

# State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Jim Doyle, Governor Matthew J. Frank, Secretary Scott Humrickhouse, Regional Director Wausau Office 5301 Rib Mountain Drive Wausau, Wisconsin 54401 Telephone 715-359-4522 FAX 715-355-5253 TTY Access via relay - 711

BRRTS #

April 17, 2009

MS SHARLENE TE BEEST WISDOT - BEES PO BOX 7965 ROOM 451 HFSTB MADISON WI 53707-7965



Subject: Reported Contamination at Station 204+30, Project No. 1620-01-74, State Highway 13, Abbotsford, Wisconsin

Dear Ms. Te Beest:

On March 17, 2009, we received the report titled "Environmental Activities Summary, Wisconsin Department of Transportation, State Project No. 1620-01-74, WisDOT ROW, State Highway 13, Abbotsford, Wisconsin" from Mr. Robert Servais at AECOM. In the report he documented petroleum contamination in the soils on WisDOT property at approximately Station 204+30 in the north bound lane.

Based on the information that has been submitted to the DNR regarding this site, we believe you are responsible for investigating and restoring the environment at the above-described site under Section 292.11, Wisconsin Statutes, known as the hazardous substances spills law.

This letter describes the legal responsibilities of a person who is responsible under section 292.11, explains what you need to do to investigate and clean up the contamination, and provides you with information about cleanups, environmental consultants, possible financial assistance, and working cooperatively with the DNR.

# Legal Responsibilities:

Your legal responsibilities are defined both in statute and in administrative codes. The hazardous substances spill law, Section 292.11 (3) Wisconsin Statutes, states:

 RESPONSIBILITY. A person who possesses or controls a hazardous substance which is discharged or who causes the discharge of a hazardous substance shall take the actions necessary to restore the environment to the extent practicable and minimize the harmful effects from the discharge to the air, lands, or waters of the state.

Wisconsin Administrative Code chapters NR 700 through NR 749 establish requirements for emergency and interim actions, public information, site investigations, design and operation of remedial action systems, and case closure. Chapter NR 708 includes provisions for immediate



Ms. Sharlene Te Beest WisDOT BEES

actions in response to limited contamination. Wisconsin Administrative Code chapter NR 150 establishes groundwater standards for contaminants that reach groundwater.

# Steps to Take:

The longer contamination is left in the environment, the farther it can spread and the more it may cost to clean up. Quick action may lessen damage to your property and neighboring properties and reduce your costs in investigating and cleaning up the contamination. To ensure that your cleanup complies with Wisconsin's laws and administrative codes, you should hire a professional environmental consultant who understands what needs to be done. These are the <u>first</u> steps to take:

2

- 1. Within the next 30 days, by May 18, 2009, you should submit written verification that you have hired an environmental consultant. You must also provide us with the street address for the property adjacent to the contamination. If you do not take action within this time frame, the WDNR may initiate enforcement action against you.
- 2. Within 60 days, by June 16, 2009, your consultant should submit a work plan and schedule for the investigation. The consultant must comply with the requirements in the NR 700 Wis. Adm. Code rule series and should adhere to current WDNR technical guidance documents.

In addition, within 30 days of completion of the site investigation, your consultant should submit a site investigation report to the department.

Sites where discharges to the environment have been reported are entered into the Bureau for Remediation and Redevelopment Tracking System ("BRRTS"), a version of which appears on the DNR's internet site. You may view the information related to your site at any time (<u>http://dnr.wi.gov/org/aw/rr/brrts/index.htm</u>) and use the feedback system to alert us to any errors in the data.

If you want a formal response from the agency on a specific submittal, please be aware that a review fee is required in accordance with ch. NR 749, Wis. Adm. Code. If a fee is not submitted with your reports, you should proceed under the advice of your consultant to complete the site investigation to maintain your compliance with the spills law and chapters NR 700 through NR 749. **Do not delay the investigation of your site by waiting for an agency response.** We have provided detailed technical guidance to environmental consultants. Your consultant is expected to know our technical procedures and administrative rules and should be able to answer your guestions on meeting cleanup requirements.

All correspondence regarding this site should be sent to:

Lisa Gutknecht Remediation and Redevelopment Program Wisconsin Department of Natural Resources 5301 Rib Mountain Drive Wausau, WI 54401

Unless otherwise requested, please send only one copy of plans and reports. In addition to the paper copy, an electronic copy may also be submitted. To speed processing, correspondence should

Ms. Sharlene Te Beest WisDOT BEES

# April 17, 2009

reference the BRRTS and FID numbers (if assigned) shown at the top of this letter. Please contact me at (715) 359-6514 if you have any questions regarding this letter. Thank you for your cooperation.

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Sincerely,

c:

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Lisa Gutknecht Bureau for Remediation & Redevelopment

Bill Evans, DNR – Eau Claire (via e-mail) Tony Fischer, DNR – Wisconsin Rapids (via e-mail)

# Gutknecht, Lisa A - DNR

From: Sent: To: Subject: Norquist, Elizabeth A - DNR Friday, April 17, 2009 3:31 PM Gutknecht, Lisa A - DNR; Endsley, Erin A - DNR FW: New Site for Station 204+30 03-37-553524

**Attachments:** 

HWY 13 STA 204+30.doc

#### Lisa,

Here's your new BRRTS # 03-37-553524

I want to let you know that that is the same location as Eileen's Abbotsford PCE Investigation that she just transferred to Gary Edelstein in Madison.

1

#### Erin,

Look at the Abbotsford PCE Investigation #02-37-517962 for the location. Thanks Beth

Have a great weekend.

From: Sent: To: Subject: Gutknecht, Lisa A - DNR Friday, April 17, 2009 10:48 AM Norquist, Elizabeth A - DNR New Site

Beth,

Here's another one for you.



HWY 13 STA 204+30.doc (73 KB)

📥 Lisa Gutknecht

Wausau Service Center Remediation & Redevelopment Program Wisconsin Department of Natural Resources 5301 Rib Mountain Drive Wausau, WI 54401 (\*) phone: (715) 359-6514 (\*) fax: (715) 355-5253 (\*) e-mail: Lisa.Gutknecht@Wisconsin.gov



April 16, 2009

# State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Jim Doyle, Governor Matthew J. Frank, Secretary Scott Humrickhouse, Regional Director Wausau Service Center 5301 Rib Mountain Rd. Wausau, Wisconsin 54401 Telephone 715-359-4255 FAX 715-355-5253 TTY Access via relay - 711

**BRRTS #NA** 

MS SHARLENE TE BEEST WISDOT - BEES PO BOX 7965 ROOM 451 HFSTB MADISON WI 53707-7965



RE: Review of the Environmental Activities Summary, WisDOT ROW, State Highway 13, Abbotsford, Wisconsin – WisDOT Project ID 1620-01-04 – Project #200701547

Dear Ms. Te Beest:

I have reviewed the above-referenced report submitted by AECOM, your consultant. The report summarizes work done with petroleum-impacted soil during the State Highway 13 reconstruction activities in the summer of 2008. Based on my review I have the following comments regarding the report.

Please have your consultant address these comments.

- The report summarizes several areas where petroleum contamination was encountered, however the map in the report shows only a portion of the reconstruction area and only locations of the test pits. A new map must be submitted showing all areas of encountered contamination, labels for all storm sewer structures referenced in the report, dimensions of the contaminated areas and all low permeable plugs that were installed.
- The dimensions of all excavated areas must be provided in the text.
- Please provide a description or sketch of the typical backfill construction for the storm sewer.
   What type(s) of backfill were used in the project?
- Was contamination left behind in all areas where it was encountered?
- When the piping was discovered in the northbound lane of Highway 13, were the Department of Natural Resources and/or the property owner notified? What is the name and address of the property owner?



Ms. Sharlene Te Beest WisDOT BEES

Please submit a modified report that includes all of the above information. If you have any questions, regarding this letter, please contact me at (715) 359-6514 or Lisa.Gutknecht@Wisconsin.gov.

Sincerely,

attenecht

Lisa Gutknecht Remediation & Redevelopment Program

c: Bill Evans – DNR, Eau Claire (via e-mail) Janet Smith – WisDOT, Wisconsin Rapids (via e-mail) Tony Fischer – DNR, Wisconsin Rapids (via e-mail) Robert Servais – AECOM, Green Bay

# Gutknecht, Lisa A - DNR

From: Sent: To: Subject: TeBeest, Sharlene - DOT Thursday, March 19, 2009 11:01 AM Gutknecht, Lisa A - DNR RE: WisDOT Project #1620-01-74, State Highway 13, Abbotsford

Hi Lisa,

Are you looking for the DOT project engineer or the staff person from AECOM?

rore Storbanies (f. 1897) Storbanies (f. 1897) Storbanies (f. 1897) DOT project manager was: Tom Krizenesky (715)365-5779. Supervisor is Robin Stafford (715)365-5750

Contact at AECOM is Dave Senfelds: 715-342-3039.

Shar

Sharlene Te Beest

Hazardous Materials Specialist

Wisconsin Department of Transportation, Bureau of Equity and Environmental Services Phone: 608-266-1476; Fax: 608-266-7818; Cell: 608-692-4546 Address: WISDOT-BEES; PO Box 7965; Room 451 HFSTB; Madison, WI 53707-7965

PLEASE NOTE MY E-MAIL ADDRESS HAS CHANGED!! It is now: Sharlene.TeBeest@dot.wi.gov <mailto:Sharlene.TeBeest@dot.wi.gov>

-----Original Message-----

From: Gutknecht, Lisa A - DNR Thursday, March 19, 2009 9:33 AM Sent: TeBeest, Sharlene - DOT WisDOT Project #1620-01-74, State Highway 13, Abbotsford Subject:

Shar,

To:

I'm looking at the Environmental Activities Summary from AECOM. Do you know who the project engineer was for this project and what office they are located in? Thanks.

📥 Lisa Gutknecht

Wausau Service Center **Remediation & Redevelopment Program** Wisconsin Department of Natural Resources 5301 Rib Mountain Drive Wausau, WI 54401 (2) phone: (715) 359-6514 (2) fax: (715) 355-5253 ( ) e-mail: Lisa.Gutknecht@Wisconsin.gov



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**Environmental Activities Summary** Wisconsin Department of Transportation

State Project No. 1620-01-74 WisDOT ROW, State Highway 13 Abbotsford, Wisconsin

Project No. 200701547

Prepared by: Robert W. Servais Assistant Project Hydrogeologist AECOM 920.406.3136 AECOM Environment 1035 Kepler Drive, Green Bay, WI 54311 P 920.468.1978 f 920.468.3312

March 9, 2009

Ms. Sharlene B. TeBeest Wisconsin Department of Transportation WisDOT Central (BEES) Office 4802 Sheboygan Avenue, Room 451 Madison, Wisconsin 53707-7965

# Subject: Environmental Activities Summary, WisDOT ROW, State Highway 13, Abbotsford, Marathon County, Wisconsin -- WisDOT Project ID 1620-01-04 -- Project No. 200701547

Dear Ms. TeBeest:

AECOM (formerly STS) was retained by the Wisconsin Department of Transportation (WisDOT) under Master Contract Project ID 1009-04-24 to provide environmental services related to petroleum-impacted soil identified during State Highway 13 (STH 13) storm sewer improvement activities, conducted in May through September 2008. The project scope included the field monitoring of excavation activities, field screening and segregation of impacted soils with a photoionization detector (PID), disposal permitting coordination for impacted soils, and monitoring of low permeable plug installation during storm sewer construction activities. This work was completed in accordance with STS Work Order No. 54, Master Contract ID No. 1009-04-24. A summary of project background information associated with impacted soil and groundwater management activities is provided below.

# Site Background

The work area is located along STH 13, in the City of Abbotsford, Wisconsin (see Figure 1). Prior to excavation activities, a Phase I Environmental Sites Assessment (ESA) and Phase II Subsurface Investigation (SI) were completed by WisDOT within the project area. Information obtained by WisDOT indicated petroleum-impacted soil may be encountered at the following five locations (Soil Management Areas) within the project limits:

- Station 196+40 to 196+75 from the west slope intercept to 15 feet west of the proposed reference line and at a depth of approximately 0.5 to 4 feet below existing grade.
- Station 198+00 to 201+25 of STH 13, including that portion of STH 29 from Station 33+25 to 36+25, from slope intercept to slope intercept and at a depth of approximately 2 to 15 feet below existing grade.
- Station 204+10 to 205+25 from slope intercept to slope intercept and at a depth of approximately 4 to 12 feet below existing grade.
- Station 224+50 to 225+50 from the west slope intercept to 15 feet west of the proposed reference line and at a depth of approximately 4 to 8 feet below existing grade.
- Station 301+90 to 302+10 from the south slope intercept to the proposed reference line and at a depth of approximately 0 to 2 feet below existing grade.

# **Site Activities**

On May 14, 2008, AECOM personnel met with Mike Metz from Integrity Grading and Bob Berger from Earth Tech to discuss the project schedule and the proposed handling plan for impacted soil. AECOM used a PID to screen



soil from seven backhoe test pits along the southeast corner of the intersection of STH 13 and Business Highway 29 (HWY 29), from STH 13 station 198+00 to HWY 29 Station 36+50. Test pits were excavated to the base of the proposed construction zone, approximately. Soil samples from test pits were also collected for laboratory analysis of selected volatile organic carbon (VOC) parameters. Petroleum impacts were not detected through PID screening or laboratory analysis in the test pits. Test pit locations and soil analytical results can be seen in Figure 2 and Table 1, respectively.

On May 22, 2008, AECOM personnel monitored excavation activities at the intersection of STH 13 and HWY 29 and the installation of low permeable plugs on the south side and west side of Structure O-3 located at Station 199+82. Petroleum-impacted soil encountered during excavation activities was stockpiled for future landfill disposal. At what depth & how much?

On May 27, 2008, STS personnel detected petroleum impacts through olfactory and PID screening in soil excavated on the northbound lane of STH 13, between project Stations 205+00 and 204+10. The excavated soil from the area was stockpiled on and covered with plastic sheeting for landfill disposal on May 29 and 30, 2008. Additionally, on this date, AECOM observed the installation of low permeable plugs within the utility trench on the south and east sides of structure MH-17, at project Station 204+92. map of area, depth scimoling

On May 29, 2008, AECOM personnel detected petroleum impacts in excavated soil from 3 to 7 feet below ground surface (bgs), at project station 199+80. Impacted soils were segregated from the overlying clean material and removed for landfill disposal from approximately 10 feet east of structure MH-13 to just east of the center line of STH 13. map compant

On June 3, 2008, AECOM personnel monitored the excavation of the northbound lane of STH 13 from project station 198+10 to 200+00 and the eastbound lane of HWY 29 from project Station 35+00 to 36+40. Olfactory and PID screening identified petroleum impacts below a depth of approximately 3.5 feet on the eastern half of the northbound lane of STH 13 between stations 198+50 and 199+25 and on the northern half of the eastbound lane of that portion of HWY 29 between Station 35+90 and 36+40. Impacted soils were segregated from overlying gravel and apparently clean soils, stockpiled on plastic sheeting, and covered with plastic sheeting for future landfill disposal. may amount duotes

On June 5, 2008, AECOM personnel monitored excavation activities within the Soil Management area located north of the Car Quest building, between project Station 301+90 and 302+10, and east of STH 13 Station 210+00. A slight petroleum odor was detected in dark brown, sand and gravel soil encountered at a depth of 0 to 2 feet. PID readings did not exceed a value of 5.0 PID units. Excavated soils from the area were used as trench backfill within the impacted area. AECOM did not detect petroleum impacts in soil below a depth of three feet or beyond the 301+90 to 302+10 station interval. Map impacted area

On June 10, 2008, AECOM personnel monitored additional excavation activities on the east side of STH 13 between project Stations 204+00 and 205+25, to depths between 1 and 3 feet. PID and olfactory screening indicated petroleum impacts in soils removed from the western half of the northbound lane of STH 13 between project Stations 204+10 and 204+75. Three truckloads of impacted material were stockpiled for future landfill disposal. Four, approximately 1.0-inch to 1.5-inch-diameter, steel pipes were observed extending from the east adjacent property roughly five feet onto WisDOT property, at a depth of approximately 1 foot, near Station 204+30. Strong petroleum odors and elevated PID readings were detected in the vicinity of the pipes. The base of the excavation in the area of the pipes was 1 foot bqs. The pipes and the underlying soil were, therefore, left in place. On June 11, 2008, AECOM observed the excavation of two sewer laterals extending west from manholes on the east side of STH 13 to approximately the center line of STH 13, at approximate Stations 204+30 and 204+93. Four truckloads of impacted soils were removed from a depth greater than 4 feet bgs at the sewer lateral locations and stockpiled for future landfill disposal. Did you notify the Dipa

On July 7, 2008, AECOM personnel observed excavation activities in that portion of the westbound lane of HWY 29 between Station 37+00 and 35+00. Petroleum odors were detected near Station 36+00 and 35+50 between approximately 2.0 and 2.5 feet bgs. One truckload of impacted soil was removed from each location and stockpiled for future landfill disposal. On July 8, 2008, AECOM personnel observed excavation activities between Stations 200+00 and 201+50 on the northbound lane of STH 13. Two truckloads of impacted material were

residual left behand map



removed for landfill disposal from a depth of 2 to 2.5 feet bgs between Stations 201+00 and 200+80, and three truckloads were removed for landfill disposal from a depth of 0 to 2 feet bgs between Stations 201+00 and 201+20.

