PHASE II

ENVIRONMENTAL ASSESSMENT

FOR

THOMAS ABANDONED SERVICE STATION

STATE T.H. 77

IRON COUNTY

WDOT PROJECT ID 9250-09-00

PREPARED FOR:

WISCONSIN DEPARTMENT

OF TRANSPORTATION

JUNE, 1994

SUBMITTED BY:

ENVIROSCIENCE

ENGINEERS • SCIENTISTS • LAND SURVEYORS

1101 WEST CLAIREMONT AVENUE - SUITE 2D

EAU CLAIRE, WISCONSIN 54701

(715) 835-9311

Rec'd 8/17/94
Brule

July 12, 1994

Mr. Mark Kohler
Level One, Inc.
P.O. Box 345, 302 E. Thomas
Rice Lake, WI 54868

Dear Mr. Kohler:

Enclosed is the Phase II Environmental Assessment Report for the Thomas Abandoned Service Station site located in Montreal, Wisconsin. WDOT Project ID 9250-09-00. Enviroscience Project No. 94-059.11.

Four reports are included for you to disperse to the WDOT and other parties.

Enviroscience recommends that one copy of the report be submitted to the WDNR to determine if additional investigation is warranted by the property owner.

If you have any questions regarding this investigation, please do not hesitate to contact me at (715) 835-9311.

Sincerely,

ENVIROSCIENCE, INC.

Steven J. Palzkill
Environmental Manager

enclosure

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ENVIROSCIENCE, INC.
1101 WEST CLAIREMONT AVENUE SUITE 2D
EAU CLAIRE, WI 54701
(715) 835-9311

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ENVIRONMENTAL ASSESSMENT

FOR

THOMAS ABANDONED SERVICE STATION

STATE T.H. 77

IRON COUNTY

WDOT PROJECT ID 9250-09-00

Prepared By: Steven J. Palzkill — Date: 7-12-94

Steven J. Palzkill
Environmental Manager
Enviroscience, Inc.

Reviewed By: Daryl E. Zuelke — Date: 7-12-94

Daryl E. Zuelke
P.E. Vice President
Enviroscience, Inc.

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ABBREVIATIONS

AA	Atomic Absorption, technique used to test for metals
ASTM	American Society for Testing Metals
bg	Below Grade
Cd	Cadmium
DHSS	Department of Health and Human Services
DILHR	Department of Industry, Labor and Human Relations
DRO	Diesel Range Organic
EPA	Environmental Protection Agency
ERP	Environmental Repair Program
FID	Flame Ionization Detector
GC-MS	Gas Chromatograph-Mass Spectrometer
GRO	Gasoline Range Organic
LUST	Leaking Underground Storage Tank
MDL	Minimum Detection Limits
ND	not detected
Pb	Lead
PID	Photo Ionization Detector
ppb	parts per billion
ppm	parts per million, which is equivalent to mg/kg
PVOC	Petroleum Volatile Organic Compound
QC	Quality Control
RP	Responsible Party
TCLP	Toxicity Characteristic Leaching Procedure
UST	Underground Storage Tank
VOC	Volatile Organic Compound
WDOT	Wisconsin Department of Transportation

Section One EXECUTIVE SUMMARY

1.1 Results and Conclusions

Enviroscience Inc. has completed a Phase II Environmental Assessment of the Thomas Abandoned Service Station site located in the City of Montreal, WI. The Phase II Environmental Assessment was conducted on May 23-26 for the Wisconsin Department of Transportation (WDOT) State Trunk Highway (STH) 77, Montreal to Hurley, Project I.D.# 9250-09-00.

The proposed project is located on State Trunk Highway 77 in Iron County. It begins west of the City of Montreal's corporate limits, at Elm Street, and extends easterly approximately 4.0 miles through the City of Montreal, into the City of Hurley to 6th Avenue. The existing roadway consists of both rural and urban sections.

The urban portion of the project would involve reconstructing the section in the City of Montreal from Bessemer Street approximately 2.0 miles into the City of Hurley to 5th Street. The urban section will be constructed as a 36-foot wide face to face curb and gutter section, with a storm sewer system.

The results of the assessment are as follows:

* The site ceased operations in 1989. Prior to 1989 the site operated as a gasoline service station. The investigator was unable to determine the date that the station began operations.

* The properties to the east and west sides of the Thomas site are undeveloped woods. State Trunk Highway 77 runs along the north side

of the property while the Montreal River runs parallel to the south side of the property.

* There was no surface evidence of spills but, common to all gasoline sites, there is the possibility that overfills have occurred.

* Two soil borings (SB-5 and SB-6) were drilled to depth of 7.0 and 12.0 feet below grade (bg) respectively. Both borings were located within the existing STH 77 right-of-way.

* Ground water was encountered at approximately the 2.5 to 4.5-foot level in both soil borings. Bedrock was encountered in both borings.

* Photoionization detector (PID) field screening of soil samples did not indicate the presence of petroleum constituents. Also, visual and olfactory inspection gave no evidence that contamination was present.

* One soil sample from SB-5 and two samples from SB-6 were analyzed for Gasoline Range Organics (GRO) and Diesel Range Organics (DRO). The second sample was taken from SB-6 for use as a duplicate (a quality assurance measure). The SB-5 sample contained DRO at a concentration of 100 ppm which is well above the WDNR remedial action guideline of 10 ppm. DRO in samples SB-6 and SB-6 (dupl.) and GRO in SB-5, SB-6 and SB-6 (dupl.) were below the DNR guideline of 10 ppm.

* SB6 was developed into a temporary ground water monitoring point by placing a screened well casing within the boring. A water sample tested for Petroleum Organic Compounds (PVOC) with no detection.

1.2 Recommendations

Based on the results of this investigation, Enviroscience recommends additional investigation of soil contamination in the anticipated construction zone (surface to five feet) within the Wisconsin Department of Transportation (WDOT) right-of-way at this site. It should be noted that a 100 ppm level of Diesel Range Organics was identified in the 2.5 to 4.5-foot zone of SB-5. The Wisconsin Department of Natural Resources (WDNR) remedial action guideline for Diesel Range Organics (DRO) and Gasoline Range Organics (GRO) soil contamination is 10 ppm. Also a low level of Gasoline Range Organics, 1.7 ppm, were identified in SB-5 in the 2.5 to 4.5-foot zone. Diesel Range Organics (DRO) were also detected (9.7 ppm) in the 5.0 to 7.0-foot zone of SB-6. It is possible that higher concentrations of petroleum contamination exist on the site in areas that were not investigated.

The potential exists to encounter soil contamination during construction. The extent and degree of soil contamination within the right-of-way needs to be defined in order to determine the best method of soil handling and remediation.

Sampled ground water did not contain Petroleum Volatile Organic Compounds (PVOC's), but because the ground water is so close to the surface (within 2.5 to 4.5 feet in both soil borings) impacts to the ground water may exist elsewhere on the site. Current construction plans involve excavation for new storm sewers to a

depth of five feet so dewatering may be required. The potential exists to encounter Volatile Organic Compound (VOC) contaminated ground water during this excavation. Crews responsible for dewatering should be prepared to handle Volatile Organic Compounds (VOC) impacted ground water if necessary. At a minimum, if any indication of soil contamination (e.g., petroleum odor) is discovered during construction, a Wisconsin Department of Transportation (WDOT) environmental consultant should be on-site to monitor the excavation and disposal or treatment of the impacted soil.

