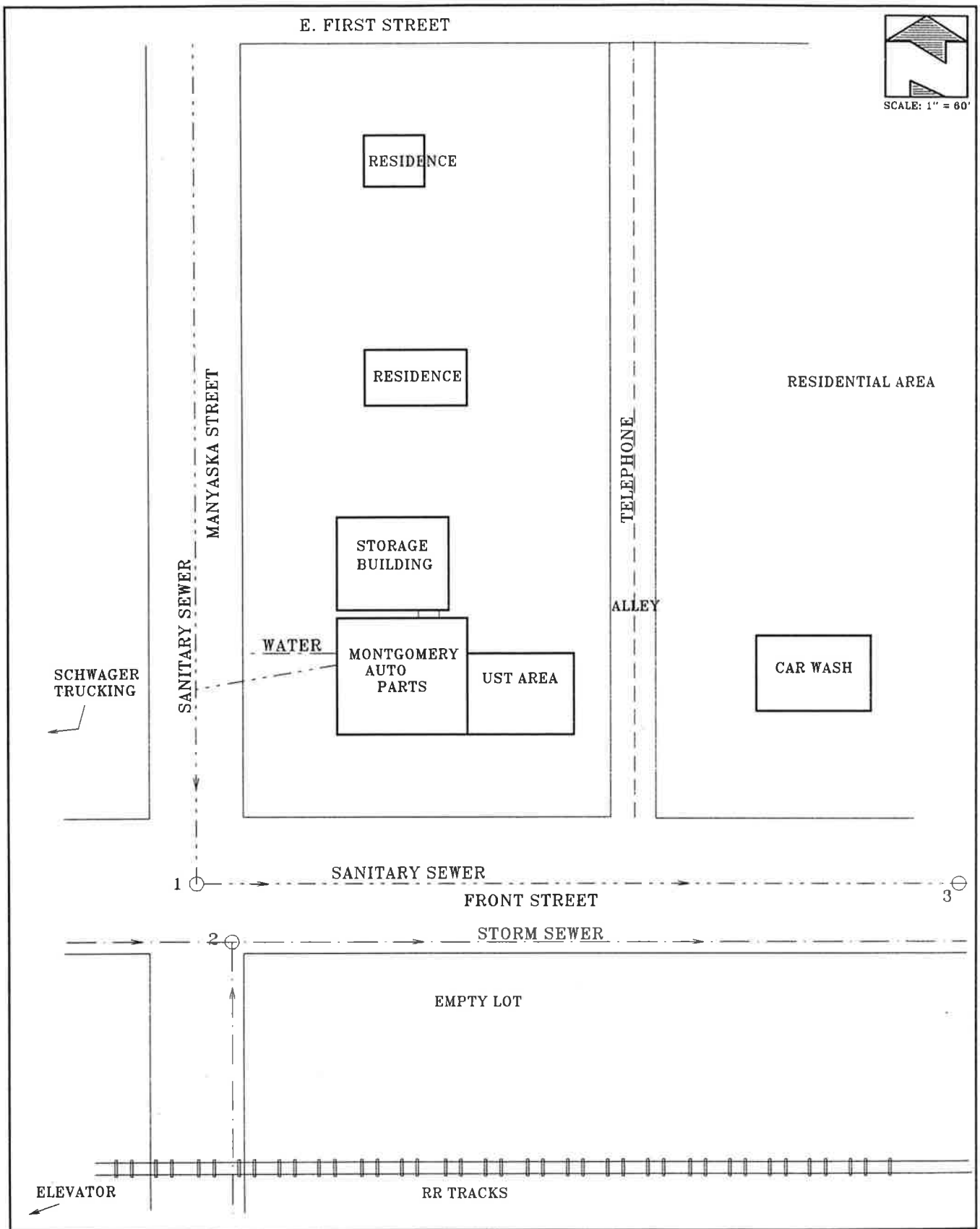

FIGURE 8
UTILITY SURVEY MAP
MONTGOMERY AUTO PARTS
SHERBURN, MN

PROJECT #: 99-913-6	DRAWN BY: GRA
EDITED BY: ED	CHECKED BY:

GEOTEK ENGINEERING & TESTING SERVICES, INC.