On August 27, 2008, AECOM personnel observed the excavation of that portion of the westbound lane of HWY 29 between Station 33+25 and 35+00, and that portion of the southbound lane of STH 13 between Station 201+25 and 200+00. Through olfactory and PID screening, AECOM detected petroleum impacts in soils between 2.0 and 2.5 feet bgs at Station 33+50, 33+90, and 34+80. Approximately three truckloads, two truckloads of contaminated soil were excavated and stockpiled for future landfill disposal, from the three areas, respectively.

On September 5, 2008, AECOM personnel screened a small stockpile excavated during lateral installations at STH 13 Stations 204+30 and 204+93. Petroleum contamination was detected in the stockpile and the material was hauled offsite for landfill disposal. It is unclear if the stockpile contained the material screened during June 11 excavations or additional material excavated from the lateral locations, following June 11 activities. On September 23, 2008, AECOM personnel screened another stockpile of excavated material from the project area. Obvious petroleum impacts were detected and the stockpile was approved for landfill disposal. It is unclear from what locations within the excavation the stockpiled material was removed.

On September 23, 2008, AECOM personnel observed excavation activities within that portion of the eastbound lane of HWY 29 between Station 33+25 and 35+00, and that portion of the southbound lane of STH 13 between stations 198+20 and 200+00. Petroleum impacts were detected in soil excavated from the southern quarter of the eastbound lane of HWY 29 between Station 33+15 and 34+50. Impacted soils encountered in the excavation were removed for landfill disposal.

Petroleum impacts were only detected by AECOM personnel at the above identified locations. AECOM did not observe evidence of contamination in the remaining portions of the Soil Management Areas identified by WisDOT. Petroleum contaminated groundwater was not encountered during excavation activities as the excavation limits did not extend to depths at which groundwater was present. Impacted soil removed for disposal during excavation activities was hauled to Veolia, Cranberry Creek Landfill, in Wisconsin Rapids, Wisconsin, by Integrity Grading. A total of 892.92 tons of contaminated soil was removed for landfill disposal, throughout the course of the project.

Also attached to this letter are photos of the site field activities and Veolia soil disposal records.

Thank you for the opportunity to assist you with this project. Please call if you have any questions or comments regarding the information presented in this report.

Respectfully,

Robert W. Servais Assistant Project Hydrogeologist

Roger Á. Miller, P.G., C.P.G. Associate Hydrogeologist

Paul M. Garvev

Senior Project Scientist

Attachments:

Figure 1 - Project Location Map Figure 2 - Test Pit Locations and Soil Analytical Results Table 1 - Test Pit Soil Analytical Results Soil Sample Chain of Custody and Analytical Report Photo Log Veolia Soil Disposal Summary Receipts AFCOM

Cc: Ms. Janet Smith, Environmental Coordinator Wisconsin Department of Transportation 1681 Second Avenue South Wisconsin Rapids, Wisconsin 54495

Ms. Amy Lesik Wisconsin Department of Natural Resources 1300 West Clairemont Avenue P.O. Box 4001 Eau Claire, Wisconsin 54702-4001





# Table 1Soil Analytical ResultsWisDOT - AbbotsfordState Project No 1620-01-04State Highway 13Abbotsford, WisconsinSTS Project No. 200701547

Sample Location	STA-198+00	STA-198+50	STA-199+00	STA-199+40	STA-199+75	STA-36+10	STA-36+50	Groundwater	NR 746	NR 746
Sample Depth (feet bgs)	2	2	2	4	5	2	2	Pathway	Criteria	Criteria
Date	5/14/08	5/14/08	5/14/08	5/14/08	5/14/08	5/14/08	5/14/08	RCL	Table 1	Table 2
PID Readings	<1	<1	<1	<1	<1	<1	<1	(A)	(B)	(C)
PVOCs_(ug/kg)										ĺ
Benzene	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	5.5	8,500	1,100
Ethylbenzene	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	2,900	4,600	
Methyl-tert-butyl-ether	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0			
Toluene	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	1,500	38,000	
1,2,4-Trimethylbenzene	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0		83,000	
1,3,5-Trimethylbenzene	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0		11,000	
Total Xylenes	<75.0	<75.0	<75.0	<75.0	<75.0	<75.0	<75.0	4,100	42,000	
1										1

#### Notes:

RCL: Residual Contaminant Level

ug/kg: Micrograms per kilogram

PID: Photoionization Detector

---: Not Analyzed or Not Applicable

PVOC: Petroleum Volatile Organic Compound

bgs: Below Ground Surface

A: Exceeds Generic RCL for Groundwater Pathway

<sup>B</sup>: Exceeds NR746 Table 1 Value - Indicator of Residual Product in Soil Pores

c. Exceeds NR46 Table 1 Value - Protection of Human Health from Direct Contact with Contaminated c. Soil (Top 4 feet of Soil)

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San San	nple	Con	ditior	n Upon Receipt	
Pace Analytical Client Name:	:	51	5		Project # <u>403859</u>
Courier: Fed Ex UPS USPS Clier	1t 🗹	Comm	iercial	Pace Other	Optional Proj. Dile Date Proj. Name
Custody Sear on Cooler/Box Present: 🖉 yes		no	Seals	s intact: 🖌 yes	no
Packing Material: Bubble Wrap	Bags		None	Other	
Thermometer Used	Type Biolo	of Ice gical	: (Vet Tissue	Blue None	Samples on ice, cooling process has begun Date and Initials of person examining contents: <u>5-15-08 cy</u>
Chain of Custody Present:	Tes		N/A	1	· · · · · · · · · · · · · · · · · · ·
Chain of Custody Filled Out:	- Yes			2	
Chain of Custody Relinguished:	2 Yes			3	
Sampler Name & Signature on COC:	2 Yes			4	
Samples Arrived within Hold Time:	Yes			5	
Short Hold Time Analysis (<72hr):	□ Yes			6.	
Rush Turn Around Time Requested:	Ves			7. Rush =	5-20-08
Sufficient Volume:	Yes			8	
Correct Containers Used:	Ves			9.	
-Pace Containers Used:	□Yes				
Containers Intact:	<b>Pres</b>			10.	
Filtered volume received for Dissolved tests	Yes	□No		11.	
Sample Labels match COC:	<b>E</b> Yes	□No		12.	
-Includes date/time/ID/Analysis Matrix:	S				
All containers needing preservation have been checked.	□ Yes	□No		13.	
All containers needing preservation are found to be in compliance with EPA recommendation.	□Yes	□No			
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	□Yes	ΠNο		Initial when completed	Lot # of added preservative
Samples checked for dechlorination:	□Yes			14.	I.
Headspace in VOA Vials ( >6mm):	□Yes			15.	
Trip Blank Present:	Ves			16.	
Trip Blank Custody Seals Present	□Yes	□No			
Pace Trip Blank Lot # (if purchased):					
Client Notification/ Resolution:					Field Data Required? Y / N
Person Contacted:			Date/	Time:	
Comments/ Resolution:					
	_				
		-	-		
Project Manager Review:	<u>ل م</u>	2			Date: 05-15-08
Note: Whenever there is a discremancy affecting North Co.	rolina cr	moliae		inles a conv of this form	will be sent to the North Carolina DEHNR

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)



Pace Analytical Services, Inc. 1241 Bellevue Street Green Bay. WI 54302 (920)469-2436

May 19, 2008

Eric Schmidt STS Consultants, LTD. 3909 Concord Avenue Schofield, WI 54476

RE: Project: 200701547 ABBOTSFORD Pace Project No.: 403859

Dear Eric Schmidt:

Enclosed are the analytical results for sample(s) received by the laboratory on May 15, 2008. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Eric Wied

eric.wied@pacelabs.com Project Manager

Enclosures

# REPORT OF LABORATORY ANALYSIS

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Page 1 of 15



## CERTIFICATIONS

Project: 200701547 ABBOTSFORD

Pace Project No.: 403859

#### **Green Bay Certification IDs**

Florida (NELAP) Certification #: E87948 Illinois Certification #: 200050 California Certification #: 06246CA New York Certification #: 11888 North Dakota Certification #: R-150 North Carolina Certification #: 503

#### **Green Bay Volatiles Certification IDs**

Florida (NELAP) Certification #: E87951 California Certification #: 06247CA Illinois Certification #: 200051 New York Certification #: 11887 North Dakota Certification #: R-200 North Carolina Certification #: 503 Minnesota Certification #: 055-999-334 South Carolina Certification #: 83006001 Wisconsin Certification #: 405132750 Wisconsin DATCP Certification #: 105-444 Kentucky Certification #: 82 Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334 South Carolina Certification #: 83006001 Wisconsin Certification #: 405132750 Wisconsin DATCP Certification #: 105-444 Kentucky Certification #: 83 Louisiana Certification #: 04169

### **REPORT OF LABORATORY ANALYSIS**

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Page 2 of 15



# SAMPLE SUMMARY

#### Project: 200701547 ABBOTSFORD

Pace Project No.: 403859

Lab ID	Sample ID	Matrix	Date Collected	Date Received
403859001	STA-198+00 (2')	Solid	05/14/08 10:50	05/15/08 09:00
403859002	STA-198+50 (2')	Solid	05/14/08 11:00	05/15/08 09:00
403859003	STA-199+00 (2')	Solid	05/14/08 11:10	05/15/08 09:00
403859004	STA-199+40 (4')	Solid	05/14/08 11:20	05/15/08 09:00
403859005	STA-199+75 (5')	Solid	05/14/08 11:30	05/15/08 09:00
403859006	STA-36+10 (2')	Solid	05/14/08 11:40	05/15/08 09:00
403859007	STA-36+50 (2')	Solid	05/14/08 11:50	05/15/08 09:00

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Page 3 of 15



# SAMPLE ANALYTE COUNT

Project: 200701547 ABBOTSFORD

Pace Project No.: 403859

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
403859001	STA-198+00 (2')	ASTM D2974-87	AG	1	PASI-G
		TPH WI GRO/PVOC 8021	PMS	9	PASI-G
403859002	STA-198+50 (2')	ASTM D2974-87	AG	1	PASI-G
		TPH WI GRO/PVOC 8021	PMS	9	PASI-G
403859003	STA-199+00 (2')	ASTM D2974-87	AG	1	PASI-G
		TPH WI GRO/PVOC 8021	PMS	9	PASI-G
403859004	STA-199+40 (4')	ASTM D2974-87	AG	1	PASI-G
		TPH WI GRO/PVOC 8021	PMS	9	PASI-G
403859005	STA-199+75 (5')	ASTM D2974-87	AG	1	PASI-G
		TPH WI GRO/PVOC 8021	PMS	9	PASI-G
403859006	STA-36+10 (2')	ASTM D2974-87	AG	1	PASI-G
		TPH WI GRO/PVOC 8021	PMS	9	PASI-G
403859007	STA-36+50 (2')	ASTM D2974-87	AG	1	PASI-G
		TPH WI GRO/PVOC 8021	PMS	9	PASI-G

**REPORT OF LABORATORY ANALYSIS** 

Page 4 of 15





Project: 200701547 ABBOTSFORD

Pace Project No.: 403859

Sample: STA-198+00 (2')	Lab ID:	403859001	Collected:	05/14/08	8 10:50	Received: 05/	15/08 09:00 Ma	atrix: Solid	
Results reported on a "dry-weig	ght" basis								
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytica	I Method: TPH	I WI GRO/PVC	OC 8021 F	Preparat	tion Method: TPH	GRO/PVOC WI	ext.	
Benzene	<b>&lt;25.0</b> u	ug/kg	60.0	25.0	1	05/16/08 11:36	05/16/08 22:08	71-43-2	W
Ethylbenzene	<b>&lt;25.0</b> u	ug/kg	60.0	25.0	1	05/16/08 11:36	05/16/08 22:08	100-41-4	W
Methyl-tert-butyl ether	<b>&lt;25.0</b> ເ	ug/kg	60.0	25.0	1	05/16/08 11:36	05/16/08 22:08	1634-04-4	W
Toluene	<b>&lt;25.0</b> u	ug/kg	60.0	25.0	1	05/16/08 11:36	05/16/08 22:08	108-88-3	W
1,2,4-Trimethylbenzene	<b>&lt;25.0</b> ເ	ug/kg	60.0	25.0	1	05/16/08 11:36	05/16/08 22:08	95-63-6	W
1,3,5-Trimethylbenzene	<b>&lt;25.0</b> ເ	ug/kg	60.0	25.0	1	05/16/08 11:36	05/16/08 22:08	108-67-8	W
m&p-Xylene	<50.0 0	Jg/kg	120	50.0	1	05/16/08 11:36	05/16/08 22:08	1330-20-7	W
o-Xylene	<b>&lt;25.0</b> u	ug/kg	60.0	25.0	1	05/16/08 11:36	05/16/08 22:08	95-47-6	W
a,a,a-Trifluorotoluene (S)	103 9	%	80-119		1	05/16/08 11:36	05/16/08 22:08	98-08-8	
Percent Moisture	Analytica	I Method: AST	TM D2974-87						
Percent Moisture	12.6	%	0.10	0.10	1		05/16/08 08:29		

Date: 05/19/2008 03:26 PM

# REPORT OF LABORATORY ANALYSIS

Page 5 of 15





Project: 200701547 ABBOTSFORD

Pace Project No.: 403859

Sample: STA-198+50 (2')	Lab ID:	403859002	Collected	05/14/0	8 11:00	Received: 05/	15/08 09:00 Ma	atrix: Solid	
Results reported on a "dry-weig	ht" basis								
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical	Method: TPH	WI GRO/PVC	DC 8021 F	Preparat	ion Method: TPH	GRO/PVOC WI	ext.	
Benzene	<b>&lt;25.0</b> U	ıg/kg	60.0	25.0	1	05/16/08 11:36	05/16/08 22:34	71-43-2	W
Ethylbenzene	<b>&lt;25.0</b> u	ig/kg	60.0	25.0	1	05/16/08 11:36	05/16/08 22:34	100-41-4	W
Methyl-tert-butyl ether	< <b>25.0</b> L	ig/kg	60.0	25.0	1	05/16/08 11:36	05/16/08 22:34	1634-04-4	W
Toluene	< <b>25.0</b> u	ig/kg	60.0	25.0	1	05/16/08 11:36	05/16/08 22:34	108-88-3	W
1,2,4-Trimethylbenzene	< <b>25.0</b> u	ig/kg	60.0	25.0	1	05/16/08 11:36	05/16/08 22:34	95-63-6	W
1,3,5-Trimethylbenzene	<25.0 u	ıg/kg	60.0	25.0	1	05/16/08 11:36	05/16/08 22:34	108-67-8	W
m&p-Xylene	<b>&lt;50.0</b> u	ig/kg	120	50.0	1	05/16/08 11:36	05/16/08 22:34	1330-20-7	W
o-Xylene	< <b>25.0</b> L	ıg/kg	60.0	25.0	1	05/16/08 11:36	05/16/08 22:34	95-47-6	W
a,a,a-Trifluorotoluene (S)	103 %	%	80-119		1	05/16/08 11:36	05/16/08 22:34	98-08-8	
Percent Moisture	Analytical	Method: AST	M D2974-87						
Percent Moisture	<b>13.2</b> %	6	0.10	0.10	1		05/16/08 08:29		

Date: 05/19/2008 03:26 PM

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Page 6 of 15



Project: 200701547 ABBOTSFORD

Pace Project No.: 403859

Sample: STA-199+00 (2')	Lab ID: 4038590	d: 05/14/0	8 11:10	Received: 05/	15/08 09:00 Ma	atrix: Solid		
Results reported on a "dry-weig	ht" basis							
Parameters	Results Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method:	TPH WI GRO/PV	OC 8021 F	Preparat	tion Method: TPH	GRO/PVOC WI	ext.	
Benzene	<25.0 ug/kg	60.0	25.0	1	05/16/08 11:36	05/16/08 22:59	71-43-2	W
Ethylbenzene	<25.0 ug/kg	60.0	25.0	1	05/16/08 11:36	05/16/08 22:59	100-41-4	W
Methyl-tert-butyl ether	<25.0 ug/kg	60.0	25.0	1	05/16/08 11:36	05/16/08 22:59	1634-04-4	W
Toluene	<25.0 ug/kg	60.0	25.0	1	05/16/08 11:36	05/16/08 22:59	108-88-3	W
1,2,4-Trimethylbenzene	<25.0 ug/kg	60.0	25.0	1	05/16/08 11:36	05/16/08 22:59	95-63-6	W
1,3,5-Trimethylbenzene	<25.0 ug/kg	60.0	25.0	1	05/16/08 11:36	05/16/08 22:59	108-67-8	W
m&p-Xylene	<50.0 ug/kg	120	50.0	1	05/16/08 11:36	05/16/08 22:59	1330-20-7	W
o-Xylene	<25.0 ug/kg	60.0	25.0	1	05/16/08 11:36	05/16/08 22:59	95-47-6	W
a,a,a-Trifluorotoluene (S)	103 %	80-119		1	05/16/08 11:36	05/16/08 22:59	98-08-8	
Percent Moisture	Analytical Method:	ASTM D2974-87						
Percent Moisture	<b>14.9</b> %	0.10	0.10	1		05/16/08 08:29		