Section Two SITE INVESTIGATION

2.1 Purpose and Scope

The Phase II Site Assessment was performed to determine if soil and/or groundwater in the State Trunk Highway (STH) 77 right-of-way has been impacted by the possible release of petroleum products from past operations on the Thomas Abandoned Service Station site. Highway construction is currently being proposed for STH 77 through the City of Montreal, to Hurley, WI. The Thomas Abandoned Service Station Site is located within the right-of-way of the proposed construction (see Figure 2-1). Current construction plans include increasing the width of the urban section of STH 77 from 22 to 36 feet, resurfacing the roadway and installing storm sewers. This assessment was conducted for Level One, Inc. on May 24-26 as part of WDOT Project I.D. # 9250-09-00.

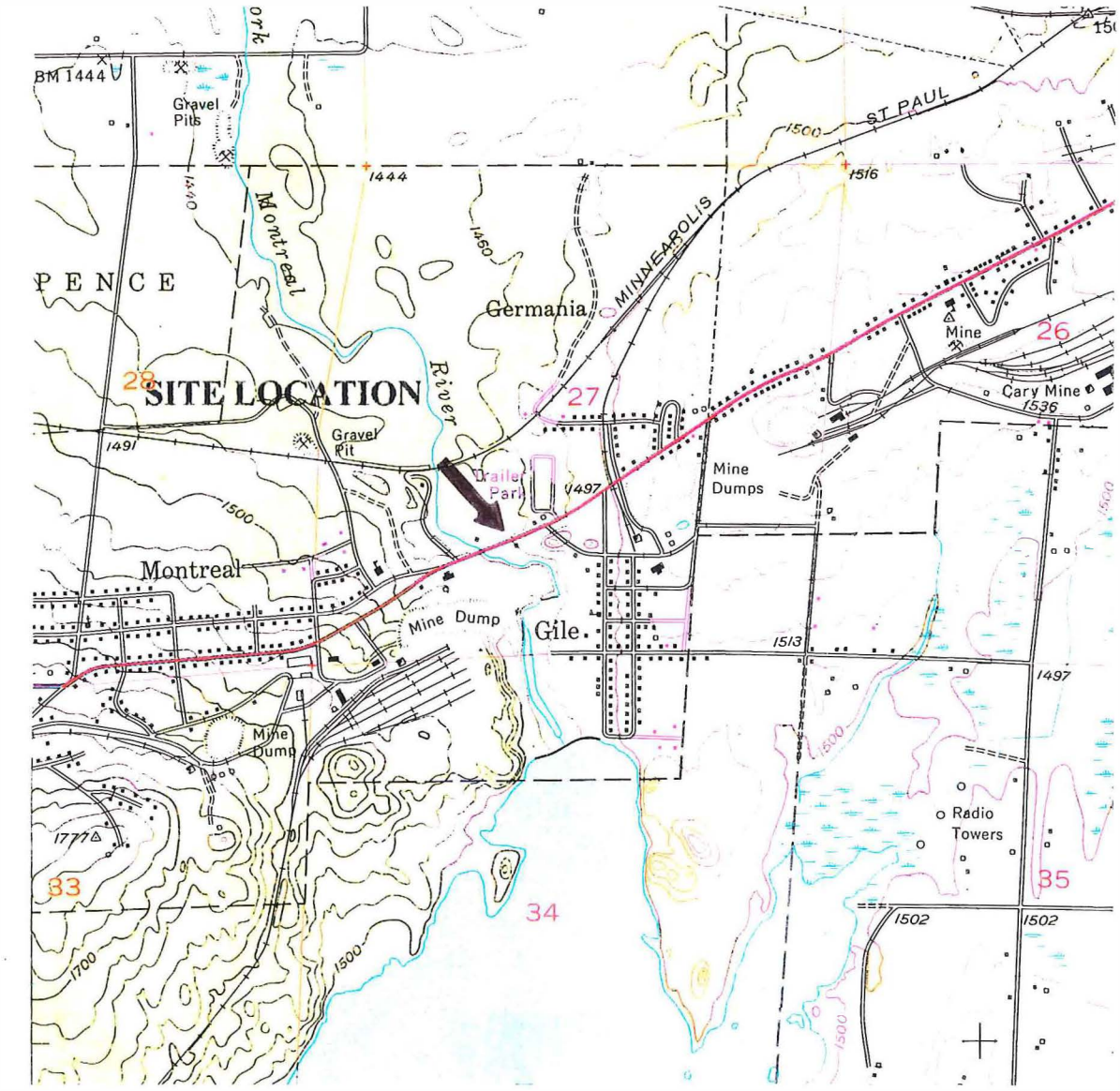
The assessment for this site consisted of the following:

* a review of the site history,
* a review of topographic maps, United States Geological Survey (USGS) Water Resources Maps, soils and bedrock identification maps,
* interviews of people familiar with the site,
* a review of regulatory lists,
* a reconnaissance inspection of the site and surrounding area to identify potential contamination sources,
* the advancement of two soil borings, SB-5 to 7 feet below grade (bg) and SB-6 to 12 feet below grade (bg),

* field screening of subsurface soil samples every 2.5 feet in depth for the presence of Petroleum Organic vapors and for visual evidence of petroleum contamination,

* collection and lab analysis for GRO and DRO of one subsurface soil sample from each boring, plus one duplicate sample,

* collection of lab analysis for PVOC of one groundwater sample, plus one duplicate sample.



SITE LOCATION

Thomas Abandoned Service Station Site

FIGURE 2-1

ENVIROSCIENCE

2.2 Site Description and History

The Thomas site is located approximately 2 tenths of one mile north of the Montreal City Hall on STH 77 in the NW 1/4 SW1/4, Sec. 27, T 46N R2E, City of Montreal, Iron County, Wisconsin . The site is owned by Mr. Bill Thomas of 24 Nimikon, Gile, WI, (715) 561-5314. The site consists of one building, a single story service station with two service bays. The sites is not presently being use. The north side of the site is bounded by STH 77 and the adjacent properties to the east and west are undeveloped woods. The Montreal River runs along the south side of the property. The site is illustrated in Figure 2-2.