JOHN\99-913

GEOTEK ENGINEERING
& TESTING SERVICES, INC.
909 EAST 50TH STREET NORTH
SIOUX FALLS, SOUTH DAKOTA 57104
605-335-5512 FAX 605-335-0773

ENVIRONMENTAL SOIL BORING LOG/ WELL CONSTRUCTION INFORMATION

JOB #: 99-913 BORING\WELL # : SB-1

PROJECT : MONTGOMERY AUTO PARTS, SHERBURN, MINNESOTA

SURFACE ELEVATION: 99.5' TOP OF RISER (TOR) ELEVATION: _____

GENERALIZED WELL CROSS-SECTION

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GEOLOGIC ORIGIN	SAMPLE NO	SAMPLE TYPE	PID DATA (PPM)	WL
	FILL, mostly CLAY, a little gravel and some rubble, brown and brownish gray	FILL	1	AUGER	ND	
			2	SB	ND	
4	SILTY CLAY, black (CL)	TOPSOIL				
			3	SB	ND	
7 1/2	LEAN CLAY, light brownish gray and black (CL)	TILL	4	SB	ND	▼
9 1/2	LEAN CLAY, a little gravel, brown mottled, some lenses of sand and silty sand (CL)		5	SB	ND	
			6	SB	ND	
14 1/2	LEAN CLAY, a little gravel, brown and gray (CL)		7	SB	ND	
17	LEAN CLAY, a little gravel, gray (CL)		8	SB	ND	
			9	SB	ND	
			10	SB	ND	
32	END OF BORING					

WATER LEVEL MEASUREMENTS

DATE	TIME	DEPTH BELOW SURFACE	DEPTH BELOW TOR	ELEVATION OF WATER
12-16	11:20	8.5'	--	81.0'

DATE STARTED: 12-16-99

DATE FINISHED: 12-16-99 @ 11:05

METHOD OF DRILLING: 3 1/4" HSA: 0-29 1/2'

CREW CHIEF : Hagedorn

FORME5

GEOTEK ENGINEERING
& TESTING SERVICES, INC.
909 EAST 50TH STREET NORTH
SIOUX FALLS, SOUTH DAKOTA 57104
605-335-5512 FAX 605-335-0773

ENVIRONMENTAL SOIL BORING LOG/ WELL CONSTRUCTION INFORMATION

JOB #: 99-913 BORING\WELL # : SB-2

PROJECT : MONTGOMERY AUTO PARTS, SHERBURN, MINNESOTA

SURFACE ELEVATION: 99.3' TOP OF RISER (TOR) ELEVATION:

GENERALIZED WELL CROSS-SECTION

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GEOLOGIC ORIGIN	SAMPLE NO	SAMPLE TYPE	PID DATA (PPM)	WL
	FILL, mixture of CLAY and SILTY SAND, a little gravel, brown and brownish gray	FILL	1	AUGER	6	
3 1/2	SILTY CLAY, black (CL)	TOPSOIL	2	SB	90	
			3	SB	75	
6 1/2	SILTY CLAY, light gray mottled (CL)	TILL	4	SB	150	▽
9 1/2	LEAN CLAY, a little gravel, brown and brownish gray (CL)		5	SB	65	
			6	SB	ND	
15	END OF BORING					

WATER LEVEL MEASUREMENTS

DATE	TIME	DEPTH BELOW SURFACE	DEPTH BELOW TOR	ELEVATION OF WATER
12-16	11:55	NONE	--	NONE
12-16	1:00	6.8'	--	80.5'

DATE STARTED: 12-16-99

DATE FINISHED: 12-16-99 @ 11:50

METHOD OF DRILLING: 3 1/4" HSA: 0-12'