Date: 05/19/2008 03:26 PM

#### **REPORT OF LABORATORY ANALYSIS**

Page 7 of 15





Project: 200701547 ABBOTSFORD

Pace Project No.: 403859

Sample: STA-199+40 (4')	Lab ID: 403859004	4 Collected	: 05/14/08	11:20	Received: 05/	15/08 09:00 Ma	trix: Solid	
Results reported on a "dry-weig	ht" basis							
Parameters	Results Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: TF	PH WI GRO/PVC	DC 8021 Pr	reparat	ion Method: TPH	GRO/PVOC WI	ext.	
Benzene	<25.0 ug/kg	60.0	25.0	1	05/16/08 11:36	05/16/08 23:24	71-43-2	W
Ethylbenzene	<25.0 ug/kg	60.0	25.0	1	05/16/08 11:36	05/16/08 23:24	100-41-4	W
Methyl-tert-butyl ether	<25.0 ug/kg	60.0	25.0	1	05/16/08 11:36	05/16/08 23:24	1634-04-4	W
Toluene	<25.0 ug/kg	60.0	25.0	1	05/16/08 11:36	05/16/08 23:24	108-88-3	W
1,2,4-Trimethylbenzene	<25.0 ug/kg	60.0	25.0	1	05/16/08 11:36	05/16/08 23:24	95-63-6	W
1,3,5-Trimethylbenzene	<b>&lt;25.0</b> ug/kg	60.0	25.0	1	05/16/08 11:36	05/16/08 23:24	108-67-8	W
m&p-Xylene	<b>&lt;50.0</b> ug/kg	120	50.0	1	05/16/08 11:36	05/16/08 23:24	1330-20-7	W
o-Xylene	<25.0 ug/kg	60.0	25.0	1	05/16/08 11:36	05/16/08 23:24	95-47-6	W
a,a,a-Trifluorotoluene (S)	103 %	80-119		1	05/16/08 11:36	05/16/08 23:24	98-08-8	
Percent Moisture	Analytical Method: AS	STM D2974-87						
Percent Moisture	<b>12.2</b> %	0.10	0.10	1		05/16/08 08:29		

Date: 05/19/2008 03:26 PM

#### **REPORT OF LABORATORY ANALYSIS**

Page 8 of 15





Project: 200701547 ABBOTSFORD

Pace Project No.: 403859

Sample: STA-199+75 (5')	Lab ID:	403859005	Collected:	05/14/0	8 11:30	Received: 05/	15/08 09:00 Ma	trix: Solid	
Results reported on a "dry-weig	pht" basis								
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical I	Method: TPH	WI GRO/PVC	C 8021	Preparat	ion Method: TPH	GRO/PVOC WI	ext.	
Benzene	<b>&lt;25.0</b> ug	j/kg	60.0	25.0	1	05/16/08 11:36	05/16/08 23:50	71-43-2	W
Ethylbenzene	<25.0 ug	j/kg	60.0	25.0	1	05/16/08 11:36	05/16/08 23:50	100-41-4	W
Methyl-tert-butyl ether	<25.0 ug	/kg	60.0	25.0	1	05/16/08 11:36	05/16/08 23:50	1634-04-4	W
Toluene	<25.0 ug	/kg	60.0	25.0	1	05/16/08 11:36	05/16/08 23:50	108-88-3	W
1,2,4-Trimethylbenzene	<25.0 ug	l/kg	60.0	25.0	1	05/16/08 11:36	05/16/08 23:50	95-63-6	W
1,3,5-Trimethylbenzene	<25.0 ug	j/kg	60.0	25.0	1	05/16/08 11:36	05/16/08 23:50	108-67-8	W
m&p-Xylene	<b>&lt;50.0</b> ug	/kg	120	50.0	1	05/16/08 11:36	05/16/08 23:50	1330-20-7	W
o-Xylene	<25.0 ug	j/kg	60.0	25.0	1	05/16/08 11:36	05/16/08 23:50	95-47-6	W
a,a,a-Trifluorotoluene (S)	103 %		80-119		1	05/16/08 11:36	05/16/08 23:50	98-08-8	
Percent Moisture	Analytical I	Method: AST	M D2974-87						
Percent Moisture	12.2 %		0.10	0.10	1		05/16/08 08:30		

Date: 05/19/2008 03:26 PM

# **REPORT OF LABORATORY ANALYSIS**

Page 9 of 15

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Project: 200701547 ABBOTSFORD

Pace Project No.: 403859

Sample: STA-36+10 (2')	Lab ID: 403859006	Collected:	05/14/08	3 11:40	Received: 05/	15/08 09:00 Ma	atrix: Solid	
Results reported on a "dry-weig	ıht" basis							
Parameters	Results Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: TP	H WI GRO/PVC	OC 8021 F	Preparat	tion Method: TPH	GRO/PVOC WI	ext.	
Benzene	<25.0 ug/kg	60.0	25.0	1	05/16/08 11:36	05/17/08 00:15	71-43-2	W
Ethylbenzene	<25.0 ug/kg	60.0	25.0	1	05/16/08 11:36	05/17/08 00:15	100-41-4	W
Methyl-tert-butyl ether	<25.0 ug/kg	60.0	25.0	1	05/16/08 11:36	05/17/08 00:15	1634-04-4	W
Toluene	<25.0 ug/kg	60.0	25.0	1	05/16/08 11:36	05/17/08 00:15	108-88-3	W
1,2,4-Trimethylbenzene	<25.0 ug/kg	60.0	25.0	1	05/16/08 11:36	05/17/08 00:15	95-63-6	W
1,3,5-Trimethylbenzene	<25.0 ug/kg	60.0	25.0	1	05/16/08 11:36	05/17/08 00:15	108-67-8	W
m&p-Xylene	<50.0 ug/kg	120	50.0	1	05/16/08 11:36	05/17/08 00:15	1330-20-7	W
o-Xylene	<25.0 ug/kg	60.0	25.0	1	05/16/08 11:36	05/17/08 00:15	95-47-6	W
a,a,a-Trifluorotoluene (S)	102 %	80-119		1	05/16/08 11:36	05/17/08 00:15	98-08-8	
Percent Moisture	Analytical Method: AS	5TM D2974-87						
Percent Moisture	<b>16.9</b> %	0.10	0.10	1		05/16/08 08:30		

Date: 05/19/2008 03:26 PM

# REPORT OF LABORATORY ANALYSIS

Page 10 of 15

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Project: 200701547 ABBOTSFORD

Pace Project No.: 403859

Sample: STA-36+50 (2')	Lab ID: 403859007	Collected	05/14/08	3 11:50	Received: 05/	15/08 09:00 Ma	atrix: Solid	
Results reported on a "dry-weig	ght" basis							
Parameters	Results Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: TPH	WI GRO/PVC	OC 8021 F	reparat	ion Method: TPH	GRO/PVOC WI	ext.	
Benzene	<b>&lt;25.0</b> ug/kg	60.0	25.0	1	05/16/08 11:36	05/17/08 00:40	71-43-2	W
Ethylbenzene	<25.0 ug/kg	60.0	25.0	1	05/16/08 11:36	05/17/08 00:40	100-41-4	W
Methyl-tert-butyl ether	<25.0 ug/kg	60.0	25.0	1	05/16/08 11:36	05/17/08 00:40	1634-04-4	W
Toluene	<25.0 ug/kg	60.0	25.0	1	05/16/08 11:36	05/17/08 00:40	108-88-3	W
1,2,4-Trimethylbenzene	<25.0 ug/kg	60.0	25.0	1	05/16/08 11:36	05/17/08 00:40	95-63-6	W
1,3,5-Trimethylbenzene	<b>&lt;25.0</b> ug/kg	60.0	25.0	1	05/16/08 11:36	05/17/08 00:40	108-67-8	W
m&p-Xylene	<b>&lt;50.0</b> ug/kg	120	50.0	1	05/16/08 11:36	05/17/08 00:40	1330-20-7	W
o-Xylene	<25.0 ug/kg	60.0	25.0	1	05/16/08 11:36	05/17/08 00:40	95-47-6	W
a,a,a-Trifluorotoluene (S)	102 %	80-119		1	05/16/08 11:36	05/17/08 00:40	98-08-8	
Percent Moisture	Analytical Method: AST	M D2974-87						
Percent Moisture	15.7 %	0.10	0.10	1		05/16/08 08:30		

Date: 05/19/2008 03:26 PM

# **REPORT OF LABORATORY ANALYSIS**

Page 11 of 15

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# QUALITY CONTROL DATA

Project: 200701547 ABBOTSFORD

Pace Project No.: 403859

QC Batch:	PMST/1326	Analysis Method:	ASTM D2974-87			
QC Batch Method:	ASTM D2974-87	Analysis Description:	Dry Weight/Percent Moisture			
Associated Lab Samples: 403859001, 403859002, 403859003, 403859004, 403859005, 403859006, 403859007						
	E: 28974					

Shim LE Bor LIONIE. 20014		403270004	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
Percent Moisture	%	70.3	70.2	.04	10	

Date: 05/19/2008 03:26 PM

# **REPORT OF LABORATORY ANALYSIS**

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Page 12 of 15



# QUALITY CONTROL DATA

Project: 200701547 ABBOTSFORD

Pace Project No.: 403859

QC Batch:	GCV/1509	Analysis Method:	TPH WI GRO/PVOC 8021
QC Batch Method:	TPH GRO/PVOC WI ext.	Analysis Description:	WIGRO Solid GCV
Associated Lab Samp	les: 403859001, 403859002,	403859003, 403859004, 40385900	5, 403859006, 403859007

# METHOD BLANK: 29202

Associated Lab Samples: 403859001, 403859002, 403859003, 403859004, 403859005, 403859006, 403859007

		Blank	Reporting	
Parameter	Units	Result	Limit	Qualifiers
1,2,4-Trimethylbenzene	ug/kg	<25.0	60.0	
1,3,5-Trimethylbenzene	ug/kg	<25.0	60.0	
Benzene	ug/kg	<25.0	60.0	
Ethylbenzene	ug/kg	<25.0	60.0	
m&p-Xylene	ug/kg	<50.0	120	
Methyl-tert-butyl ether	ug/kg	<25.0	60.0	
o-Xylene	ug/kg	<25.0	60.0	
Toluene	ug/kg	<25.0	60.0	
a,a,a-Trifluorotoluene (S)	%	103	80-119	

LABORATORY CONTROL SAMPLE & LCSD: 29203		29204								
		Spike	LCS	LCSD	LCS	LCSD	% Rec		Max	
Parameter	Units	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qualifiers
1,2,4-Trimethylbenzene	ug/kg	1000	1040	1140	104	114	80-120	8	20	
1,3,5-Trimethylbenzene	ug/kg	1000	1050	1140	105	114	80-120	8	20	
Benzene	ug/kg	1000	958	1040	96	104	80-120	8	20	
Ethylbenzene	ug/kg	1000	1030	1120	103	112	80-120	8	20	
m&p-Xylene	ug/kg	2000	2050	2220	102	111	80-120	8	20	
Methyl-tert-butyl ether	ug/kg	1000	906	985	91	99	80-120	8	20	
o-Xylene	ug/kg	1000	1010	1100	101	110	80-120	8	20	
Toluene	ug/kg	1000	1000	1090	100	109	80-120	8	20	
a,a,a-Trifluorotoluene (S)	%				102	102	80-119			

Date: 05/19/2008 03:26 PM

### **REPORT OF LABORATORY ANALYSIS**

Page 13 of 15





# QUALIFIERS

Project: 200701547 ABBOTSFORD

Pace Project No.: 403859

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

**DUP - Sample Duplicate** 

RPD - Relative Percent Difference

NC - Not Calculable.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

#### LABORATORIES

PASI-G Pace Analytical Services - Green Bay

#### ANALYTE QUALIFIERS

W Non-detect results are reported on a wet weight basis.

# **REPORT OF LABORATORY ANALYSIS**

Page 14 of 15





# QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:	200701547 ABBOTSFORD
Pace Project No.:	403859

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
403859001	STA-198+00 (2')	ASTM D2974-87	PMST/1326		
403859002	STA-198+50 (2')	ASTM D2974-87	PMST/1326		
403859003	STA-199+00 (2')	ASTM D2974-87	PMST/1326		
403859004	STA-199+40 (4')	ASTM D2974-87	PMST/1326		
403859005	STA-199+75 (5')	ASTM D2974-87	PMST/1326		
403859006	STA-36+10 (2')	ASTM D2974-87	PMST/1326		
403859007	STA-36+50 (2')	ASTM D2974-87	PMST/1326		
403859001	STA-198+00 (2')	TPH GRO/PVOC WI ext.	GCV/1509	TPH WI GRO/PVOC 8021	GCV/1510
403859002	STA-198+50 (2')	TPH GRO/PVOC WI ext.	GCV/1509	TPH WI GRO/PVOC 8021	GCV/1510
403859003	STA-199+00 (2')	TPH GRO/PVOC WI ext.	GCV/1509	TPH WI GRO/PVOC 8021	GCV/1510
403859004	STA-199+40 (4')	TPH GRO/PVOC WI ext.	GCV/1509	TPH WI GRO/PVOC 8021	GCV/1510
403859005	STA-199+75 (5')	TPH GRO/PVOC WI ext.	GCV/1509	TPH WI GRO/PVOC 8021	GCV/1510
403859006	STA-36+10 (2')	TPH GRO/PVOC WI ext.	GCV/1509	TPH WI GRO/PVOC 8021	GCV/1510
403859007	STA-36+50 (2')	TPH GRO/PVOC WI ext.	GCV/1509	TPH WI GRO/PVOC 8021	GCV/1510

Date: 05/19/2008 03:26 PM

# **REPORT OF LABORATORY ANALYSIS**

Page 15 of 15



Wisconsin Department of Transportation Project No. 200701547 (STH 13, Abbotsford) Photographs By: ECS, EHN, and Casey Knutson



View facing northeast near Station 199+80 showing impermeable plug installation at the intersection STH 13 and Business Highway 29, Station.



Photo No. 2 Impermeable plug installation at Station 204+92.

Wisconsin Department of Transportation Project No. 200701547 (STH 13, Abbotsford) Photographs By: ECS, EHN, and Casey Knutson



Photo No. 3 View facing northeast near Station 200+00 showing contaminated soil encountered during excavation activities at the intersection of STH 13 and Business Highway 29.

#### Wisconsin Department of Transportation Project No. 200701547 (STH 13, Abbotsford) Photographs By: ECS, EHN, and Casey Knutson



Photo No. 4 View facing east near Station 204+30 showing piping and contaminated soil in the STH 13 ROW, adjacent to U Haul, WILD Fuel Services, property.



View facing northeast near Station 204+30 showing piping and contaminated soil in the STH 13 ROW, adjacent to U Haul, WILD Fuel Services, property.


Photo No. 6

View facing northeast near Station 204+30 showing piping and contaminated soil in the STH 13 ROW, adjacent to U Haul, WILD Fuel Services, property.



View facing northwest near Station 204+50 showing contaminated soil removal in the STH 13 ROW.



Photo No. 8 View facing southwest near Station 204+50 showing excavated area in the STH 13 ROW.



Photo No. 9 View facing southwest near Station 204+50 showing excavation backfill material in the STH 13 ROW.



Photo No. 10 View facing north showing contaminated soil excavation activities near Station 201+00.



Photo No. 11 View facing northeast showing contaminated soil excavation activities near Station 201+00.

# **Activity Report**

JOB NO: 0964916000 BILL DOC NO WF19297704 **GENERATOR NO 535990** 

WO NO: 0964916000

EPA ID: NONEREQUIRE D

BILL TO: WISC DEPT TRANSPORTATION **BUREAU OF EQUITY & ENV.SERVICE** PO BOX 7965 ROOM 451 MADISON, WI 53707-0451 (608) 266-1476

JOB SITE: WISC DOT/BOE-STH 13, ABBOTSFORD STH 13, PINE ST. TO LINDEN ST. PROJECT ID# 1620-01-04 ABBOTSFORD, WI 54405 (920) 406-3201

CONTACT: MIKE DEBRASKE (STS)

CONTACT: SHAR TEBEEST

MANIFEST NUMBER(S):

SCC0964916

CUSTOMER P.O. NUMBER	PROJECT NUMBER			SHIP DATI	E		TERR.
		_		07/07/20	800		W20
DESCRIPTION		# CONT.	CONT./CODE	QTY	UOM	PG/LN	WASTE AREA
Manifest # SCC0964916 WIP 390001 / Approval BIOSC0 SOIL CONTAMINATED W/FUE	C390001 L OIL	1	DUMPTR-DT	698	Т	1/1	

Total Hours: 0 # of Containers: 1 Total Tons: 698

#### **Comments:**

ACTUAL WEIGHT IS 697.86 TONS.