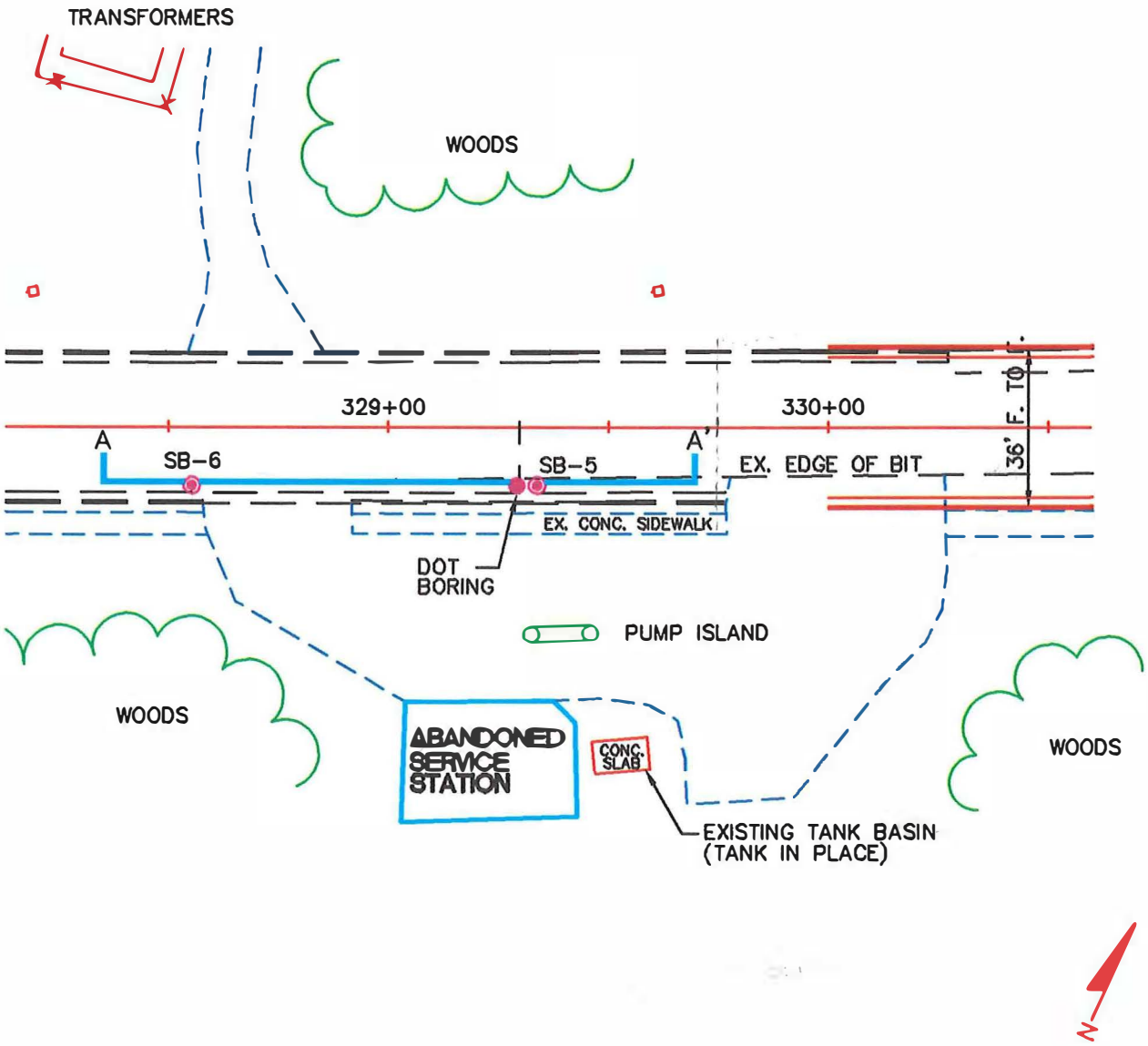
From an interview with the site owner, Bill Thomas, Mr. Steven Palzkill of Enviroscience, Inc., determined that:

* the site has been inactive since 1989,
* previous to 1989 the site operated as Sarri Brothers Service Station, but the investigator was unable to determine the date the station began operations,
* Two 1000 gallon gasoline storage tanks are still in place at the site.

2.3 Geologic/Hydrogeologic Setting

The City of Montreal is in the northern part of Iron County in the Lake Superior Basin. The subsurface geology in this area is composed of Precambrian crystalline rocks (undifferentiated igneous and metamorphic rocks to the south of Montreal and basaltic lava flows to the north). The soils are Quaternary ground moraine (glaciolacusterine unstratified clay, silt, sand, gravel, and cobbles). Bedrock is

encountered at an average depth of 10 feet. The topography is deeply dissected lake plane. Ground water in the area of the site generally flows toward the Montreal River.



APPROXIMATE SCALE: 1" = 40'

JUNE 21, 1994	ENVIROSCIENCE ENGINEERS • SCIENTISTS • LAND SURVEYORS 1101 WEST CLAIREMONT AVENUE - SUITE 2D EAU CLAIRE, WISCONSIN 54701 (715) 836-0311	THOMAS ABANDONED SERVICE STATION MONTREAL FIGURE 2

2.4 Regulatory Review

A record search was performed to uncover any previous spills or other enforcement actions that may have been reported on or around the Thomas Site. The search referenced the Wisconsin Department of Industry, Labor and Human Relations (WDILHR) Computer Inventory of Underground Petroleum Storage Tanks. The Thomas UST's were not, but should have been, listed on this inventory.

The Wisconsin Department of Natural Resources (WDNR) Leaking Underground Storage Tank (LUST) List and the WDNR Statewide Spills and Hazardous Incident Report were reviewed. One active LUST site was identified within the area at the Montreal City Hall. The Montreal River separates the two sites so any ground water or soil impact on the Thomas Site from the City Hall site is not anticipated.

2.5 Sampling Procedures and Locations

Two soil borings (SB-5 and SB-6) were advanced using a hollow stem auger drill rig and one sample from each boring was collected using split-spoon samplers and one duplicate sample was also taken (See Appendix D). Boring locations are illustrated in Figure 2-2.

Ground water was encountered at approximately the 2.5 to 4.5-foot (bd) in both soil borings. A screened well casing was placed within SB-6 for use as a temporary monitoring well. Two ground water samples were collected from SB-6 using a disposable bailer. The second sample was taken as a duplicate. The ground water samples were tested for the presence of PVOC's. No PVOC's were detected in the SB-6 ground water samples.

A photoionization detector (PID) was used to field test for presence of organic vapors. The results of the field screening are illustrated in Table 2-1.

The technical procedures followed for collecting soil, field screening of samples, laboratory testing of samples, maintaining security and integrity of the samples, and procedures used for sample identification and chain of custody are included in the Appendices.

2.6 Analytical Results

2.6.1 Field Screening

Subsurface soil samples were screened for presence of organic vapors using a calibrated PID following the methodology in Appendix D. A summary of field screening results are illustrated in Table 2-1.

TABLE 2-1

SOIL GAS FIELD SCREENING

BORING NUMBER	DEPTH (ft)	PID RESPONSE (ppm)	MOISTURE	PETROLEUM ODOR
SB-5	2.5-4.5	ND	WET	NONE
SB-6	2.5-4.5 5.0-7.0 7.5-9.5	ND ND ND	WET WET WET	NONE NONE NONE

2.6.2 Results of Laboratory Chemical Analysis of Samples

The laboratory analysis of soil sample SB-5 indicated a concentration of DRO at 100 ppm (the WDNR remedial action limit is 10 ppm). Both samples analyzed from SB-6 yielded concentrations of DRO below the laboratory detection limit. GRO in all three samples were not detected. The results of the laboratory analysis of the soil samples are illustrated in Table 2-2 below.

TABLE 2-2

SOIL SAMPLE CHEMICAL ANALYSIS.

SAMPLE NUMBER	SAMPLE DEPTH (ft)	COLLECTION DATE	DRO ppm	GRO ppm	SOLIDS (%)
SB-5	2.5 - 4.5	5-24-94	100	1.7	87.5
SB-6	5.0 - 7.0	5-24-94	<5.7	<1.1	87.1
SB-6 (dupl.)	5.0 - 7.0	5-24-94	9.4	<1.1	87.1

PVOC's were not detected in ground water sample SB-6 above laboratory detection limits. The results of laboratory analysis of ground water samples are illustrated below in Table 2-3.