CREW CHIEF : Hagedorn

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ENVIRONMENTAL SOIL BORING LOG/ WELL CONSTRUCTION INFORMATION

JOB #: 99-913 BORING\WELL # : SB-3

PROJECT : MONTGOMERY AUTO PARTS, SHERBURN, MINNESOTA

SURFACE ELEVATION: 99.9' TOP OF RISER (TOR) ELEVATION: _____

GENERALIZED WELL CROSS-SECTION

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GEOLOGIC ORIGIN	SAMPLE NO	SAMPLE TYPE	PID DATA (PPM)	WL
	FILL, mixture of CLAY and SILTY SAND, a little gravel, black, brown and brownish gray	FILL	1	AUGER	2	
			2	SB	4	
			3	SB	260	
9			4	SB	150	▽
	LEAN CLAY, a little gravel, brown mottled (CL)	TILL	5	SB	105	
			6	SB	6	
15	END OF BORING					

WATER LEVEL MEASUREMENTS

DATE	TIME	DEPTH BELOW SURFACE	DEPTH BELOW TOR	ELEVATION OF WATER
12-16	12:50	NONE	--	NONE
12-16	1:30	9'		90.9'

DATE STARTED: 12-16-99

DATE FINISHED: 12-16-99 @ 12:45

METHOD OF DRILLING: 3 1/4" HSA: 0-12'

CREW CHIEF : Hagedorn

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ENVIRONMENTAL SOIL BORING LOG/ WELL CONSTRUCTION INFORMATION

JOB #: 99-913 BORING\WELL # : SB-4

PROJECT : MONTGOMERY AUTO PARTS, SHERBURN, MINNESOTA

SURFACE ELEVATION: 99.3' TOP OF RISER (TOR) ELEVATION: _____

GENERALIZED WELL CROSS-SECTION

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GEOLOGIC ORIGIN	SAMPLE NO	SAMPLE TYPE	PID DATA (PPM)	WL
	FILL, mixture of CLAY and SILTY SAND, a little gravel, brownish gray and brown	FILL	1	AUGER	8	
2 1/2	SILTY CLAY, black (CL)	TOPSOIL	2	SB	ND	
4 1/2	LEAN CLAY, a trace of gravel, brownish gray and brown (CL)	TILL	3	SB	ND	
7	LEAN CLAY, a little gravel, brown mottled (CL)		4	SB	ND	
			5	SB	ND	
12	LEAN CLAY, a little gravel, brown and brownish gray (CL)		6	SB	ND	
15	END OF BORING					

WATER LEVEL MEASUREMENTS

DATE	TIME	DEPTH BELOW SURFACE	DEPTH BELOW TOR	ELEVATION OF WATER
12-16	1:25	NONE	--	NONE

DATE STARTED: 12-16-99

DATE FINISHED: 12-16-99 @ 1:20

METHOD OF DRILLING: 3 1/4" HSA: 0-12'

CREW CHIEF : Hagedorn

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ENVIRONMENTAL SOIL BORING LOG/ WELL CONSTRUCTION INFORMATION

JOB #: 99-913 BORING\WELL # : SB-5

PROJECT : MONTGOMERY AUTO PARTS, SHERBURN, MINNESOTA

SURFACE ELEVATION: 99.4' TOP OF RISER (TOR) ELEVATION: _____

GENERALIZED WELL CROSS-SECTION

DEPTH IN FEET	DESCRIPTION OF MATERIAL	GEOLOGIC ORIGIN	SAMPLE NO	SAMPLE TYPE	PID DATA (PPM)	WL
	FILL, mixture of CLAY and SILTY SAND, a little gravel, brown and dark grayish brown, a layer of concrete at the surface	FILL	1	AUGER	ND	
			2	SB	50	
4	SILTY CLAY, black (CL)	TOPSOIL				
			3	SB	65	
6 1/2	SILTY CLAY, light gray and brown (CL)	TILL				
			4	SB	+200	▽
9	LEAN CLAY, a little gravel, brown and brownish gray, a layer of gray aboave 15' (CL)					
			5	SB	30	
			6	SB	2	
15	END OF BORING					

WATER LEVEL MEASUREMENTS

DATE	TIME	DEPTH BELOW SURFACE	DEPTH BELOW TOR	ELEVATION OF WATER
12-16	2:10	9.0'	--	90.4'

DATE STARTED: 12-16-99

DATE FINISHED: 12-16-99 @ 2:05

METHOD OF DRILLING: 3 1/4" HSA: 0-12'

CREW CHIEF : Hagedorn

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