By: NTINDE

Veolia Environmental Solutions is permitted for and has capacity to accept waste listed above in container quantities.

1 of 1

From: May 29, 2008 To: Jun 12, 2008 Specified Contract: 07008B WDOT ABBOTS

·

				DETAILED REPO	RT	Ticket Type: A	All Ticket Types
Ticket Date	Ticket Number	Customer	Material	Billing Quantity	Minimum Quantity	Maximum Quantity	
70088 WD(	OT ABBOTS						
29 May 08 i	261305-00	000762-0000 - VEOLIA ES TE	C-Soil/33D Oil	21.94 TN	0.00	0.00	ANT TOE
29 May 08 I	261306-00	000762-0000 - VEOLIA ES TE	C-Soll/33D Oil	21.75 TN	0.00	0.00	
29 May 08 I	261307-00	000762-0000 - VEOLIA ES TE	C-Soil/33D Oil	21.30 TN	0,00	0.00	
29 May 081	261308-00	000762-0000 - VEOLIA ES TE	C-Soil/33D Oil	21.61 TN	0.00	0.00	0.6.01310
29 May 081	261346-00	000762-0000 - VEOLIA ES TE	C-Soil/33D Oil	22.63 TN	0.00	0.00	F (
29 May 08	261347-00	000762-0000 - VEOLIA ES TE	C-Soll/33D Oil	21.74 TN	0.00	0.00	
29 May 081	261348-00	000762-0000 - VEOLIA ES TE	C-SoiV33D Oil	21.16 TN	0.00	0.00	
29 May 08 I	261349-00	000762-0000 - VEOLIA ES TE	C-Soil/33D Oil	22.95 TN	0.00	0.00	
29 May 08	261397-00	000762-0000 - VEOLIA ES TE	C-Soil/33D Oil	18.41 TN	0.00	0.00	_
29 May 08	261398-00	000762-0000 - VEOLIA ES TE	C-Soil/33D Oil	18.05 TN	0.00	0.00	717-255.579
29 May 081	261461-00	000762-0000 - VEOLIA ES TE	C-Soll/33D Oil	25.28 TN	0.00	0.00	666 777
29 May 081	261462-00	000762-0000 - VEOLIA ES TE	C-Soil/33D Oil	19.75 TN	0.00	0.00	
30 May 081	261520-00	000762-0000 - VEOLIA ES TE	C-Soil/33D Oil	25.49 TN	0.00	0.00	
30 May 081	261522-00	000762-0000 - VEOLIA ES TE	C-Soil/33D Oil	24.91 TN	0.00	0.00	0.005
30 May 081	261528-00	000762-0000 - VEOLIA ES TE	C-Soil/33D Oil	27.19 TN	0.00	0.00	7-110983
30 May 081	261529-00	000762-0000 - VEOLIA ES TE	C-Soll/33D Oil	25.55 TN	0.00	0.00	$\mathcal{L}$ $\mathbf{v}$ ,
30 May 081	261562-00	000762-0000 - VEOLIA ES TE	C-Soil/33D Oil	22.48 TN	0.00	0.00	
5 Jun 08 1	262209-00	000762-0000 - VEOLIAES TE	C-Soil/33D Oil	20.57 TN	0.00	0.00	•
5 Jun 08	262212-00	000762-0000 - VEOLIA ES TE	C-Soil/33D Oil	22.88 TN	0.00	0.00	radm.
5 Jun 08	262213-00	000762-0000 - VEOLIA ES TE	C-Soil/33D Oil	21.38 TN	0.00	0.00	
5 Jun 08	262248-00	000762-0000 - VEOLAES TE	C-Soil/33D Oil	21.35 TN	0.00	0.00	
5 Jun 08 1	262249-00	000762-0000 - VEOLA ES TE	C-Soil/33D Oil	21.11 TN	0.00	0.00	
5.Jun 08 1	262300-00	000762-0000 - VEOLIA ES TE	C-Soil/33D Oil	19.57 TN	0.00	0.00	1 rd
5 Jun 08 1	262301-00	000762-0000 - VEOLIA ES TE	C-Soil/33D Oil	19.05 TN	0.00	0.00	
5 Jun 08 1	262353-00	000762-0000 - VEOLIA ES TE	C-Soil/33D Oil	23.94 TN	0.00	0.00	_
5 Jun 08 1	262254_00	000762-0000 - VEOLIA ES TE	C-Soil/33D Oil	22.34 TN	0.00	0.00	
11 100 09 1	202357-00		C-Soil/33D Oil	20.30 TN	0.00	0.00	1/60-
11 Jun 08 I	202059-00	000762-0000 - VEOLIA ES TE	C-Soil/33D Oil	20.70 TN	0.00	0.00	
11. Jun 08 I	262970-00	000762-0000 - VEOLIA ES TE	C-Soil/33D Oil	3 15 TN	0.00	0.00	
12 Jun 08 1	263008-00	000762-0000 - VEOLIA ES TE	C-Soil/33D Oil	20.50 TN	0.00	0.00	
12.Jun 08 I	263009-00	000762-0000 - VEOLIA ES TE	C-Soil/33D Oil	20 42 TN	0.00	0.00	
12 Jun 08 I	263055-00	000762-0000 - VEOLIA ES TE	C-Soil/33D Oll	16.73 TN	0.00	0.00	
12 Jun 08 I	263056-00	000762-0000 - VEOLIA ES TE	C-Soil/33D Oil	17.17 TN	0.00	0.00	
						0.00	
			CONTRACT TOTA	ILS :		<b>4</b>	
laterial Sum	mary	Inbound		Outbound	B	lling	Contract Ordered
	21-08			Vaolia Cranham, Crank I			

FROM

From: May29, 2008 To: Jun 12, 2008 Specified Contract: 07008B WDOT ABBOTS

Facility: All Facilities				DE	TAILED REPORT	Ticket Type:	All Ticket Types		
Ticket Date	Ticket Number	Customer	Material		Billing Quantity	Minimum Maximum Quantity Quantity			
		Weight	Volume	Weight	Volume	Quantity	Ordered	Variance	
C3 - C-So	1/33D Oil	697,86 TN	0.00 YD	0.00 TN	0.00 YD	697.86 TN	0.00	697.86	•
		• •	·						τ <u>.</u>

FROM

A

# **Activity Report**

JOB NO: 0823557000 BILL DOC NO WF80821532 GENERATOR NO 535990 WO NO: 0823557000

EPA ID: NONEREQUIRE D

BILL TO: WISC DEPT TRANSPORTATION BUREAU OF EQUITY & ENV.SERVICE PO BOX 7965 ROOM 451 MADISON, WI 53707-0451 (608) 266-1476

#### JOB SITE: WISC DOT/BOE-STH 13,ABBOTSFORD STH 13, PINE ST. TO LINDEN ST. PROJECT ID# 1620-01-04 ABBOTSFORD, WI 54405 (920) 406-3201

CONTACT: MIKE DEBRASKE (STS)

CONTACT: SHAR TEBEEST

MANIFEST NUMBER(S):

SCC0823557

CUSTOMER P.O. NUMBER PROJE			SHIP DATE			TERR.
			07/10/20	08		W20
DESCRIPTION	# CONT.	CONT./CODE	QTY	UÒM	PG/LN	WASTE AREA
Manifest # SCC0823557 WIP 390001 / Approval BIOSCC39000 SOIL CONTAMINATED W/FUEL OIL	1 )1	20YDRO-CM	195	Т	1/1	

Total Hours:	0			
# of Containers:	1			
Total Tons:	195			
	Total Hours: # of Containers: Total Tons:	Total Hours: <b>0</b> # of Containers: <b>1</b> Total Tons: <b>195</b>	Total Hours: <b>0</b> # of Containers: <b>1</b> Total Tons: <b>195</b>	Total Hours: <b>0</b> # of Containers: <b>1</b> Total Tons: <b>195</b>

#### **Comments:**

ACTUAL WEIGHT IS 195.06 TONS.

By: WI DOT/BOE

Veolia Environmental Solutions is permitted for and has capacity to accept waste listed above in container quantities.

1 of 1

## CONTRACT ACTIVITY REPORT From: Jun 13, 2008 To: Jul 24, 2008 Specified Contract: 07008B WDOT ABBOTS

						auter i ype:	VII LICKET LÄDER		
xet ate	Ticket Numb <del>e</del> r	Customer	Material	Billing Quantity	Minlmum Quantity	Maximum Quantity			
								···	
7008BW	DOTABBOTS								
							· · ·		
9 Jul 08	I 285812-00	000762-0000 - VEOLIA ES TE	C-Soil/33D Oil	22.88 TN	0.00	0.00			
9 Jul 08	1 265813-00	000762-0000 - VEOLIA ES TE	C-Soil/33D Oil	23.35 TN	0.00	0.00			
9 Jul 08	265861-00	000762-0000 - VEOLIA ES TE	C-Soil/33D Oil	22.65 TN	0.00	0.00			
9 Jul 08	1 265862-00	000762-0000 - VEOLIA ES TE	C-Soil/33D Oil	20.14 TN	0.00	0.00			
9 JUI 08	1 265926-00	000762-0000 - VEOLIA ES TE	C-Soil/33D Oil	20.78 TN	0.00	0.00			
9 Jul 08	1 265927-00	000762-0000 - VEOLIA ES TE	C-Soil/33D Oll	19.85 TN	0.00	0.00			
9 Jul 08	1 265930-00	000762-0000 - VEOLIA ES TE	C-Soil/33D Oil	21.70 TN	0.00	0.00			
	1 203943-00		C-501/33D Oil	21.40 IN	0.00	0.00			
30 JUI 06	1 203979-00	000762-0000 - VEOLIA ES 72	C-201433D 011	22.31 IN	0.00	<b>U.UU</b>			
			CONTRACTION	ALS :					
Aaterial Su	immary	Inbound		Outbound	1	Billing	Contract	Ordered	
		Weight	Volume	Weight Volu	ime i	Quantity	Ordered	Variance	
:3 - C-Soil	/33D Oi!	195.06 TN	0.00 YD	0.00 TN 0.00	) YD 19	95.06 TN	0.00	195.06	
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## RECEIVED

MAY 2 6 2005





State Highway 13 Right-of-Way Adjacent to Fosterling Property

 $(\rightarrow)$ 

State Highway 13 Reconstruction Pine Street to Linden Street City of Abbotsford Marathon and Clark County, Wisconsin

#### WisDOT Project ID 1620-01-04

Report Prepared By:

STS Consultants, Ltd. 1035 Kepler Drive Green Bay, Wisconsin 54311 Telephone: (920) 468-1978 Fax: (920) 468-3312 Email: garvey@stsconsultants.com STS Project No. 4-27811XV

May 2005



May 9, 2005

Ms. Janet Smith, Environmental Coordinator Wisconsin Department of Transportation 1681 Second Avenue South Wisconsin Rapids, Wisconsin 54495

Re: Phase II Subsurface Assessment, Proposed State Highway 13 Upgrade Project, Right-of-Way Adjacent to Fosterling Property, 112 North Fourth Street, Abbotsford, Marathon County, Wisconsin --WisDOT Project ID No. 1620-01-04 -- STS Project No. 4-27811XV

Dear Ms. Smith:

STS Consultants, Ltd. (STS) is pleased to submit this Phase II Subsurface Assessment (Phase II) for the State Highway 13 (STH 13) right-of-way (ROW) adjacent to the Fosterling property located at 112 North Fourth Street in the City of Abbotsford, Marathon County, Wisconsin. The site was selected for a Phase II to assess environmental conditions associated with former dry cleaning operations and a suspect Stoddard solvent underground storage tank (UST) at the Fosterling property.

Phase II results indicate that soils in the STH 13 ROW adjacent to the Fosterling property are impacted with petroleum constituents above regulatory standards. STS recommends that this report be submitted to the Wisconsin Department of Natural Resources and that the Wisconsin Department of Transportation (WisDOT) utilize Special Provisions with the selected contractor during construction in this area.

This report was completed in accordance with WisDOT Work Order No. 52 for Project ID No. 1620-01-04. If you have any questions regarding this report, please contact Mr. Paul Garvey at (920) 406-3149.

Sincerely,

STS CONSULTANTS, LTD.

Eric C. Schmidt

Assistant Project Engineer

Paul M. Garvey Senior Project Scientist

Michael J. Carney, P.G. Associate Geologist

Copy: Mr. John Lewis Bureau of Environment 4802 Sheboygan Avenue, Room 451 P.O. Box 7965 Madison, Wisconsin 53707-7965

> Mr. Michael Fosterling N3361 Grahl Drive Medford, Wisconsin 54451

Ms. Kitt Siegfried Wisconsin Department of Natural Resources West Central Region Office 1300 West Clairemont Avenue P.O. Box 4001 Eau Claire, Wisconsin 54701-4001

100-LH-9 (4/02)

## Table of Contents

1.0	EX	ECUTIVE SUMMARY	1
2.0	SIT	E INVESTIGATION	2
	2.1	Purpose and Scope	2
	2.2	Investigation Program	2
	2.3	Site Maps	3
	2.4	Geology	4
	2.5	Results	7
	2.6	Conclusions	10
	2.7	Recommendations	10
	2.8	General Qualifications	10
3.0	AP	PENDICES	11
	3.1	Photo Log	11
	3.2	WDNR Soil Boring Log Information Forms	12
	3.3	WDNR Well/Drillhole/Borehole Abandonment Forms	13
	3.4	Laboratory Reports and Chain of Custody Forms	14

## **Figures**

Figure 1 - Site Location Map	5
Figure 2 - Boring Location Map	6

## <u>Table</u>

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Table 1 - Soil Analytica	I Results	8-9
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1



#### **1.0 EXECUTIVE SUMMARY**

As part of the State Highway 13 (STH 13) upgrade project in Abbotsford, Wisconsin, STS Consultants, Ltd. (STS) was retained by the Wisconsin Department of Transportation (WisDOT) (Client) to perform a Phase II Subsurface Assessment (Phase II) within the STH 13 right-of-way (ROW) adjacent to the Fosterling property. The Fosterling property is located at 112 North Fourth Street (STH 13) in the city of Abbotsford, Marathon County, Wisconsin. The site was selected for a Phase II to assess environmental conditions associated with former dry cleaning activities and a potential Stoddard solvent underground storage tank (UST).

Field-screening and laboratory analytical results indicate that the subsurface within the STH 13 ROW adjacent to the site has been impacted by past land use practices. Soil samples analyzed did not indicate concentrations of diesel range organics (DRO) above regulatory standards. However, volatile organic compounds (VOCs), gasoline range organics (GRO), and naphthalene were detected above Wisconsin Administrative Code NR 720 generic Residual Contaminant Levels (RCLs) in a soil sample collected from 5.5 to 8.0 feet below ground surface (bgs) in one of the two borings advanced on the property.

Based on laboratory analytical results and field screening observations, soil impacted with residual petroleum compounds above generic regulatory standards will likely be encountered during the reconstruction of STH 13 in the vicinity of the Fosterling property.



#### 2.0 SITE INVESTIGATION

#### 2.1 Purpose and Scope

The purpose of the Phase II was to determine whether past land use practices impacted the subsurface at the Fosterling property at 112 North Fourth Street in the area of the proposed STH 13 reconstruction in Abbotsford, Wisconsin.

A Phase I Hazardous Material Assessment (HMA) completed by Short Elliott Hendrickson, Inc. dated September 2003 indicated the Fosterling property was formerly occupied by a dry cleaning facility. A Stoddard solvent tank was reportedly located along the east side of the existing building (approximately 90 feet east of the STH 13 ROW) on the property. Spills from the UST and dumping of spent chlorinated solvents were also reported on the property. The report indicated that the status of the tank(s) was not known.

According to the Phase I HMA, proposed construction requirements adjacent to the site include utility and storm sewer excavations to an approximate depth of 7 to 8 feet bgs. Excavation will also reportedly be completed within the current STH 13 ROW to an approximate depth of 3 feet bgs for new curb, gutter, and pavement installations. STS is not aware of planned WisDOT property acquisitions in the area of the Fosterling property.

The Phase II included the advancement of two soil borings within the proposed project limits to sample and analyze soil that could be disturbed during construction activities. STS selected soil boring locations based on the following: proximity to areas of suspected environmental impact identified in the Phase I HMA, truck accessibility, and location of obstructions (e.g., underground utilities, existing structures).

Site and soil boring locations are presented on attached Figures 1 and 2 (Section 2.3).

#### 2.2 Investigation Program

STS personnel accessed the ROW adjacent to the Fosterling property on February 23, 2005, to collect soil samples within the proposed project limits. STS retained a subcontract direct push firm (Kitson Environmental Services, Inc., Helenville, Wisconsin) to advance the borings. Two direct push borings (GP-1 and GP-2) were advanced at the site. Borings were sequentially numbered based on all borings conducted for multiple Phase IIs completed for WisDOT in the STH 13 ROW. Soil borings were advanced to the proposed utility installation depths and were terminated at a depth of approximately 8 feet bgs.