TABLE 2-3

GROUND WATER SAMPLE ANALYSIS

SAMPLE NUMBER	COLLECTION DATE	PVOC's (ug/L)
SB-6	5-25-94	<1.0
SB-6 (dupl.)	5-25-94	<1.0

2.7 Conclusions

This section discusses field observations and analytical data pertaining to observed or potential contamination that may be attributed to the Thomas Abandoned Service Station, Montreal, Wisconsin.

The site history and site inspection revealed that commercial activities have taken place at this site since an unknown date. Two gasoline UST's are located on this site which operated as a service station until 1989. No evidence of petroleum spills (e.g. stressed vegetation, stained soils) was observed during the site inspection.

PID field screening of headspace samples from soil borings did not suggest the presence of organic vapors at levels above background for the site. No visual or olfactory evidence of petroleum contamination was observed.

Laboratory analysis revealed DRO concentration of 100 ppm at a depth of 2.5 to 4.5 feet (bg) in soil boring SB-5. This level of contamination exceeds the 10 ppm WDNR remedial action guideline for petroleum impacted soils. Additionally a concentration of 1.7 ppm GRO was encountered in boring SB-5, but this level is below the remedial action guideline. Soil boring SB-6 showed a detection of DRO contamination of 9.4 ppm at the 5.0 to 7.0-feet (bg). This level is above background but below the remedial action limit.

Based on the results of field screening and laboratory analysis, the areas near soil boring SB-5 which are anticipated to be encountered during construction activities in the STH 77 right-of-way at this site are impacted by DRO at a concentration sufficient to require additional work.

Field observation of ground water did not indicate any obvious signs of contamination (e.g. odor, petroleum sheen, or discolorations). Laboratory results did not indicate the presence of any PVOC. Ground water was encountered at a depth of 2.5 to 4.5 feet (bg). The current construction plans for the highway do include excavating at depths sufficient to encounter ground water.

Mr. Chris Sarri of WDNR, Northwest District was notified of the release on June 20, 1994. Mr Sarri indicated that a responsible party letter would be issued to the property owner. The possibility exists that the property owner may not respond in a timely manner. Delay of the proposed highway construction project may occur as a result.

2.8 Recommendations

Based on the results of this investigation, Enviroscience recommends additional investigation of soil contamination in the anticipated construction zone (surface to five feet) within the WDOT right-of-way at this site. It should be noted that a 100 ppm level of DRO was identified in the 2.5 to 4.5-foot zone of SB-5. The

WDNR remedial action guideline for DRO and GRO soil contamination is 10 ppm. Also a low level of GRO, 1.7 ppm, was identified in SB-5 in the 2.5 to 4.5-foot zone. DRO were also detected (9.7 ppm) in the 5.0 to 7.0-foot zone of SB-6. It is possible that higher concentrations of DRO and GRO exist on the site in areas that were not investigated.

The potential exists to encounter soil contamination during construction. The extent and degree of soil contamination within the right-of-way needs to be defined in order to determine the best method of soil handling and remediation.

Sampled ground water did not contain PVOC's, but because the ground water is so close to the surface (within 2.5 to 4.5 feet in both soil borings) impacts to the ground water may exist elsewhere on the site. Current construction plans involve excavation for new storm sewers to a depth of five feet so dewatering may be required. The potential exists to encounter VOC contaminated ground water during this excavation. Crews responsible for dewatering should be prepared to handle VOC impacted ground water if necessary.

At a minimum, if any indication of soil contamination (e.g., petroleum odor) is discovered during construction, A WDOT environmental consultant should be on-site to monitor the excavation and disposal or treatment of the impacted soil.

2.9 Standard of Care

The conclusions contained in this report represent our professional opinions. Our opinions are arrived at in accordance with currently accepted hydrogeologic and engineering practices at this time and location. Enviroscience observed the degree of care and skill generally exercised by the profession under similar circumstances and conditions. No other warranty is expressed or implied.

Information in this report obtained during interviews was accepted in good faith. Information in this report obtained through databases is limited to the accuracy of those databases.

Section Three APPENDICES

A Site Photographs

SITE PHOTOGRAPHS

SITE NAME: Thomas Abandoned Service Station

DATE: 5-26-94

TIME: 11:05am

DIRECTION OF PHOTOGRAPH:

Southeast

WEATHER CONDITIONS:

sunny, dry, 60 degrees

PHOTOGRAPHED BY:

Steven Palzkill

DESCRIPTION: The orange cone designates SB-6 located in the boulevard portion of sidewalk.

SITE NAME: Thomas Abandoned Service Station

DATE: 5-26-94

TIME: 11:07 am

DIRECTION OF PHOTOGRAPH:

Due South

WEATHER CONDITIONS:

sunny, dry, 60 degrees

PHOTOGRAPHED BY:

Steven Palzkill

DESCRIPTION: The orange cone designates SB-5 located in the boulevard portion of the sidewalk.

B WDNR Soil Boring Logs and Borehole Abandonment Forms

State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Other

Soil Boring Log Information

Form 4400-122 7-91

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
STH 77		SB5

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
WTD, Mark Thuot	5/24/94	5/24/94	HSA

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	8.0 Inches

Boring Location	Lat / Long	Local Grid Location (If applicable)
State Plane N, (E)	Lat ° ' "	☐ N ☐ E
NW 1/4 of SW 1/4 of Section 27 T 46 N,R 2	Long ° ' "	Feet ☐ S Feet ☐ W

County	DNR County Code	Civil Town/City/ or Village
Iron	26	Montreal

Sample Number	Length (in) Recovered	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
1	.5	3, 8, 13, 21	2–4	Br. F-C SAND, w/Gravel					21	W				
2	.5	31, 50, 42, 50	5–7						92	W				

Depth scale: 1 to 12 feet.

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature

Firm: WTD Environmental Drilling
101 Alderson Schofield, WI 54476-0109
Tel: (715) 359-7090 Fax: (715) 355-5715

This form is authorized by Chapters 144, 147 and 162, Wis. Stats. Completion of this report is mandatory. Penalties: Forfeit not less than $10 nor more than $5,000 for each violation. Fined not less than $10 or more than $100 or imprisoned not less than 30 days, or both for each violation. Each day of continued violation is a separate offense, pursuant to ss 144.99 and 162.06, Wis. Stats.

State of Wisconsin
Department of Natural Resources

Soil Boring Log Information Supplement
Form 4400-122A 7-91

Boring Number **SB5** Use only as an attachment to Form 4400-122. Page **2** of **2**

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number	Length (in) Recovered								Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	
				E.O.B. 12.0										

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All abandonment work shall be performed in accordance with the provisions of Chapters NR 111, NR 112 or NR 141, Wis. Admin. Code, whichever is applicable. Also, see instructions on back.

(1) GENERAL INFORMATION

Well/Drillhole/Borehole Location — County: Iron

NW 1/4 of SW 1/4 of Sec. 27 ; T. 46 N; R. 2 [X] E [ ] W

(If applicable) Gov't Lot ____ Grid Number ____

Grid Location ____ ft. [ ] N. [ ] S., ____ ft. [ ] E. [ ] W.