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Wisconsin Department of Transportation-Fosterling Property STS Project No. 4-27811XV May 9, 2005

Soil samples were collected from borings using standard direct-push technology with a powerdriven sampling spoon. A single-use disposable acetate liner was placed in each spoon and the spoon was advanced to the desired depth. The spoon was then retrieved from the boring, the acetate liner is extracted from the spoon, and the liner cut open allowing removal of the sample. Soil samples were collected continuously from the ground surface to boring termination depths (8 feet). Soil samples recovered from the borings were field-screened with a photoionization detector (PID), which was equipped with a 10.6-electron volt lamp. Soil PID field screening results are indicated on the Soil Boring Log Information Forms (Section 3.2). Following completion of sampling, the borings were abandoned with bentonite and WDNR Well/Drillhole/Borehole Abandonment forms were prepared (Section 3.3).

Selected soil samples were prepared in the field and submitted to White Water Associates, Inc., Amasa, Michigan (White Water), for analysis of one or more of the following analytes:

- Volatile Organic Compounds (VOCs) Environmental Protection Agency (EPA) Method 8260B
- Gasoline Range Organics (GRO) Wisconsin Modified Method
- Diesel Range Organics (DRO) Wisconsin Modified Method
- Polychlorinated Biphenyls (PCBs) EPA Method 8082
- Semi-Volatiles EPA Method 8270C

#### 2.3 Site Maps

Figure 1 shows the location of the site on a portion of the United States Geological Survey (USGS) 7.5-minute topographical quadrangle map of Abbotsford, Wisconsin. Also included on Figure 1 is a state and county map illustrating the location of Abbotsford. Figure 2 is a Site Diagram, which illustrates the locations of borings completed during the Phase II activities.



#### 2.4 Geology

Review of the Department of the Interior, USGS Publication *Water Resources of Wisconsin, Central Wisconsin River Basin, Hydrogeologic Investigations, Atlas HA-367*, Sheet 1 of 4, 1971, indicated that the subject property is located in an area of ground-moraine deposits (silty and clayey till) that overlie crystalline bedrock. The thickness of the glacial lake deposits over the bedrock varies.

The USDA Soil Survey of Marathon County, Wisconsin, (1989) indicated that the native surficial soil in the area of the Fosterling property is Withee silt loam. The Withee Series is described as nearly level and gently sloping, somewhat well-drained soil in convex and concave areas on broad ground moraines. Permeability is moderate to moderately slow, and surface runoff is slow or medium.

Regional groundwater flow direction is likely south and southeast toward the Wisconsin River (*Water Resources of Wisconsin, Central Wisconsin River Basin, Hydrogeologic Investigations, Atlas HA-367*, Sheet 1 of 4, 1971). Existing ditches, underground utilities (such as sanitary/storm sewer piping systems), and other natural and manmade features may influence local groundwater flow direction. Site-specific groundwater flow direction cannot be determined without installation of monitoring wells.

A review of the Abbotsford, Wisconsin, USGS 7.5-minute topographic map dated 1981 showed the Fosterling property as being located in a generally flat area that slopes to the south and east at an elevation of approximately +1,410 feet above mean sea level.



X:\PROJECTS\427811XV\Dwg\G427811XV\_SITE\_LOCATION\_MAP\_FORTERLING\_FIG1.dwg, FIG 1, 4/25/2005 8:51:20 AM, reince





#### 2.5 Results

Soils encountered in Borings GP-1 and GP-2 consisted of approximately 3.5 to 5.0 feet of fill (silty sand) overlying brown clayey silt. PID readings from soil collected and screened from Boring GP-1 were less than 1 PID unit. PID readings from Boring GP-2 ranged from <1 to 2.1 units from 0 to 5.5 feet bgs. A sample collected from 5.5 feet to the termination of the boring (8 feet) had a PID reading of 193.4 units. PID screening results for soil samples are summarized on the Soil Boring Log Information Forms in Section 3.2 of the Appendix.

Soil laboratory analytical results are summarized on Table 1 and the laboratory report is attached. Soil samples analyzed did not indicate concentrations of DRO or PCBs above regulatory standards. GRO was detected at 1,500 milligrams per kilogram (mg/kg) in a soil sample collected from 5.5 to 8.0 feet bgs in GP-2, which exceeds the Wisconsin Administrative Code NR 720 generic RCL of 100 mg/kg. Several VOCs were also detected in a soil sample collected from 5.5 to 8.0 feet bgs in GP-2. Benzene and total xylenes were detected in GP-2 at 64 micrograms per kilogram ( $\mu$ g/kg) and 5,570  $\mu$ g/kg, respectively. The NR 720 groundwater pathway RCLs for benzene and total xylenes are 5.5 and 4,100  $\mu$ g/kg, respectively. Naphthalene was detected in GP-2 (5.5 to 8.0 feet bgs) at 2,180  $\mu$ g/kg, which exceeds the Wisconsin Administrative Code NR 720 groundwater pathway RCL of 400  $\mu$ g/kg.

# Table 1 (Page 1 of 2)Soil Analytical Results -STH 13 ROW Adjacent to the Fosterling PropertyAbbotsford, Wisconsin

Sample Date         Control         Control         Control         Control         Control         Development Pathway         Development Pathway         Development Pathway           Gasoline Range Organics         NA         NA <t< th=""><th>Sample No.</th><th></th><th>2P.1</th><th>GP</th><th>2.2</th><th>NR 7</th><th>20 RCL<sup>1</sup></th></t<>	Sample No.		2P.1	GP	2.2	NR 7	20 RCL <sup>1</sup>
Sample Date         2/2305         2/2305         2/2305         2/2305         2/2305         Pathway         Pathway           Gasoline Range Organics         NA         NA </td <td>Sample 140.</td> <td></td> <td>ar - 1</td> <td>Gr</td> <td>-2</td> <td></td> <td>Non-Industrial</td>	Sample 140.		ar - 1	Gr	-2		Non-Industrial
Sample Depth (tt)         2.0-4.0         5.0-8.0         0.0-3.5         5.5-8.0         Pattway           Gasoline Range Organics         NA         NA         NA         NA         NA         NA           Diseal Range Organics         NA         NA         NA         NA         99         100         NL           Casoline Range Organics         NA         NA         NA         NA         NA         NA         NA           Arodor 121         NA         NA         NA         NA         NA         NA         NA         NA           Arodor 1221         NA	Sample Date	2/23/05	2/23/05	2/23/05	2/23/05	Groundwater	Direct Contact
Party Construct         NA	Sample Depth (ft)	2.0-4.0	5.0-8.0	0.0-3.5	5.5-8.0	Patnway	Pathway
Gasoline Range Organics         NA		2.0 1.0	0.0 0.0	Concent	ration (mg/kg)	I I	
Desel Range Organics         NA         NA         NA         NA         99         100         NL           PCEs         NA         NA         NA         NA         NA         NA         NL         NL           Arodor.1016         NA         NA         NA         NA         NA         NA         NL         NL           Arodor.1221         NA         NA         NA         NA         NA         NL         NL           Arodor.1222         NA         NA         NA         NA         NA         NA         NL         NL           Arodor.1226         NA         NA         NA         NA         NA         NA         NL         NL           Arocor.1226         NA         NA<	Gasoline Range Organics	NA	NA	NA	1500	100	NL
PCBs         NA         N	Diesel Range Organics	NA	NA	NA	99	100	NL
PCBs         NA         NA         NA         NA         NA         NA         NA           Arcobr-121         NA							
Arcobin         NA         NA         NA         A         Color         NL         NL           Arcobin         NA         NA         NA         NA         NA         NA         Color         NL         NL         NL           Arcobin         1232         NA         NA         NA         NA         Color         NL         NL         NL           Arcobin         1242         NA         NA         NA         NA         Color         NL         NL           Arcobin         1243         NA         NA         NA         NA         Color         NL         NL           Arcobin         NA         NA         NA         NA         Color         NL         NL         NL           Arcobinobarties         NA         NA         NA         NA         Color         NL	PCBs						
Arodor 1221         NA         NA         NA         NA         Color 12         NL         NL         NL           Arodor 1232         NA         NA         NA         NA         NA         Color 12         NL	Aroclor-1016	NA	NA	NA	<0.012	NL	NL
Arodor.1232         NA         NA         NA         NA         NA         COULD         NL         NL         NL           Arodor.1248         NA         NA         NA         NA         NA         NA         NL         NL         NL         NL         NL           Arodor.1260         NA         NA         NA         NA         NA         COUNT         NL         NL         NL           Arodor.1260         NA         NA         NA         NA         NA         COUNT         NL         NL           Arodor.1260         NA         NA         NA         NA         NA         Coundwater         Non-rdustrial Direct Contact           PAths/Semivalatiles         NA         NA<	Aroclor-1221	NA	NA	NA	<0.017	NL	NL
Arcodor 1242         NA	Aroclor-1232	NA	NA	NA	<0.014	NL	NL
Albert         NA         NL         NL <th< td=""><td>Aroclor-1242</td><td></td><td>NA</td><td>NA</td><td>&lt;0.012</td><td>NL</td><td>NL</td></th<>	Aroclor-1242		NA	NA	<0.012	NL	NL
NA         NA         NA         NA         NA         NL         NL         NL           Anodori 280         NA         NA         NA         NA         NA         NL         NL         NL         NL           Anodori 280         NA         NA         NA         NA         NA         NL	Aroclor-1254				<0.017		
PAHs/Senivolatiles         NA	Aroclor-1260	NA	NA	NA	<0.011	NI	NI
PAHs/Semivolatiles         NA         NA         NA         NA         Non-Industrial Direct Contact: Pathway         Non-Industrial Direct Contact: Pathway           1,2,4,7-irbitOrobenzene         NA					40.011		
PAHa/Semivolatiles         Non-Industrial Direct Contract Pathway         Non-Industrial Direct Contract Pathway           PAHa/Semivolatiles         NA						<sup>3</sup> Suggester	d Generic RCL
PAHe/Semivolati/les         NA         NA         NA         NA         NA         NA         NA         NA         NA         NL         NL           1,2,4,5-Treitrachiorobenzene         NA         NA         NA         NA         NA         NA         NL         NL         NL           1,2-Dichtorobenzene         NA         NA         NA         NA         Codust         NL         N						Groundwater	Non-Industrial
PAths/Semivolatilies         NA         NA <td></td> <td></td> <td></td> <td></td> <td></td> <td>Pathway</td> <td>Direct Contact</td>						Pathway	Direct Contact
PArtissemuvolatures         NA         NA         NA         NA         COUNT           12,4,5-Tretachlorobenzene         NA         NA         NA         NA         NA         NA           12,4-5-Tretachlorobenzene         NA         NA         NA         NA         CO038         NL         NL           1,3-Dichlorobenzene         NA         NA         NA         NA         CO038         NL         NL           1,4-Dichlorobenzene         NA         NA         NA         CO042         NL         NL           2,4-5-Trochlorophenol         NA         NA         NA         CO048         NL         NL           2,4-Dichtorophenol         NA         NA         NA         CO028         NL         NL           2,4-Dintrophenol         NA         NA         NA         CO028         NL         NL           2,4-Dintrophenol         NA         NA         NA         CO021         NL         NL           2,6-Diritrobluene         NA         NA         NA         NA         CO037         NL         NL           2,6-Diritrobluene         NA         NA         NA         NA         CO037         NL         NL						·	Pathway
I,2,4-Trichtoberzene         INA         INA         INA         CU054         INL         INL           I,24-Trichtoroberzene         NA         NA         NA         NA         CO054         NL         INL           1,2-Dichtoroberzene         NA         NA         NA         NA         CO054         NL         INL           1,3-Dichtoroberzene         NA         NA         NA         NA         CO054         NL         NL           2,4-5-Tricthorophenol         NA         NA         NA         CO034         NL         NL           2,4-5-Dicthorophenol         NA         NA         NA         NA         CO037         NL         NL           2,6-50chtorophenol         NA         NA         NA         NA         CO037         NL         NL           2,6-60chtorophenol         NA         NA         NA         CO037	PARIS/Semivolatiles	NIA I	NIA	NIA	-0.044	KII	<u>ки</u>
Intersection         Intersection         Intersection         Intersection         Intersection           1,2-Dichtorobenzene         NA         NA         NA         NA         NA         NA           1,3-Dichtorobenzene         NA         NA         NA         NA         NA         NA           1,4-Dichtorobenzene         NA         NA         NA         NA         NA         NL           2,4-5-Trochlorophenol         NA         NA         NA         NA         NA         NL           2,4-Dintorophenol         NA         NA         NA         NA         NA         NL           2,4-Dintorophenol         NA         NA         NA         NA         NA         NL           2,4-Dintorophenol         NA         NA         NA         NA         NL         NL           2,6-Dintrotoluene         NA	1 2 4-Trichlorobenzene		NA NA	NA NA	<0.041		
1.3-Dichoroberzene         NA         NA         NA         NA         NA         CO.042         NL         NL           1.4-Dichoroberzene         NA         NA         NA         NA         NA         CO.042         NL         NL           2.4.5-Trochiorophenol         NA         NA         NA         NA         NA         CO.048         NL         NL           2.4-5-Trochiorophenol         NA         NA         NA         NA         CO.034         NL         NL           2.4-Dinettylphenol         NA         NA         NA         NA         CO.034         NL         NL           2.4-Dinettylphenol         NA         NA         NA         NA         CO.044         NL         NL           2.4-Dinettylphenol         NA         NA         NA         NA         CO.021         NL         NL           2.4-Dinettylphenol         NA         NA         NA         NA         CO.021         NL         NL           2.6-Dichorophenol         NA         NA         NA         NA         CO.027         NL         NL           2.6-Dichorophenol         NA         NA         NA         NA         CO.027         NL         NL	1.2-Dichlorobenzene	NA	NA	NA	<0.034	NI	NI
1.4-Dichlorobenzene         NA         NA         NA         NA         NA         NL         NL           2.4,5-Trichlorophenol         NA         NA         NA         NA         VA	1.3-Dichlorobenzene	NA	NA	NA	<0.042	NL	NI
2,4,5-Trichlorophenol         NA         NA         NA         NA         NA         NA         NL           2,4,6-Trichlorophenol         NA         NA         NA         NA         NA         NL         NL           2,4-Dichorophenol         NA         NA         NA         NA         NA         NL         NL           2,4-Diintrophenol         NA         NA         NA         NA         NA         NL         NL           2,4-Diintrophenol         NA         NA         NA         NA         NA         NL         NL           2,4-Diintrobluene         NA         NA         NA         NA         NA         NL         NL           2,6-Diintrobluene         NA         NA         NA         NA         NA         NL         NL           2,6-Dintrobluene         NA         NA         NA         NA         NA         NL         NL           2,6-Dintrobluene         NA         NA         NA         NA         A         A         A         A           2,6-Dintrobluene         NA         NA         NA         NA         A         A         A         A           2,4-Etrorophenol         NA	1,4-Dichlorobenzene	NA	NA	NA	<0.044	NL	NL
24,6-TrichlorophenolNANANANAAA2,4-DinetrylphenolNANANAA0028NLNL2,4-DinetrylphenolNANANAA0044NLNL2,4-DinetrylphenolNANANAA0044NLNL2,4-DinitrotolueneNANANAA0081NLNL2,6-DichlorophenolNANANAA0081NLNL2,6-DinitrotolueneNANANAA0067NLNL2,6-DinitrotolueneNANANAA0067NLNL2-ChloronphthaleneNANANAA0088NLNL2-MethylphenolNANANAA0088NLNL2-MethylphenolNANANAA0089NLNL2-NitroaniineNANANAA0068NLNL2-NitroaniineNANANAA0063NLNL3,3'-DichlorobenzidineNANANAA0063NLNL4-Bromophenyl-phenyl etherNANANAA0030NLNL4-Chloro-aniineNANANAA0024NLNL4-ChlorophenolNANANAA0066NLNL4-ChlorophenolNANANAA0066NLNL4-ChlorophenolNANANAA0066NLNL4-ChlorophenolNANANAA00	2,4,5-Trochlorophenol	NA	NA	NA	<0.048	NL	NL
24-Dichlorophenol         NA         NA         NA         NA         CO028         NL         NL           2,4-Dimethylphenol         NA         NA         NA         NA         NA         NL         NL           2,4-Dimitrophenol         NA         NA         NA         NA         C0019         NL         NL           2,4-Dimitrophenol         NA         NA         NA         NA         C0021         NL         NL           2,6-Dinitrotoluene         NA         NA         NA         C0027         NL         NL           2-Chiorophenol         NA         NA         NA         NA         C0027         NL         NL           2-Chiorophenol         NA         NA         NA         NA         C0028         20         600           2-Methylphenol         NA         NA         NA         NA         C0027         NL         NL           2-Nitrophenol         NA         NA         NA         NA         C0027         NL         NL           2-Nitrophenol         NA         NA         NA         NA         C0027         NL         NL           3.3 -bichtorobenzidine         NA         NA         NA	2,4,6-Trichlorophenol	NA	NA	NA	<0.034	NL	NL
24-DimetrylphenolNANANANACO 019NLNL2,4-DinitrophenolNANANANA-0081NLNL2,4-DinitrotolueneNANANA-0081NLNL2,6-DinitrotolueneNANANA-0097NLNL2,6-DinitrotolueneNANANA-0097NLNL2,6-DinitrotolueneNANANA-0067NLNL2-ChloronaphthaleneNANANA-0067NLNL2-MethylphenolNANANA-0089NLNL2-MethylphenolNANANA-0089NLNL2-NitrophenolNANANA-0069NLNL2-NitrophenolNANANA-0063NLNL2-NitrophenolNANANA-0063NLNL2-NitroanilineNANANA-0063NLNL3-3'DichlorobenzidineNANANA-0063NLNL4-Chloro-3-methylphenolNANANA-0030NLNL4-Chloro-3-methylphenolNANANA-0027NLNL4-Chlorophenyl-phenyl etherNANANA-0026NLNL4-Chlorophenyl-phenyl etherNANANA-0027NLNL4-NitrophenolNANANA-0027NLNL4-Nitrophenol<	2,4-Dichlorophenol	NA	NA	NA	<0.028	NL	NL
2.4-DintrophenolNANANAAAAAA2.4-DintrotolueneNANANANAC0.021NLNL2.6-DichlorophenolNANANANAC0.021NLNL2.6-DichlorophenolNANANAC0.067NLNLNL2.ChloronaphthaleneNANANAC0.067NLNLNL2-ChlorophenolNANANAC0.067NLNLNL2-MethylphenolNANANAC0.069NLNLNL2-MethylphenolNANANAC0.069NLNLNL2-NitroanilineNANANAC0.064NLNLNL3.4-MethylphenolNANANANAC0.063NLNLNL3.3'-DichlorobenzidineNANANANAC0.063NLNLNL4-Bromophenyl-phenyl etherNANANAC0.030NLNLNL4-Chloro-3-methylphenolNANANANAC0.024NLNL4-Chloro-3-methylphenolNANANANAC0.079NLNL4-Chloro-3-methylphenolNANANANAC0.079NLNL4-Chlorophenyl-phenyl etherNANANAC0.079NLNL4-NitrophenolNANANAC0.079NLNLA-Chloro-3-methylphenol	2,4-Dimethylphenol	NA	NA	NA	<0.019	NL	NL
2.4-DintrotolulerieNANANAAAC0.081NLNL2.6-DichiorophenolNANANANAC0.097NLNLNL2.6-DichioronaphthaleneNANANANAC0.097NLNLNL2-ChiorophenolNANANANAC0.028206002-MethylinaphthaleneNANANANAC0.028206002-MethylinaphthaleneNANANAC0.027NLNL2-NitrophenolNANANAC0.027NLNL2-NitrophenolNANANAC0.027NLNL3.3-DichlorobenzidineNANANAC0.053NLNL3.3-DichlorobenzidineNANANAC0.053NLNL4-GrooralineNANANAC0.053NLNL4-Chloro-anilineNANANAC0.066NLNL4-Chlorophenyl-phenyl etherNANANAC0.079NLNL4-Chlorophenyl-phenyl etherNANANAC0.079NLNL4-NitrophenolNANANAC0.079NLNL4-Chlorophyl-phenyl etherNANANAC0.079NLNL4-Chlorophyl-phenyl etherNANANAC0.079NLNL4-NitrophenolNANANAC0.031NLNL4-Nitrophenol	2,4-Dinitrophenol	NA	NA	NA	<0.044	NL	NL
2,6-Diritorobleme         NA         NA         NA         NA         NA         NA         NA         NL         NL           2,6-Diritorobleme         NA         NA         NA         NA         NA         NA         NL         NL           2-Chlorophenol         NA         NA         NA         NA         NA         NA         NL         NL           2-Methylphenol         NA         NA         NA         NA         NA         NA         NL         NL           2-Methylphenol         NA         NA         NA         NA         NA         NL         NL           2-Nitrophenol         NA         NA         NA         NA         NA         NA         NL         NL           2-Nitrophenol         NA         NA         NA         NA         NA         NA         NL         NL           3,3'-Dichlorobenzidine         NA         NA         NA         NA         NA         NA         NL         NL           3,3'-Dichlorobenzidine         NA         NA         NA         NA         NA         NA         NL         NL           4-Bromophenyl-phenyl ether         NA         NA         NA	2,4-Dinitroitoluene		NA	NA	<0.081	NL	NL
Label of the second s	2,6-Dicitior opnetion				<0.021		
2-ChlorophenolNANANAClobNLNL2-MethylphenolNANANANACO.067NLNL2-MethylphenolNANANAACO.028206002-MethylphenolNANANACO.069NLNL2-NitroanilineNANANACO.069NLNL2-NitroanilineNANANACO.064NLNL3.3-DichlorobenzidineNANANACO.063NLNL3.4-DichlorobenzidineNANANACO.030NLNL4.6-Dinitro-2-methylphenolNANANACO.030NLNL4-Chloro-3-methylphenolNANANACO.066NLNL4-Chloro-3-methylphenolNANANACO.079NLNL4-Chloro-3-methylphenolNANANACO.079NLNL4-ChlorophenolNANANACO.079NLNL4-NitrophenolNANANACO.0340.718AcenapthyleneNANANANACO.034718AcetophenoneNANANANACO.03817O.088Benzo(a)mitraceneNANANANACO.03817O.088Benzo(a)pyreneNANANANACO.03817O.088Benzo(a)pyreneNANANANACO	2-Chloronaphthalene	NA	NA	NA .	<0.097		
2-MethylinaphthaleneNANANANACO28206002-MethyliphenolNANANANACO089NLNL2-NitrophenolNANANANACO069NLNL2-NitrophenolNANANANACO069NLNL3 & 4-MethyliphenolNANANANACO063NLNL3.3-DichlorobenzidineNANANACO063NLNL3-NitroanilineNANANACO053NLNL4.6-Dinitro-2-methyliphenolNANANACO066NLNL4-Bromopheny-phenyl etherNANANACO066NLNL4-Chloro-anilineNANANACO074NLNL4-ChloroanilineNANANACO074NLNL4-NitrophenolNANANACO074NLNL4-NitrophenolNANANACO074NLNL4-NitrophenolNANANACO074NLNL4-NitrophenolNANANACO031NLNL4-NitrophenolNANANACO034O.718AcenapthyleneNANANACO031NLNLAntineneNANANACO031NLNLAntinceneNANANACO033NLNLAntineeNAN	2-Chlorophenol	NA	NA	NA	<0.067	NI	NI
2-MethylphenolNANANANANANANLNL2-NitroanilineNANANANANANANLNL2-NitrophenolNANANANANANLNL3.4 -MethylphenolNANANANACO64NLNL3.3'-DichlorobenzidineNANANANACO63NLNL3-NitroanilineNANANANACO030NLNL4.6-Dinitro-2-methylphenolNANANACO030NLNL4-Bromophenyl-phenyl etherNANANACO030NLNL4-Chloroa-methylphenolNANANACO024NLNL4-ChloroanilineNANANACO074NLNL4-Chlorophenyl-phenyl etherNANANACO074NLNL4-NitroanilineNANANACO031NLNL4-NitroanilineNANANACO03438900AcenapthyleneNANANACO031NLNLAnitrophenoneNANANACO033NLNLAnitrophenoneNANANACO03438900AcenapthyleneNANANACO031NLNLAnitrophenoneNANANACO033NLNLAnitrophenoneNANANACO033NLNL	2-Methylnaphthalene	NA	NA	NA	<0.028	20	600
2-NitroanilineNANANANANANANLNL2-NitrophenolNANANANANAO.027NLNLNL3 & 4-MethylphenolNANANANA<0.063	2-Methylphenol	NA	NA	NA	<0.089	NL	NL
2-NitrophenolNANANANACO.027NLNL3 & 4-MethylphenolNANANANACO.064NLNL3,3'-DichlorobenzidineNANANANACO.053NLNL3.4'-DichlorobenzidineNANANACO.053NLNL4,6-Dinitro-2-methylphenolNANANACO.053NLNL4-Bromophenyl-phenyl etherNANANACO.030NLNL4-Chloro-3-methylphenolNANANACO.024NLNL4-Chloro-anilineNANANACO.079NLNL4-Chlorophenyl-phenyl etherNANANACO.079NLNL4-Chlorophenyl-phenyl etherNANANACO.074NLNL4-NitroanilineNANANACO.03438900AcenaphtyleneNANANACO.0340.718AcetophenoneNANANACO.033NLNLAntiraceneNANANACO.03817CO.088Benzo(a)anttraceneNANANACO.05348CO.088Benzo(a)pyreneNANANANACO.0343680.088Benzo(a)pyreneNANANANACO.03817CO.088Benzo(a)pyreneNANANANACO.03817CO.088Benzo(b)fluoranthene	2-Nitroaniline	NA	NA	NA	<0.069	NL	NL
3 & 4-MethylphenolNANANANA3,3'-DichlorobenzidineNANANANA3.4'DichlorobenzidineNANANANA3-NitroanilineNANANANA </td <td>2-Nitrophenol</td> <td>NA</td> <td>NA</td> <td>NA</td> <td>&lt;0.027</td> <td>NL</td> <td>NL</td>	2-Nitrophenol	NA	NA	NA	<0.027	NL	NL
3,3'-DichlorobenzidineNANANANANANANLNL3-NitroanilineNANANANANANANLNL4,6-Dinitro-2-methylphenolNANANANANANLNL4-Bromophenyl-phenyl etherNANANANA<0.030	3 & 4-Methylphenol	NA	NA	NA	<0.064	NL	NL
3-NitroanilineNANANANANACOUS3NLNL4,6-Dinitro-2-methylphenolNANANANAACOUS3NLNL4-Bromophenyl-phenyl etherNANANANACOUS3NLNL4-Chloro-3-methylphenolNANANANACOUS66NLNL4-Chloro-3-methylphenolNANANANACOUS4NLNL4-Chlorophenyl-phenyl etherNANANACOUS4NLNL4-NitroanilineNANANANACOU74NLNL4-NitroanilineNANANACOU74NLNL4-NitroanilineNANANACOU31NLNL4-NitroanilineNANANANACOU3438900AcenapthyleneNANANANACOU340.718AcetophenoneNANANANACOU31NLNLAnilineNANANANACOU273005000Azobenzene & 1,2-DiphenylhydraNANANAACOU38170.088Benzo(a)ntraceneNANANANACOU388700.88Benzo(a)nyreneNANANANACOU388700.88Benzo(b)fluorantheneNANANAACOU57NLNLBenzo(b)fluorantheneNANANA <td>3,3'-Dichlorobenzidine</td> <td>NA</td> <td>NA</td> <td>NA</td> <td>&lt; 0.063</td> <td>NL</td> <td>NL</td>	3,3'-Dichlorobenzidine	NA	NA	NA	< 0.063	NL	NL
A,0-Diffit0-2-intertylphenolINAINAINAINAINAINAINA4-Bromophenyl-phenyl etherNANANANA<0.030	3-Nitroaniline		NA	NA	< 0.053	NL	NL
Achioro-3-methylphenolNANANANACloseNL4-Chloro-3-methylphenolNANANANANANL4-Chlorophenyl-phenyl-phenyl etherNANANANANLNL4-NitroanilineNANANANACloseNLNL4-NitroanilineNANANANACloseNLNL4-NitroanilineNANANANACloseNLNL4-NitroanilineNANANANACloseNLNL4-NitroanilineNANANANACloseNLNL4-NitroanilineNANANANACloseNLNL4-kitroanilineNANANANACloseNLNLAcenapthyleneNANANANACloseNLNLAcetophenoneNANANANACloseStoooStoooAcetophenoneNANANANACloseStoooStoooAnthraceneNANANANACloseStoooStoooAcobenzene & 1,2-DiphenylhydraNANANANACloseStoooBenzo(a)pyreneNANANANACloseCloseNLBenzo(a)pyreneNANANANACloseCloseStoooBenzo(g,h,j)peryleneNANANANACloseStoooS	4,0-Diniti 0-2-methylphenol 4-Bromonbenyl-nbenyl ether		NA	NA	<0.030		
4-ChloroanilineNANANAAAA4-Chlorophenyl-phenyl etherNANANANANANLNL4-NitroanilineNANANANAAAAA4-NitroanilineNANANANAAAA4-NitroanilineNANANANAAAA4-NitroanilineNANANANAAA4-NitroanilineNANANAAAA4-NitroanilineNANANAAAAAcenapthyleneNANANAAAAAcetophenoneNANANANAAAAnilineNANANANAAAAAnthraceneNANANANAAAAAnthraceneNANANANAAAABenzo(a)anthraceneNANANAAAAAABenzo(a)pyreneNANANANAA	4-Chloro-3-methylphenol	NA	NA	NA	<0.066	NL	NI
4-Chlorophenyl-phenyl etherNANANANAC0.079NLNL4-NitroanilineNANANANANANLNL4-NitrophenolNANANANANANLNL4-NitrophenolNANANANAC0.034NLNLAcenaphtheneNANANANAC0.034CO.034CO.034CO.034AcenapthyleneNANANANACO.031NLNLAcetophenoneNANANACO.033NLNLAnilineNANANANACO.033NLNLAnthraceneNANANANACO.038CO.000Azobenzene & 1,2-DiphenylhydraNANANACO.03817CO.088Benzo(a)pyreneNANANANACO.038870CO.888Benzo(g,h,j)peryleneNANANACO.038870CO.888Benzo(g,h,j)peryleneNANANACO.057NLNLBenzo(g,h)lperyleneNANANACO.057NLNLBenzo(g,h)lperyleneNANANACO.057NLNLBis(2-chloroethoxy)methaneNANANACO.019NLNL	4-Chloroaniline	NA	NA	NA	<0.024	NL	NL
4-NitroanilineNANANANAANLNL4-NitrophenolNANANANANANLNLAcenaphtheneNANANANAA0.03438900AcenaphtheneNANANANA<0.034	4-Chlorophenyl-phenyl ether	NA	NA	NA	<0.079	NL	NL
4-NitrophenolNANANANA<AcenaphtheneNANANANAA38900AcenaphtheneNANANANA38900AcenapthyleneNANANANA </td <td>4-Nitroaniline</td> <td>NA</td> <td>NA</td> <td>NA</td> <td>&lt;0.074</td> <td>NL</td> <td>NL</td>	4-Nitroaniline	NA	NA	NA	<0.074	NL	NL
AcenaphtheneNANANANAAcenapthyleneNANANANA </td <td>4-Nitrophenol</td> <td>NA</td> <td>NA</td> <td>NA</td> <td>&lt;0.13</td> <td>NL</td> <td>NL</td>	4-Nitrophenol	NA	NA	NA	<0.13	NL	NL
AccentaptingenieNANANANACl.0340.718AcetophenoneNANANANACl.031NLNLAnilineNANANANACl.033NLNLAnthraceneNANANANACl.033NLNLAnthraceneNANANACl.0273005000Azobenzene & 1,2-DiphenylhydraNANANACl.0273005000Benzo(a)anthraceneNANANACl.038170.088Benzo(a)pyreneNANANACl.033480.0088Benzo(b)fluorantheneNANANACl.0388700.888Benzo(g,h,i)peryleneNANANACl.0388700.888Benzo(k)fluorantheneNANANACl.04868001.8Benzo(k)fluorantheneNANANACl.057NLNLBis(2-chloroethoxy)methaneNANANACl.019NLNL	Acenaphthene	NA	NA	NA	<0.034	38	900
Action isINAINAINAINAINAINAINAAnilineNANANANA<0.033	Acenaptnylene		NA	NA	<0.034	0.7	18
AnthraceneNANANANANANLAnthraceneNANANANA<0.027	Aniline				<0.031		
Azobenzene & 1,2-Diphenylhydra         NA         NA         NA         NA         NA         NA         Store	Anthracene	NA NA	NΔ	ΝΔ	<0.033	 300	INL 5000
Benzo(a)anthracene         NA         NA         NA         NA         NA         CO.053         Hz         NL           Benzo(a)pyrene         NA         NA         NA         NA         CO.053         48         0.0088           Benzo(b)fluoranthene         NA         NA         NA         NA         CO.053         48         0.0088           Benzo(b)fluoranthene         NA         NA         NA         NA         CO.053         48         0.0088           Benzo(b)fluoranthene         NA         NA         NA         CO.038         870         0.888           Benzo(g,h,i)perylene         NA         NA         NA         CO.038         870         0.888           Benzo(k)fluoranthene         NA         NA         NA         CO.048         6800         1.8           Benzyl alcohol         NA         NA         NA         NA         CO.057         NL         NL           Bis(2-chloroethoxy)methane         NA         NA         NA         CO.019         NL         NL	Azobenzene & 1,2-Diphenvlhvdra	NA	NA	NA	<0.076	NL	NI
Benzo(a)pyrene         NA         NA         NA         NA         A         COUNT         COUNT <thcount< th="">         COUNT         <thcount< th="">         COUNT         COUNT<td>Benzo(a)anthracene</td><td>NA</td><td>NA</td><td>NA</td><td>&lt;0.038</td><td>17</td><td>0.088</td></thcount<></thcount<>	Benzo(a)anthracene	NA	NA	NA	<0.038	17	0.088
Benzo(b)fluoranthene         NA         NA         NA         NA         Science         Scien	Benzo(a)pyrene	NA	NA	NA	<0.053	48	0.0088
Benzo(g,h,i)perylene         NA         NA         NA         NA          0.038         870         0.88           Benzo(k)fluoranthene         NA         NA         NA         NA         <0.048	Benzo(b)fluoranthene	NA	NA	NA	<0.044	360	0.088
Benzo(k)fluoranthene         NA         NA         NA         NA         <0.048         6800         1.8           Benzyl alcohol         NA         NA         NA         NA         <0.057	Benzo(g,h,i)perylene	NA	NA	NA	<0.038	870	0.88
Benzyl alconol         NA         NA         NA         <0.057         NL         NL           Bis(2-chloroethoxy)methane         NA         NA         NA         <0.019	Benzo(k)fluoranthene	NA	NA	NA	<0.048	6800	1.8
Ubico the local sector NA NA NA CO.019 NL NL NL	Benzyl alcohol	NA	NA	NA	<0.057	NL	NL
	Bis(2-chloroethoxy)methane		NA NA		<0.019		NL
שואר איז	Bis(2-chloroisonronyl)ether				<0.032		
	Bis(2-ethylhexyl)phthalate	NA	NA	ΝΔ	<0.033		NI
Butylbenzylphthalate NA NA NA <0.036 NI NI	Butylbenzylphthalate	NA	NA	NA	<0.036	NL	NL
Carbazole NA NA NA <0.041 NL NL	Carbazole	NA	NA	NA	<0.041	NL	NL
Chrysene NA NA NA <0.031 37 8.8	Chrysene	NA	NA	NA	<0.031	37	8.8