Civil Town Name

Street Address of Well

City, Village: Montreal, WI

(2) FACILITY NAME

Original Well Owner (If Known)

Present Well Owner: STH 77

Street or Route

City, State, Zip Code: Montreal, WI

Facility Well No. and/or Name (If Applicable): SB5 | WI Unique Well No.: — — — — —

Reason For Abandonment: No longer needed

Date of Abandonment: 5/24/94

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed On (Date): 5/24/94

[ ] Monitoring Well
[ ] Water Well
[X] Drillhole
[ ] Borehole

Construction Report Available? [X] Yes [ ] No

Construction Type:
[X] Drilled [ ] Driven (Sandpoint) [ ] Dug
[ ] Other (Specify) ____

Formation Type:
[X] Unconsolidated Formation [ ] Bedrock

Total Well Depth (ft.) (From groundsurface) ____ Casing Diameter (ins.) ____

Casing Depth (ft.) ____

Was Well Annular Space Grouted? [ ] Yes [ ] No [ ] Unknown
If Yes, To What Depth? ____ Feet

(4) Depth to Water (Feet) 30

Pump & Piping Removed? [ ] Yes [ ] No [X] Not Applicable
Liner(s) Removed? [ ] Yes [ ] No [X] Not Applicable
Screen Removed? [ ] Yes [ ] No [X] Not Applicable
Casing Left in Place? [ ] Yes [ ] No
If No, Explain ____

Was Casing Cut Off Below Surface? [ ] Yes [ ] No
Did Sealing Material Rise to Surface? [X] Yes [ ] No
Did Material Settle After 24 Hours? [ ] Yes [X] No
If Yes, Was Hole Retopped? [ ] Yes [ ] No

(5) Required Method of Placing Sealing Material
[X] Conductor Pipe-Gravity [ ] Conductor Pipe-Pumped
[ ] Dump Bailer [ ] Other (Explain)

(6) Sealing Materials
[ ] Neat Cement Grout
[ ] Sand-Cement (Concrete) Grout
[ ] Concrete
[ ] Clay-Sand Slurry
[ ] Bentonite-Sand Slurry
[X] Chipped Bentonite

For monitoring wells and monitoring well boreholes only:
[ ] Bentonite Pellets
[ ] Granular Bentonite
[ ] Bentonite - Cement Grout

Sealing Material Used	From Ft.	To Ft.	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
Bentonite Chips	Surface	12.0	2 bags	

(7) Comments:

(8) Name of Person or Firm Doing Sealing Work: WTD Environmental Drilling

Signature of Person Doing Work: [signature] | Date Signed: 6/3/94

Street or Route: 101 Alderson Street | Telephone Number: (715) 359-7090

City, State, Zip Code: Schfield, WI 54476

(9) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected | District/County

Reviewer/Inspector

Follow-up Necessary

DNR/COUNTY

State of Wisconsin
Department of Natural Resources

Route To:
☐ Solid Waste ☐ Haz. Waste
☐ Emergency Response ☐ Underground Tanks
☐ Wastewater ☐ Water Resources
☐ Other

Soil Boring Log Information
Form 4400-122 7-91

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
STH 77		SB6

Boring Drilled By (Firm name and name of crew chief)	Date Drilling Started	Date Drilling Completed	Drilling Method
WTD, Mark Thuot	5/24/94	5/24/94	HSA

DNR Facility Well No.	WI Unique Well No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	8.0 Inches

Boring Location
State Plane N, E
NW 1/4 of SW 1/4 of Section 27 T 46 N,R 2
Lat ° ' "
Long ° ' "

Local Grid Location (If applicable)
☐ N ☐ E
Feet ☐ S Feet ☐ W

County	DNR County Code	Civil Town/City/ or Village
Iron	26	Montreal

Sample Number	Sample Length (in) Recovered	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	RQD/ Comments
1	1.5	6 12 23 31	1 2 3 4	F-C SAND					35	M				
2	1.0	3 5 5 17	5 6						10	W				
3	1.5	5 7 5 8	7 8	F-C SAND, w/Gravel					12	M				
			9	Br. Silty CLAY										
4	1.5	17 31 24 50	10 11	Br. F-C SAND, w/Gravel					55	W				
			12											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: Tom Thuot

Firm: WTD Environmental Drilling
101 Alderson Schofield, WI 54476-0109
Tel: (715) 359-7090 Fax: (715) 355-5715

This form is authorized by Chapters 144, 147 and 162, Wis. Stats. Completion of this report is mandatory. Penalties: Forfeit not less than $10 nor more than $5,000 for each violation. Fined not less than $10 or more than $100 or imprisoned not less than 30 days, or both for each violation. Each day of continued violation is a separate offense, pursuant to ss 144.99 and 162.06, Wis. Stats.

State of Wisconsin
Department of Natural Resources

Soil Boring Log Information Supplement
Form 4400-122A 7-91

Boring Number **SB6** Use only as an attachment to Form 4400-122. Page **2** of **2**

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number	Length (in) Recovered								Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200	
				E.O.B. 12.0										

All abandonment work shall be performed in accordance with the provisions of Chapters NR 111, NR 112 or NR 141, Wis. Admin. Code, whichever is applicable. Also, see instructions on back.

(1) GENERAL INFORMATION

Well/Drillhole/Borehole Location

County: Iron

NW 1/4 of SW 1/4 of Sec. 27 ; T. 46 N; R. 2 [X] E [ ] W

(If applicable) ______ Gov't Lot ______ Grid Number

Grid Location: ______ ft. [ ] N. [ ] S., ______ ft. [ ] E. [ ] W.

Civil Town Name:

Street Address of Well:

City, Village: Montreal, WI

(2) FACILITY NAME

Original Well Owner (If Known):

Present Well Owner: STH 77

Street or Route:

City, State, Zip Code: Montreal, WI

Facility Well No. and/or Name (If Applicable): SB6

WI Unique Well No.: _ _ _ _ _

Reason For Abandonment: No longer needed

Date of Abandonment: 5/24/94

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed On (Date): 5/24/94

[ ] Monitoring Well
[ ] Water Well
[X] Drillhole
[ ] Borehole

Construction Report Available? [X] Yes [ ] No

Construction Type:
[X] Drilled [ ] Driven (Sandpoint) [ ] Dug
[ ] Other (Specify): ______

Formation Type:
[X] Unconsolidated Formation [ ] Bedrock

Total Well Depth (ft.) (From groundsurface): ______ Casing Diameter (ins.): ______

Casing Depth (ft.): ______

Was Well Annular Space Grouted? [ ] Yes [ ] No [ ] Unknown
If Yes, To What Depth? ______ Feet

(4) Depth to Water (Feet): 5.0

Pump & Piping Removed? [ ] Yes [ ] No [X] Not Applicable
Liner(s) Removed? [ ] Yes [ ] No [X] Not Applicable
Screen Removed? [ ] Yes [ ] No [X] Not Applicable
Casing Left in Place? [ ] Yes [ ] No
If No, Explain ______

Was Casing Cut Off Below Surface? [ ] Yes [ ] No
Did Sealing Material Rise to Surface? [X] Yes [ ] No
Did Material Settle After 24 Hours? [ ] Yes [X] No
If Yes, Was Hole Retopped? [ ] Yes [ ] No

(5) Required Method of Placing Sealing Material
[X] Conductor Pipe-Gravity [ ] Conductor Pipe-Pumped
[ ] Dump Bailer [ ] Other (Explain)

(6) Sealing Materials
[ ] Neat Cement Grout
[ ] Sand-Cement (Concrete) Grout
[ ] Concrete
[ ] Clay-Sand Slurry
[ ] Bentonite-Sand Slurry
[X] Chipped Bentonite

For monitoring wells and monitoring well boreholes only:
[ ] Bentonite Pellets
[ ] Granular Bentonite
[ ] Bentonite - Cement Grout

Sealing Material Used	From Ft.	To Ft.	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
Bentonite Chips	Surface	12.0	3 bags	

(8) Comments: ______

(9) Name of Person or Firm Doing Sealing Work: WTD Environmental Drilling

Signature of Person Doing Work: [signature]

Date Signed: 6/3/94

Street or Route: 101 Alderson Street

Telephone Number: (715) 359-7090

City, State, Zip Code: Schofield, WI 54476

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected: | District/County:

Reviewer/Inspector:

Follow-up Necessary:

DNR/COUNTY

C Analytical Results and Chain of Custody

MID-STATE ASSOCIATES, INC.

Laboratory Services
1230 Lange Ct.
Baraboo, WI 53913
608-356-2760

ANALYTICAL REPORT

ENVIROSCIENCE
RICK KRONK
6474 CITY WEST PARKWAY
EDEN PRAIRIE, MN 55344

Client I.D. No.:1223
Work Order No.:9405000666
Project Name:HURLEY/HWY 77
Project Number:W94001.31
Arrival Temperature:ON ICE
Date Recieved: 05/27/94
Report Date: 06/13/94

Sample I.D. #:67447 **Sample Description:**SB-5 **Date Sampled:**05/24/94

Analyte	Result	Units
Diesel Range Organics- WDNR Modified DRO Sample contains fractions lighter than diesel range organic hydrocarbons.	100	mg/Kg
Extraction Date DRO	05/27/94	
Analysis Date DRO	06/02/94	
Gasoline Range Organics- WDNR Modified GRO	1.7	mg/Kg
Extraction Date GRO	06/01/94	
Analysis Date GRO	06/01/94	
LUST Total Percent Solids	87.5	%

Sample I.D. #:67448 **Sample Description:**SB-6 **Date Sampled:**05/24/94

Analyte	Result	Units
Diesel Range Organics- WDNR Modified DRO Sample contains one peak before the diesel range organic hydrocarbon window.	< 5.7	mg/Kg
Extraction Date DRO	05/27/94	
Analysis Date DRO	06/02/94	
Gasoline Range Organics- WDNR Modified GRO	< 1.1	mg/Kg
Extraction Date GRO	06/01/94	
Analysis Date GRO	06/02/94	
LUST Total Percent Solids	87.1	%

Sample I.D. #:67449 **Sample Description:**SB-7 **Date Sampled:**05/25/94

Analyte	Result	Units
Diesel Range Organics- WDNR Modified DRO	36	mg/Kg
Extraction Date DRO	05/27/94	
Analysis Date DRO	06/02/94	
Gasoline Range Organics- WDNR Modified GRO	< 1.1	mg/Kg
Extraction Date GRO	06/01/94	
Analysis Date GRO	06/02/94	
LUST Total Percent Solids	88.8	%

Submitted By:

Wisconsin DNR Laboratory Certification Number: 157066030
DHSS Certification Number: MW0289

MID-STATE ASSOCIATES, INC.

Laboratory Services
1230 Lange Ct.
Baraboo, WI 53913
608-356-2760

ANALYTICAL REPORT

ENVIROSCIENCE
RICK KRONK
6474 CITY WEST PARKWAY
EDEN PRAIRIE, MN 55344

Client I.D. No.:1223
Work Order No.:9405000666
Project Name:HURLEY/HWY 77
Project Number:W94001.31
Arrival Temperature:ON ICE
Date Recieved: 05/27/94
Report Date: 06/13/94

Sample I.D. #:67450 **Sample Description:**SB-8 **Date Sampled:**05/25/94

Analyte	Result	Units
Diesel Range Organics- WDNR Modified DRO Sample contains two peaks before the diesel range organic hydrocabon window.	< 5.5	mg/Kg
Extraction Date DRO	05/27/94	
Analysis Date DRO	06/02/94	
Gasoline Range Organics- WDNR Modified GRO	< 1.1	mg/Kg
Extraction Date GRO	06/01/94	
Analysis Date GRO	06/02/94	
LUST Total Percent Solids	90.8	%

Sample I.D. #:67451 **Sample Description:**SB-6 DUP **Date Sampled:**05/24/94

Analyte	Result	Units
Diesel Range Organics- WDNR Modified DRO	9.4	mg/Kg
Extraction Date DRO	05/27/94	
Analysis Date DRO	06/02/94	
Gasoline Range Organics- WDNR Modified GRO	< 1.1	mg/Kg
Extraction Date GRO	06/01/94	
Analysis Date GRO	06/02/94	
LUST Total Percent Solids	87.1	%

Sample I.D. #:67452 **Sample Description:**SB-1 **Date Sampled:**05/24/94

Analyte	Result	Units
Methyl t-Butyl Ether	< 1.0	ug/L
Benzene	< 1.0	ug/L
Toluene	< 1.0	ug/L
Ethylbenzene	< 1.0	ug/L
m & p- Xylene	< 1.0	ug/L
o-Xylene	< 1.0	ug/L
1,3,5-Trimethylbenzene	< 1.0	ug/L
1,2,4-Trimethylbenzene	< 1.0	ug/L
Analysis Date PVOC	05/31/94	

Submitted By:

Wisconsin DNR Laboratory Certification Number: 157066030
DHSS Certification Number: MW0289

MID-STATE ASSOCIATES, INC.

Laboratory Services
1230 Lange Ct.
Baraboo, WI 53913
608-356-2760

ANALYTICAL REPORT

ENVIROSCIENCE
RICK KRONK
6474 CITY WEST PARKWAY
EDEN PRAIRIE, MN 55344

Client I.D. No.:1223
Work Order No.:9405000666
Project Name:HURLEY/HWY 77
Project Number:W94001.31
Arrival Temperature:ON ICE
Date Recieved: 05/27/94
Report Date: 06/13/94

Sample I.D. #:67453 **Sample Description:**SB-3 **Date Sampled:**05/25/94

Analyte	Result	Units
Methyl t-Butyl Ether	<1.0	ug/L
Benzene	<1.0	ug/L
Toluene	<1.0	ug/L
Ethylbenzene	<1.0	ug/L
m & p- Xylene	<1.0	ug/L
o-Xylene	<1.0	ug/L
1,3,5-Trimethylbenzene	<1.0	ug/L
1,2,4-Trimethylbenzene	<1.0	ug/L
Analysis Date PVOC	05/31/94	

Sample I.D. #:67454 **Sample Description:**SB-6 **Date Sampled:**05/25/94

Analyte	Result	Units
Methyl t-Butyl Ether	<1.0	ug/L
Benzene	<1.0	ug/L
Toluene	<1.0	ug/L
Ethylbenzene	<1.0	ug/L
m & p- Xylene	<1.0	ug/L
o-Xylene	<1.0	ug/L
1,3,5-Trimethylbenzene	<1.0	ug/L
1,2,4-Trimethylbenzene	<1.0	ug/L
Analysis Date PVOC	05/31/94	

Sample I.D. #:67455 **Sample Description:**SB-6 DUP **Date Sampled:**05/25/94

Analyte	Result	Units
Methyl t-Butyl Ether	<1.0	ug/L
Benzene	<1.0	ug/L
Toluene	<1.0	ug/L
Ethylbenzene	<1.0	ug/L
m & p- Xylene	<1.0	ug/L
o-Xylene	<1.0	ug/L
1,3,5-Trimethylbenzene	<1.0	ug/L
1,2,4-Trimethylbenzene	<1.0	ug/L
Analysis Date PVOC	05/31/94	

Submitted By: [signature]

Wisconsin DNR Laboratory Certification Number: 157066030
DHSS Certification Number: MW0289

MID-STATE ASSOCIATES, INC.