#### Table 1 (Page 2 of 2) Soil Analytical Results -STH 13 ROW Adjacent to the Fosterling Property Abbotsford, Wisconsin

Sample No.	0	P_1	GE	22	<sup>2</sup> Suggeste	d Generic RCL
Sample No.	C	ai - i	G	-2	Groundwater	Non-Industrial
Sample Date	2/23/05	2/23/05	2/23/05	2/23/05	Pathway	Direct Contact
Sample Depth (ft)	2.0-4.0	5.0-8.0	0.0-3.5	5.5-8.0		
Di-n-butylphthalate	NA	NA	NA	<0.046	NL	NL
Di-n-octylphthalate	NA	NA	NA	<0.041	NL	NL
Dibenzo(a,h)anthracene	NA	NA	NA	<0.043	38	0.0088
Dibenzofuran	NA	NA	NA	<0.059	NL	NL
Diethylphthalate	NA	NA	NA	<0.087	NL	NL
Dimethylphthalate	NA	NA	NA	<0.087	NL	NL
Fluoranthene	NA	NA	NA	<0.036	500	600
Fluorene	NA	NA	NA	<0.072	100	600
Hexachlorobenzene	NA	NA	NA	<0.023	NL	NL
Hexachlorobutadiene	NA	NA	NA	<0.059	NL	NL
Hexachlorocyclopentadiene	NA	NA	NA	< 0.036	NL	NL
Hexachloroethane	NA	NA	NA	<0.040	NL	NL
Hexachloropropene	NA	NA	NA	<0.076	NL	NL
Indeno(1,2,3-cd)pyrene	NA	NA	NA	<0.044	680	0.088
Isophorone	NA	NA	NA	<0.018	NL	NL
N-Nitroso-di-n-propylamine	NA	NA	NA	< 0.039	NL	NL
N-Nitrosodimethylamine	NA	NA	NA	<0.053	NL	NL
N-Nitrosodiphenylamine	NA	NA	NA	<0.060	NL	NL
N-Nitrosopyrrolidient	NA	NA	NA	<0.040	NL	NL
Naphthalene	NA	NA	NA	<0.043	0.4	20
Nitrobenzene	NA	NA	NA	<0.029	NL	NL
Pentachlorophenol	NA	NA	NA	<0.028	NL	NL
Phenanthrene	NA	NA	NA	<0.019	1.8	18
Phenol	NA	NA	NA	<0.070	NL	NL
Pyrene	NA	NA	NA	<0.031	8700	500
Pyridine	NA	NA	NA	<0.037	NL	NL

						<sup>1</sup> NR 720 RCL		<sup>2</sup> NR 746
					Groundwater	Direct Co	ntact	Values
					Pathway	Non - Industrial	Industrial	Table 1 SSLs
PVOCs (and detected VOCs)				Concentra	tion (ug/kg)			
1,2,4-Trimethylbenzene	<18	<14	<17	1,110	NL NL	NL	NL	83,000
1,3,5-Trimethylbenzene	<18	<14	<17	4,210	L NL	NL	NL	11,000
Benzene	<18	<14	<17	64(j)	5.5	NL	NL	8,500
Ethylbenzene	<18	<14	<17	1,850	2,900	NL	NL.	4,600
m/p-Xylene	<35	<28	<35	3,800	4,100	NL	NL	42,000
Methyl ethyl keytone (MEK)	395 (j)	286 (j)	480 (j)	736 (j)	NL	NL	NL	NL
Naphthalene	<88	<69	<87	2180	400	20,000	110,000	2,700
o-Xylene	<18	<14	<17	1,770	4,100	NL	NL	42,000
Toluene	<18	<14	<17	150	1,500	NL	NL	38,000
Isopropylbenzene	<18	<14	<17	1,140	NL	NL	NL	NL
n-Propylbenzene	<18	<14	<17	2,280	NL	NL	NL	NL
s-Butylbenzene	<18	<14	<17	2,730	NL	NL	NL	NL
p-Isopropyltoluene	<18	<14	<17	1,180	NL	NL	NL	NL
n-Butylbenzene	<18	<14	<17	2,730	NL	. NL	NL	NL
2-Methylnaphthalene	<88	<69	<87	1,020	NL	NL	NL	NL

Notes:

(mg/kg) = milligrams per kilogram; (ug/kg) = micrograms per kilogram; < = not detected above method detection limit; NA = not analyzed RCL = Residual Contaminant Level; SSLs = Soil Screening Levels; ; NL = No regulatory limit listed for analyte;

(j) = The analyte was positively identified, the quantification is an estimation.

MEK has been found in methanol (used as preservative during sample preparation) at 620 ug/kg.

<sup>1</sup> NR 720 RCL = Wisconsin Administrative Code Chapter NR 720 Generic Residual Contaminant Level

<sup>2</sup>NR 746 Values = Wisconsin Administrative Code Chapter NR 746 Risk Screening and Closure Criteria <sup>3</sup>Suggested Generic RCLs for PAHs from WDNR's Soil Cleanup Levels for PAHs Interim Guidance dated 1997

51 Exceeds Applicable NR 720 RCL

4,700 Exceeds NR 746 Soil Screening Levels



#### 2.6 Conclusions

Boring GP-1 and GP-2 consisted of approximately 3.5 to 5.0 feet of fill (silty sand) overlying brown clayey silt. Groundwater was not encountered in the borings. PID readings from soil collected and screened were less than 3 PID units, except for a sample collected from 5.5 feet to the termination of the boring (8.0 feet), which had a PID reading of 193.4 units. PID screening results for soil samples are summarized on the WDNR Soil Boring Log Information Forms in Section 3.2.

Laboratory analytical results and field observations indicate evidence of petroleum-related impacts at the Fosterling property.

#### 2.7 Recommendations

STS recommends that WisDOT notify the Wisconsin Department of Natural Resources (WDNR) of soil regulatory exceedances which were detected for VOCs and GRO. Accordingly, the WDNR may require that the responsible party perform a site assessment.

In addition, STS recommends that WisDOT utilize special provisions with the selected contractor during construction in this area.

#### 2.8 General Qualifications

Conclusions presented in this report are based on field observations documented in the Phase I report and subsurface conditions as revealed in soil borings at locations identified on the figures. Stratification lines shown on the boring logs (Section 3.2) represent approximate boundaries between soil types. Variations may exist in both the horizontal and vertical directions between boring locations. In addition, seasonal and annual fluctuations of the groundwater table may influence the distribution of compounds in the subsurface environment causing variations in groundwater quality.

STS has prepared this report at the request of our Client. STS assumes responsibility for the accuracy of the contents of this report, subject to what is stated elsewhere in this section, but recommends this report be used only for the purposes intended by the Client and STS at the time this report was prepared. This report may be unsuitable for other uses, and reliance on its content by anyone other than the Client is done at the sole risk of the user. Our interpretations of results represent our scientific judgement based on available information. No other warranties, either expressed or implied, are made.

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3.0 APPENDICES

3.1 Photo Log



View to the southeast of Fosterling property site. The two soil sample locations are identified with orange traffic cones.



View to the east of Fosterling property site. The two soil sample locations are identified with orange traffic cones.



## 3.2 WDNR Soil Boring Log Information Forms

State of Wisconsin Department of Natural Resources

SOIL BORING	LOG INFORMATION
Form 4400-122	Rev. 7-98

Rev 7-98

Depai	unent c	/i i vati		ources							1	orm.	+400-12	2		R	50. 7-9	0
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Borin	σ Drille	d Bv	Name	of crew (	chief (first last	) and Firm	 Dat	te Dri	lling S	tarted		D	ate Drill	ing Co	mplete			ling Method
Kit	son Fr	nviro	nment	tal - G	Kitson -	.,						·.				-		ning method
STS	S Proj	ect N	0.278	811XV	K113011 -				2/23	/2005	;			2/23/2	2005		di	rect push
WIU	nique W	Vell No	0.	DNR	Well ID No.	Common Well Nam	e Fin	al Sta	tic Wa	ater Lev	vel	Surfa	ce Eleva	tion		Bo	rehole	Diameter
						GP-1			Feet 1	MSL			Fee	et MS	L		2.0	inches
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I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm			
	1.1111	STS Consultants Ltd.		Tel: 920-468-1978
En C. S. I.I.F		1035 Kepler Drive Green Bay, Wisconsin 54311		Fax: 920-468-3312
المستحد مستجهد المستحد ويستجد ويتعدين أبركها مندكل أأته التطبي متكلك محدد بمجرد المتجاهدا فساعه كالمتعارك	_		and the second	

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

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State of Wisconsin Department of Natural Resources

#### SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To:	Watershed/Wastewater 🗌	

Remediation/Redevelopment

Waste Management 
Other

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Borin	g Drille	d By:	Name	of crew chief (first. last	) and Firm	Date Dr	illing S	Started		Da	te Drill	ing Co	mplete		Drill	ing Method
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ST	S Proj	ect N	<u>o. 278</u>	JDNR Well ID No	Common Well Name	- Final St	2/23	3/2005	vel	Surfac	e Fleva	2/23/	2005	IR	di	rect push
WIU	inque v		).	DIAK WEII ID NO.	GP-2		Feet	MSL	VCI	Suriac	Fee	et MS	L		2.0	inches
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GP.	12		-	- frozen to moist						-						
			-1.5				SM								1 ·	
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			-3.0										1			
2	24		-	Gray clayey silt (CL-M	1L) - little sand - trace g	gravel - odoi	r	HIH	į.	2.1						
GP			-4.5	- moist			сг-м	I								
			-				<u> </u>		1							
3 GP	30		-6.0	Brown clayey silty (Cl strong odor	L-ML) - little sand - trac	e gravel -	1.			193.4						
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1 nere	by certi	iy that	the inf	ormation on this form is	s true and correct to the	e best of m	y knov	viedge.								
Signa	uic	_		• •	Jrum ST	S Consul	Itants	Ltd.							Tel: 9	20-468-1978

SignatureFirmSTS Consultants Ltd.<br/>1035 Kepler Drive Green Bay. Wisconsin 54311Tel: 920-468-1978<br/>Fax: 920-468-3312

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.



3.3 WDNR Well/Drillhole/Borehole Abandonment Forms

13

State of Wisconsin Department of Natural Resources

Notice: Please complete Form 3300-5 and return it to the appropriate DNR office and bureau. Completion of this report is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See the instructions for more information.