Laboratory Services
1230 Lange Ct.
Baraboo, WI 53913
608-356-2760

ANALYTICAL REPORT

EN IROSCIENCE
RICK KRONK
6474 CITY WEST PARKWAY
EDEN PRAIRIE, MN 55344

Client I.D. No.:1223
Work Order No.:9405000666
Project Name:HURLEY/HWY 77
Project Number:W94001.31
Arrival Temperature:ON ICE
Date Recieved: 05/27/94
Report Date: 06/13/94

Sample I.D. #:67480 **Sample Description:**TRIP BLANK **Date Sampled:**05/25/94

Analyte	Result	Units
Methyl t-Butyl Ether	<1.0	ug/L
Benzene	<1.0	ug/L
Toluene	<1.0	ug/L
Ethylbenzene	<1.0	ug/L
m & p- Xylene	<1.0	ug/L
o-Xylene	<1.0	ug/L
1,3,5-Trimethylbenzene	<1.0	ug/L
1,2,4-Trimethylbenzene	<1.0	ug/L
Analysis Date PVOC	05/31/94	

Sample pH was 6.5. Air bubble present in sample vial (6 mm diameter).

Submitted By:

Wisconsin DNR Laboratory Certification Number: 157066030
DHSS Certification Number: MW0289

MID-STATE ASSOCIATES, INC.

Chain of Custody:
MID–STATE ASSOCIATES, INC.
1–800–228–3012

1230 Lange Court
Baraboo, WI 53913
(608) 356–2760
FAX: (608) 356–2766

Is this a PECFA project? (Please indicate "yes" or "no") (circled: "no")

SAMPLE COLLECTOR: S. Patzkill | COMPANY: Enviroscience | TELEPHONE NUMBER (INCLUDE AREA CODE): 715-835-9311

PROJECT NUMBER: W94001.31 | PROJECT NAME: Hurley / Hwy 77

I HEREBY CERTIFY THAT I RECEIVED, PROPERLY HANDLED, AND DISPOSED OF THESE SAMPLES AS NOTED BELOW:

INVOICE ADDRESS (MUST BE COMPLETED): 1101 West Clairemont Ave Suite 20 Eau Claire, WI 54701

REPORT ADDRESS (MUST BE COMPLETED): 1101 West Clairemont Ave Suite 20 Eau Claire, WI 54701

DATE & TIME OF RELINQUISHMENT: 5-26-94 11:00 AM | RELINQUISHED BY (SIGNATURE): Steve Palfurl | RECEIVED BY (SIGNATURE): | DATE/TIME OF RECEPTION:

DATE & TIME OF RELINQUISHMENT: | RELINQUISHED BY (SIGNATURE): | RECEIVED BY LABORATORY (SIGNATURE): [signature] | DATE/TIME OF RECEPTION: 5/27 11:00

FIELD ID NUMBER	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE	SAMPLE DEVICE	PRESERV. TYPE	LOCATION/DESCRIPTION	TYPE OF ANALYSIS REQUIRED (PLEASE CIRCLE)	LAB USE ONLY Pres. w/MEOH? "X" if yes	NO/TYPE OF CONTAINERS	LAB I.D.
SB-1	5-24-94	5:30pm	Water	Grab	HCL	Temp. well located at SB-1, Post office	DRO GRO GRO/PVOC (PVOC) Pb Cd %SOLIDS FLASHPOINT VOC-LUST VOC-8021 SIEVE #200SIEVE PAINT FILTER PAH	Small bubble in 1 of 3	3-40 ml vial	67452
SB-3	5-25-94	12:30pm	water	Grab	HCL	Temp. well at SB-3 City Hall	DRO GRO GRO/PVOC (PVOC) Pb Cd %SOLIDS FLASHPOINT VOC-LUST VOC-8021 SIEVE #200SIEVE PAINT FILTER PAH		3-40 ml vial	67453
SB-6	5-25-94	11:55AM	water	Grab	HCL	Temp well at SB-6 Abandoned Gas Station	DRO GRO GRO/PVOC (PVOC) Pb Cd %SOLIDS FLASHPOINT VOC-LUST VOC-8021 SIEVE #200SIEVE PAINT FILTER PAH		3-40 ml vial	67454
SB-6 Dup	5-25-94	12:14pm	water	Grab	HCL	Temp well at SB-6 Abandoned Gas Station	DRO GRO GRO/PVOC (PVOC) Pb Cd %SOLIDS FLASHPOINT VOC-LUST VOC-8021 SIEVE #200SIEVE PAINT FILTER PAH		3-40 ml vial	67455
						Trip Blank	DRO GRO GRO/PVOC (PVOC) Pb Cd %SOLIDS FLASHPOINT VOC-LUST VOC-8021 SIEVE #200SIEVE PAINT FILTER PAH			67480
							DRO GRO GRO/PVOC PVOC Pb Cd %SOLIDS FLASHPOINT VOC-LUST VOC-8021 SIEVE #200SIEVE PAINT FILTER PAH			
							DRO GRO GRO/PVOC PVOC Pb Cd %SOLIDS FLASHPOINT VOC-LUST VOC-8021 SIEVE #200SIEVE PAINT FILTER PAH			
							DRO GRO GRO/PVOC PVOC Pb Cd %SOLIDS FLASHPOINT VOC-LUST VOC-8021 SIEVE #200SIEVE PAINT FILTER PAH			
							DRO GRO GRO/PVOC PVOC Pb Cd %SOLIDS FLASHPOINT VOC-LUST VOC-8021 SIEVE #200SIEVE PAINT FILTER PAH			
							DRO GRO GRO/PVOC PVOC Pb Cd %SOLIDS FLASHPOINT VOC-LUST VOC-8021 SIEVE #200SIEVE PAINT FILTER PAH			

SAMPLE CONDITIONS/COMMENTS:

ARRIVAL TEMPERATURE: [illegible] DEG.

MID-STATE ASSOCIATES, INC.

Chain of Custody:
MID–STATE ASSOCIATES, INC.
1–800–228–3012

1230 Lange Court
Baraboo, WI 53913
(608) 356–2760
FAX: (608) 356–2766

Is this a PECFA project? (Please indicate "yes" or "no") _____

SAMPLE COLLECTOR: S. Palzkill | COMPANY: EnviroScience | TELEPHONE NUMBER (INCLUDE AREA CODE): 715-835-9311

PROJECT NUMBER: W9400l.31 | PROJECT NAME: Hurley / Hwy 77

I HEREBY CERTIFY THAT I RECEIVED, PROPERLY HANDLED, AND DISPOSED OF THESE SAMPLES AS NOTED BELOW:

INVOICE ADDRESS (MUST BE COMPLETED): Suite 20 54701 1101 West Clairemont Av Eau Claire, WI

REPORT ADDRESS (MUST BE COMPLETED): 1101 West Clairemont Ave Suite 20 Eau Claire WI 54701

DATE & TIME OF RELINQUISHMENT: 5-26-94 11:00 AM | RELINQUISHED BY (SIGNATURE): Steve Palzkill | RECEIVED BY (SIGNATURE): | DATE/TIME OF RECEPTION:

DATE & TIME OF RELINQUISHMENT: | RELINQUISHED BY (SIGNATURE): | RECEIVED BY LABORATORY (SIGNATURE): | DATE/TIME OF RECEPTION: 5/27 11:00

FIELD ID NUMBER	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE	SAMPLE DEVICE	PRESERV. TYPE	LOCATION/DESCRIPTION	TYPE OF ANALYSIS REQUIRED (PLEASE CIRCLE)	LAB USE ONLY Pres. w/MEOH? "X" if yes	NO./TYPE OF CONTAINERS	LAB I.D.
SB-1	5-24-94	10:16 AM	Soil	Grab	GRO-Methanol	Soil boring #1 At Post office, 7.5-9.5	DRO GRO GRO/PVOC PVOC Pb Cd %SOLIDS FLASHPOINT VOC-LUST VOC-8021 SIEVE #200 SIEVE PAINT FILTER PAH		4-60 ml Amber	67443
SB-2	5-24-94	11:16 AM	Soil	Grab	GRO-Methanol	SB-2 at Post office 7.5-9.5	DRO GRO GRO/PVOC PVOC Pb Cd %SOLIDS FLASHPOINT VOC-LUST VOC-8021 SIEVE #200 SIEVE PAINT FILTER PAH		4-60 ml Amber	67444
SB-3	5-24-94	2:30pm	Soil	Grab	GRO Methanol	SB-3 at City Hall 8.0-10.0	DRO GRO GRO/PVOC PVOC Pb Cd %SOLIDS FLASHPOINT VOC-LUST VOC-8021 SIEVE #200 SIEVE PAINT FILTER PAH		4-60 ml Amber	67445
SB-4	5-24-94	3:08pm	Soil	Grab	GRO Methanol	SB-4 at City Hall 7.5-9.5	DRO GRO GRO/PVOC PVOC Pb Cd %SOLIDS FLASHPOINT VOC-LUST VOC-8021 SIEVE #200 SIEVE PAINT FILTER PAH		4-60 ml Amber	67446
SB-5	5-24-94	4:00pm	Soil	Grab	GRO Methanol	SB-5 at Abandoned Gas Station 2.5-4.5	DRO GRO GRO/PVOC PVOC Pb Cd %SOLIDS FLASHPOINT VOC-LUST VOC-8021 SIEVE #200 SIEVE PAINT FILTER PAH		4-60 ml Amber	67447
SB-6	5-24-94	4:30pm	Soil	Grab	GRO Methanol	SB-6 at Abandoned Gas Station 5.0-7.0	DRO GRO GRO/PVOC PVOC Pb Cd %SOLIDS FLASHPOINT VOC-LUST VOC-8021 SIEVE #200 SIEVE PAINT FILTER PAH		4-60 ml Amber	67448
SB-7	5-25-94	11:15 AM	Soil	Grab	GRO Methanol	SB-7 at Kopacz Garage 2.5-4.5	DRO GRO GRO/PVOC PVOC Pb Cd %SOLIDS FLASHPOINT VOC-LUST VOC-8021 SIEVE #200 SIEVE PAINT FILTER PAH		3-60 ml Amber	67449
SB-8	5-25-94	10:17AM	Soil	Grab	GRO Methanol	SB-8 at Kopacz Garage 5.0-7.0	DRO GRO GRO/PVOC PVOC Pb Cd %SOLIDS FLASHPOINT VOC-LUST VOC-8021 SIEVE #200 SIEVE PAINT FILTER PAH		4-60 ml Amber	67450
SB-6 Dup	5-24-94	4:30	Soil	Grab	GRO Methanol	SB-6 at Abandoned Gas Station 5.0-7.0 Duplicate	DRO GRO GRO/PVOC PVOC Pb Cd %SOLIDS FLASHPOINT VOC-LUST VOC-8021 SIEVE #200 SIEVE PAINT FILTER PAH		4-60 ml Amber	67451
							DRO GRO GRO/PVOC PVOC Pb Cd %SOLIDS FLASHPOINT VOC-LUST VOC-8021 SIEVE #200 SIEVE PAINT FILTER PAH			

SAMPLE CONDITIONS/COMMENTS:

CHECKED

ARRIVAL TEMPERATURE _____ DEG. C

D Standard Sampling and Analytical Procedures

D-1 Drilling and Soil Sampling

Drilling operations were performed by WTD Environmental Drilling, Schofield, Wisconsin, utilizing a truck mounted drill rig.

Split-barrel soil sampling in the standard penetration soil borings was performed using hollow-stem auger techniques in accordance with ASTM:D1586-84. Using this procedure, a 2" O.D. split barrel sampler was driven into the soil by a 140 lb. weight falling 30". Laboratory analysis samples were removed from the split-spoons using clean, stainless steel utensils and placed in laboratory supplied jars. After each sample was removed, the split-spoon was washed in an Alconox™ detergent and tap water solution, then rinsed with distilled water.

D-2 Soil Classification

As the samples were obtained in the field, they were visually and manually classified by the crew chief and site geologist in accordance with ASTM-D2488-84. Representative portions of the samples were then returned to the office for further examination and for verification of the field classification. Logs of the standard penetration borings were prepared indicating the depth and identification of the various strata, water level information and pertinent information regarding the method of maintaining and advancing the drill holes (Appendix B).

D-3 PID Calibration and Field Screening Procedures

The photoionization detector (PID) was used to monitor soil gas in samples for Volatile Organic Compounds (VOC's). The PID measures VOC's in equivalent ppm of benzene. Soil gas readings were taken at 2.5-foot intervals using the headspace method. Samples were put into heavy duty Ziploc™ bags and placed in (or out) of the sun and allowed to equilibrate to approximately 70° F. After equilibration the PID probe was inserted into the bag headspace and the reading was taken.

The PID was calibrated at the beginning of the day and at the completion of drilling, with the following information having been recorded:

Span Setting:	9.80
Beginning Reading:	57.4 ppm
Ending Reading:	57.9 ppm
Calibration Gas:	57 ppm Isobutylene
Model:	hNu Model 101
Probe:	10.2 eV Lamp
Air Temperature:	45° F

D-4 Temporary Monitoring Well Installation

The shallow temporary monitoring well was installed by placing a PVC screened well casing within the boring.

D-5 Monitoring Well Groundwater Sampling

Groundwater samples were collected using dedicated, bottom-loading, disposable plastic bailers and new nylon rope. The water samples for BETX analyses were

collected in 40 ml, laboratory-cleaned, glass purge-and-trap vials with Teflon-lined, septum-sealed caps containing HCl as a preservative.

D-6 Laboratory Analysis

All sample containers were placed in an ice-filled cooler immediately after collection and transported to Mid-State Associates, Inc., in Baraboo, Wisconsin, in the cooler. The samples were accompanied by proper chain-of-custody forms. Gasoline Range Organics (GRO) was performed by utilizing the Wisconsin GRO method. Diesel Range Organics (DRO) was performed by utilizing the Wisconsin DRO method. Petroleum Volatile Organic Compounds (PVOC) was performed utilizing gas chromatography according to SW-846, Method 8020.

D -7 Borehole Abandonment and Soil Cuttings Disposal

The temporary monitoring well was dismantled and both soil borings were completely backfilled with bentonite. A WDNR borehole abandonment form for each borehole is included with this report.

From field screening and olfactory perception there was no indication of the presence of petroleum constituents in the soil cuttings from either borehole. For this reason all soil cuttings were spread over the grassed area of the boulevard.