(1) CEXERAL INFORMATION       (2) FACILITY / OWNER INFORMATION         Wildique Weil No.       DNR Well DNO.       Marathon       Facility Name         Common Well Name       GP-1       Gov/Lot (if applicable)       LicensoPermit/Monitoring No.         SW 1/4 of SW. 1/4 of SW. 1/4 of Sec. 3.1       ; T. 29       N. K. 2       W         Grid Location	Route to: Drinking Water Watershed/Wastewater Waste Managen	nent Remediation/Redevelopment Other
WI Unique Well No.       DNK Well DNo.       Marathon       Pacility Name         Common Well Name       GP-1       Govit Lot (if applicable)       Facility ID       License/Permit/Monitoring No.         SW       I/4 of Sec.       31.       ; T.       29       K         Grid Location       n       N.       S.       n.       Chr.         Local Grid Origin       (estimated []) or Well Location []       WisDOT       WisDOT         State Plane       n.       n.       n.       n.         State Plane       n.       n.       n.       n.         Original Construction Date       2/23/2005       Chr.       No       No Not Applicable         Original Construction Date       2/23/2005       Chr.       No       No Not Applicable         Original Construction Type       If a Well Construction Report       Yes       No       Not Applicable         Original Construction Type       Drithole / Borchole       Casing Cut Of Thelow Surface?       Yes       No         Original Construction Type       If a Well Construction Report       Yes       No       Not Applicable         Original Construction Type       Construction Type       No       Not Applicable       Secret Address or Route of Owner       No	(1) GENERAL INFORMATION	(2) FACILITY /OWNER INFORMATION
Marathon       WisDOT STH 13         Common Well Name       GP-1         Gord Loasion       Gov Lot (if applicable)         SW       1/4 of SW         Call Gid Origin       (estimated) or will Loasion         Lat	WI Unique Well No. DNR Well ID No. County	Facility Name
Common Well Name       OP-1       Gov1 Lot (if applicable)         SW       1/4 of SW       1/4 of Sec.       31       ; T.       29       N. R.       2       Sec.         Grid Location       n       n.       s.       n.       n.       N. R.       2       Sec.       Sec.<	Marathon	WisDOT STH 13
SW       I/4 of Set.       31       ; T.       29       N.K       2       2       W         Stretz Address of Well            Stretz Address of Well	Common Well Name GP-1 Gov't Lot (if applicable)	
Grid Location       I12 North 4fth Street         Intermediate Control       Intermediate         Local Grid Origin       (estimated:         Intermediate       Intermediate         Intermediate       Intermediate <td>SW 1/4 of SW 1/4 of Sec. 31 . T 29 N/P 2 Z E</td> <td>Street Address of Well</td>	SW 1/4 of SW 1/4 of Sec. 31 . T 29 N/P 2 Z E	Street Address of Well
n       N       S.       n.       City. Village, or Town         Local Grid Origin       (estimated:       ) or Well Location       WisDOT       WisDOT         Lat	Grid Location	112 North 4th Street
Local Grid Origin       (estimated: ) or Well Location         Lat	ft. □ N. □ S.,ft. □ E. □ W.	City, Village, or Town
Intermediate in the second	Local Grid Origin (estimated: ) or Well Location	Abbotsford
Lat		Present Well Owner Original Owner
State Plane       ft. N.       ft. E       intervention of a chandonment         Reason For Abandonment       WI Unique Well No.       City, State, Zip Code         completed sampling       of Replacement Well       Abbotsford, Wisconsin         (3) WELL/DRILLINOLE/BOREHOLE INFORMATION       (4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL         Original Construction Date       2/23/2005       with ref(3) Removed?       Ves       No       Not Applicable         Diritiol (J) Well       If a Well Construction Report       is available, please attach.       Pump & Priping Removed?       Ves       No       Not Applicable         Construction Type:       Drilled       Driven (Sandpoint)       Dug       Out Sealing Material Rise to Surface?       Yes       No         Mucrosolisted Formation       Bedrock       Total Well Depth (ft)       8.0       Casing Depth (ft)       Conductor Pipe - Fumped         Correcte       Casing Depth (ft)       Sorgen Renoved?       Ves       No       No         Was Well Annular Space Grouted?       Yes       No       Conductor Pipe - Fumped         Casing Depth (ft)       Sorgen Renoved?       Yes       No         Was Well Annular Space Grouted?       Yes       No       No         Was Well Annular Space Grouted?       Yes       No	Lat Long or	WISDUI WISDUI
Reason For Abandonment       WI Unique Well No.       City, State, Zip Code         completed sampling       of Replacement Well       Abbotsford. Wisconsin         (3) WELL/DRUERDERICE INFORMATION       (4) PUMP_LINER, SCREEN, CASING, & SEALING MATERIAL         Original Construction Date       _2/23/2005         Monitoring Well       If a Well Construction Report         Drilhole / Borchole       Screen Removed?         Construction Type:       Driven (Sandpoint)         Drilhole / Borchole       Driven (Sandpoint)         Conductor Pipe - Gravity       Yes         Montoring well       Bedrock         Formation Type:       Casing Depth (ft.)         Conductor Pipe - Gravity       Conductor Pipe - Pumped         Screene Removed?       Yes         Ves       No         Moder Depth (ft)       8.0         Lower Drillhole Diameter (in.)       Casing Depth (ft.)         Was Well Annular Space Grouted?       Yes       No         Mik Ratio       Screenene (Concrete)       Granular Bentonite         (b)       Sealing Material Used       For monitoring wells and montoring wells and montoring wells and montoring wells and or Mud Weight         (c)       Sealing Material Used       For (Ft.)       To (Ft.)       Sacks Sealant       Mik Ratio     <	State Plane ft. N ft. E.	
completed sampling       of Replacement Well       Abbotsford. Wisconsin         (3) WELL/DRILLHOLF/BOREHOLE INFORMATION       (4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL         Original Construction Date       _2/23/2005         Monitoring Well       If a Well Construction Report         is available, please stack.       Pump & Piping Removed?       Yes       No       Not Applicable         Construction Type:       Drilhole / Borehole       No       Not Applicable       Casing Left in Place?       Yes       No         Montoring Well       If a Well Construction Report       is available, please stack.       No       Not Applicable         Construction Type:       Driven (Sandpoint)       Dug       No       Not Applicable         Construction Type:       Orther (Specify)       direct push       Yes       No         Formation Type:       Casing Depth (f)       Bedrock       Required Method of Placing Sealing Material is State After 24 Hours?       Yes       No         Lower Drilhole Dameter (in.)	Reason For Abandonment   WI Unique Well No.	City, State, Zip Code
(3) WELL/DRILLHOLE/BOREHOLE INFORMATION       (4) PUMP, LINER, SCREEN, CASING, & SEALING MATTERIAL         Original Construction Date       2/23/2005         Monitoring Well       If a Well Construction Report         Dirithole / Borehole       If a Well Construction Report         Construction Type:       Dirithole / Borehole         Order (Specify)       direct push         Formation Type:       Dirithole / Borehole         Construction Type:       Dirithole / Borehole         Monitoring Well       Bertonite         Maine Crype       Wast Chaing Cut Off Below Surface?         Maine Consolidated Formation       Bedrock         Total Well Depth (ft)       8.0         Lower Drillhole Diameter (in.)       Casing Depth (ft.)         Was Well Annular Space Grouted?       Yes         Waster (Feet)       Feet         Depth to Water (Feet)       Feet         Depth to Water (Feet)       From (Ft.)         To Sealing Material Used       From (Ft.)         To Sealing Material Used       From (Ft.)         Streace       8.0       0.25         Main Space Grouted?       Yes         Streace       Sacks Sealant       Mix Raing Material Sing Partial Sing Parti	completed sampling of Replacement Well	Abbotsford, Wisconsin
Original Construction Date       2/23/2005         Monitoring Well       If a Well Construction Report         Water Well       If a Well Construction Report         Drillhole / Borchole       Stream Removed?       Yes       No       Not Applicable         Construction Type:       Drillhole / Borchole       Other (Specify)       direct push       Yes       No       Not Applicable         Formation Type:       Drillhole / Gravity       Graduat Rise to Surface?       Yes       No         Water Vall       Bedrock       If Yes, Was Hole Retopped?       Yes       No         Formation Type:       Casing Depth (Rt)       Casing Depth (Rt)       Casing Depth (Rt)       Casing Depth (Rt)       Conductor Pipe - Pumped         Scaling Well Well Annular Space Grouted?       Yes       No       No       No       No         Uwer Drillhole Diameter (in.)       Casing Depth (Rt)       Sealing Materials       For monitoring wells and	(3) WELL/DRILLHOLE/BOREHOLE INFORMATION	(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL
Image: Source of the second served of the second served	Original Construction Date 2/23/2005	Pump & Piping Removed? 🛛 🔤 Yes 🔲 No 🖾 Not Applicable
Monitoring weil       If a Well Construction Report         Water Well       If a Well Construction Report         Drillhole / Borehole       Casing Cut Off Below Surface?       Yes       No         Construction Type:       Drill d       Driven (Sandpoint)       Dug         Motioning Well       Driven (Sandpoint)       Dug       Was Alobe Retoped?       Yes       No         Motioning Well       Driven (Sandpoint)       Dug       Was Hole Retoped?       Yes       No         Motioning Well       Driven (Sandpoint)       Dug       Was Hole Retoped?       Yes       No         Motioning Well       Driven (Sandpoint)       Dug       Required Method of Placing Sealing Material       Conductor Pipe - Pumped         Formation Type:       Muconsolidated Formation       Bedrock       Conductor Pipe - Gravity       Conductor Pipe - Pumped         Construction form ground surface?       Casing Depth (ft)       Screened & Pourad       Other (Explain) Gravity         Was Well Annular Space Grouted?       Yes       No       Unknown       Screened & Pourad       Screened & Fourat       Granular Bentonite         Was Well Annular Space Grouted?       Yes       No       Unknown       Screened & Pourad       Granular Bentonite         (5)       Sealing Material Used       From (F		Liner(s) Removed? Liner(s) Removed? Liner(s) Removed?
Image: Second State State State Second State State State Second State St	If a Well Construction Report	Screen Removed?
Drinker Journal Processing Construction Type:       Was Casing Cut Off Below Surface?       Yes       No         Drilled       Driven (Sandpoint)       Dug       Did Sealing Material Sette After 24 Hours?       Yes       No         Drilled       Driven (Sandpoint)       Dug       Did Material Sette After 24 Hours?       Yes       No         Formation Type:       Material Sette After 24 Hours?       Yes       No         Material Sette After 24 Hours?       Yes       No         If Yes, Was Hole Retopped?       Yes       No         It on ther (Specify)       direct push       Conductor Pipe - Gravity       Conductor Pipe - Pumped         Screened & Poured       Screened & Poured       Other (Explain) Gravity       Gravity         Bentonite Chips       Scaling Materials       For monitoring wells and monitoring wells and monitoring wells and monitoring wells and monitoring well boreholes only         Was Well Annular Space Grouted?       Yes       No       Unknown         If Yes, To What Depth?       Feet       Bentonite-Sand Slurry       Bentonite Chips         Orther (Feet)       Sealing Material Used       From (Ft.)       To (Ft.)       Sacks Sealant       Mix Ratio         (5)       Sealing Material Used       From (Ft.)       To (Ft.)       Sacks Sealant       or Mud Weight     <	Drillhole (Borshole)	Casing Left in Place? <u>Yes</u> No
Construction Type:       Driven (Sandpoint)       Dug         Didl Sealing Material Rise to Surface?       Yes       No         Construction Type:       Did Material Statte After 24 Hours?       Yes       No         Formation Type:       Casing Diameter (in.)       Casing Diameter (in.)       Casing Depth (ft.)       Conductor Pipe - Gravity       Conductor Pipe - Pumped         Conductor Pipe - Gravity       Conductor Pipe - Gravity       Conductor Pipe - Pumped       Screened & Poured       Other (Explain) Gravity         Lower Drillhole Diameter (in.)       Casing Depth (ft.)       Scaling Materials       For monitoring wells and monitoring wells and monitoring wells and coment Concrete Grout       Bentonite Chips         Was Well Annular Space Grouted?       Yes       No       Unknown       Bentonite Chips         If Yes, To What Depth?       Feet       Bentonite Chips       Granular Bentonite       Bentonite Chips         (5)       Sealing Material Used       From (Ft.)       To (Ft.)       Sacks Sealant       Mix Ratio or Mud Weight         Bentonite       Surface       8.0       0.25       Image: Surface       8.0       0.25         (6) Comments       2/23/05       Date of Abandonment       2/23/05       YOR DNR OR COUNTY USE ONLY.       Date Received       Noted By         Singapure of Person Do		Was Casing Cut Off Below Surface? Yes X No
□ Drilled       □ Driven (Sandpoint)       □ Dug       Did Material Settle After 24 Hours?       □ Yes       No         □ Other (Specify)       direct push       □ Yes       No       No       Required Method of Placing Sealing Material         □ Other (Specify)       direct push       □ Sealing Material       □ Conductor Pipe - Gravity       □ Dethore Chips         Lower Drillhole Diameter (in.)		Did Sealing Material Rise to Surface? Yes No
If Yes, Was Hole Recoped?       Yes       No         Formation Type:       Required Method of Placing Sealing Material       Conductor Pipe - Gravity       Conductor Pipe - Pumped         Mathematical Weak Hole Recoped?       Was Hole Recoped?       Yes       No         Pormation Type:       Conductor Pipe - Gravity       Conductor Pipe - Pumped       Screened & Poured       Conductor Pipe - Pumped         Material Weak Hole Recoped?       Was Hole Recoped?       Was Hole Recoped?       Was Hole Recoped?       Yes       No         Total Well Depth (ft)       8.0       Casing Depth (ft.)       Conductor Pipe - Gravity       Conductor Pipe - Pumped         Lower Drillhole Diameter (in.)       Casing Depth (ft.)       Screened & Poured       Other (Explain) Gravity         Was Well Annular Space Grouted?       Yes       No       Unknown       Screened & Screened & Screened & Conductor Pipe - Gravity         Was Weil Annular Space Grouted?       Yes       No       Unknown       Bentonite-Sand Slurry       Bentonite-Chips         (5)       Sealing Material Used       From (Ft.)       To (Ft.)       Sacks Sealant       Mix Ratio         (6) Comments	Drilled Driven (Sandpoint) Dug	Did Material Settle After 24 Hours? Yes X No
Formation Type:       Required Method of Placing Sealing Material         Ø Unconsolidated Formation       Bedrock         Total Well Depth (ft)       8.0       Casing Diameter (in.)         (From ground surface)       Casing Depth (ft.)       Sealing Materials         Lower Drillhole Diameter (in.)       Sealing Materials       For monitoring wells and connent (Concrete) Grout         Was Well Annular Space Grouted?       Yes       No       Unknown         If Yes, To What Depth?       Feet       Bentonite-Sand Slurry       Bentonite Chips         (5)       Sealing Material Used       From (Ft.)       To (Ft.)       Sacks Sealant       Mix Ratio or Mud Weight         Bentonite       Surface       8.0       0.25       Mix Ratio or Mud Weight         (6) Comments       Tot Ferson Doing Work       Date of Abandonment       2/23/05       FOR DNR OR COUNTY USE ONLY         Signature of Person Doing Work       Date Signed       Alt Robot       Noted By	Other (Specify) direct push	If Yes, Was Hole Retopped?
Image: Second surface       Image: Second sur	Formation Type:	Required Method of Placing Sealing Material
Total Well Depth (ft)       8.0       Casing Diameter (in.)	Unconsolidated Formation	Conductor Pipe - Gravity Conductor Pipe - Pumped
Total Well Depth (ft)       8.0       Casing Diameter (in.)		Destervite Chine)
Casing Depth (ft.)       Sealing Materials       For monitoring wells and monitoring mells and monitoring mells and monitoring wells and monitoring w	Total Well Depth (ft) Casing Diameter (in.)	
Lower Drillhole Diameter (in.)       Inducting well doleholes only         Was Well Annular Space Grouted?       Yes       No       Unknown         If Yes, To What Depth?       Feet       Bentonite       Bentonite Chips         Depth to Water (Feet)       Feet       Bentonite       Bentonite - Sand Slurry       Bentonite - Sand Slurry         (5)       Sealing Material Used       From (Ft.)       To (Ft.)       Sacks Sealant       Mix Ratio or Mud Weight         Bentonite       Surface       8.0       0.25       Importance         (6) Comments       Date of Abandonment       2/23/05       FOR DNR OR COUNTY USE ONLY         Signature of Person Doing Work       Date Signed       Mate Received       Noted By	Casing Depth (ft.)	Next Compart Grout Por monitoring wells and
Was Well Annular Space Grouted?       Yes       No       Unknown       Concrete       Bentonite Chips         If Yes, To What Depth?	Lower Drillhole Diameter (in.)	Sand-Cement (Concrete) Grout
was were Antitulal space Glouted?       Ites 25 No       Other Clay-Sand Slurry       Granular Bentonite         If Yes, To What Depth?       Feet       Bentonite-Sand Slurry       Bentonite-Cement Grout         Depth to Water (Feet)       Chipped Bentonite       Bentonite - Sand Slurry         (5)       Sealing Material Used       From (Ft.)       To (Ft.)       Sacks Sealant       Mix Ratio or Mud Weight         Bentonite       Surface       8.0       0.25       Image: Clay-Sand Slurry       Image: Clay-Sand Slurry         (6) Comments       Image: Clay-Sand Slurry       Image: Clay-Sand Slurry       Image: Clay-Sand Slurry       Image: Clay-Sand Slurry         (7) Name of Person or Firm Doing Sealing Work       Date of Abandonment       2/23/05       FOR DNR OR COUNTY USE ONLY         Signature of Person Doing Work       Date Signed       Noted By         Strict C.       3/18/65       Noted By	Was Wall Annular Space Grouted? Vac No. Unknown	Concrete
If Yes, To What Depth?       Feet       Bentonite-Sand Slurry       Bentonite-Cement Grout         Depth to Water (Feet)       Chipped Bentonite       Bentonite - Sand Slurry         (5)       Sealing Material Used       From (Ft.)       To (Ft.)       Sacks Sealant       Mix Ratio or Mud Weight         Bentonite       Surface       8.0       0.25       Image: Comment Surface       Image: Comment Surface         (6) Comments       Image: Comment Surface       Date of Abandonment Z/23/05       FOR DNR OR COUNTY USE ONLY         Signature of Person or Firm Doing Sealing Work       Date Signed       Mate Signed       Noted By         Signature of Person Doing Work       Date Signed       Mate Received       Noted By		Clay-Sand Slurry Granular Bentonite
Depth to Water (Feet)       Image: Chipped Bentonite       Image: Depth to Water (Feet)         (5)       Sealing Material Used       From (Ft.)       To (Ft.)       Sacks Sealant       Mix Ratio or Mud Weight         Bentonite       Surface       8.0       0.25       Image: Depth to Water (Feet)       Image: Depth to Weight         Bentonite       Surface       8.0       0.25       Image: Depth to Water (Feet)       Image: Depth to Water (Feet) <td< td=""><td>If Yes, To What Depth? Feet</td><td>Bentonite-Sand Slurry Bentonite-Cement Grout</td></td<>	If Yes, To What Depth? Feet	Bentonite-Sand Slurry Bentonite-Cement Grout
(5)     Sealing Material Used     From (Ft.)     To (Ft.)     Sacks Sealant     Mix Ratio or Mud Weight       Bentonite     Surface     8.0     0.25       (6) Comments     Image: Strain of Person or Firm Doing Sealing Work     Date of Abandonment 2/23/05     Image: Strain of Person Doing Work     Image: Strain of Person Doing Work       (7) Name of Person Doing Work     Date Signed     Signature of Person Doing Work     Image: Strain of Person Doing Work     Image: Strain of Person Doing Work       Signature of Person Doing Work     Date Signed     3/18/05     Image: Strain of Person Doing Work     Noted By	Depth to Water (Feet)	Chipped Bentonite I Bentonite - Sand Slurry
Bentonite     Surface     8.0     0.25       Generation     Image: Surface     Image: Surface     Image: Surface       (6) Comments     Image: Surface     Image: Surface     Image: Surface       (7) Name of Person or Firm Doing Sealing Work     Date of Abandonment     Image: Surface       (7) Name of Person or Firm Doing Sealing Work     Date of Abandonment     Image: Surface       (7) Name of Person or Firm Doing Sealing Work     Date of Abandonment     Image: Surface       (7) Name of Person Doing Work     Image: Surface     Image: Surface       (7) Name of Person Doing Work     Image: Surface     Image: Surface       (7) Name of Person Doing Work     Image: Surface     Image: Surface       (7) Name of Person Doing Work     Image: Surface     Image: Surface       (7) Name of Person Doing Work     Image: Surface     Image: Surface       (7) Name of Person Doing Work     Image: Surface     Image: Surface       (7) Name of Person Doing Work     Image: Surface     Image: Surface       (7) Name of Person Doing Work     Image: Surface     Image: Surface       (8) Surface     Image: Surface     Image: Surface       (9) Surface     Image: Surface     Image: Surface       (9) Surface     Image: Surface     Image: Surface       (9) Surface     Image: Surface     Image: Surface	(5) Sealing Material Used	From (Ft.) To (Ft.) Sacks Sealant Mix Ratio or Mud Weight
Bentonite     Surface     8.0     0.25       (6) Comments		
(6) Comments       (7) Name of Person or Firm Doing Sealing Work       Date of Abandonment       SIGnature of Person Doing Work       Date Signed       J18/65	Bentonite	Surface 8.0 0.25
(6) Comments       (7) Name of Person or Firm Doing Sealing Work       STS Consultants Ltd.       2/23/05       Signature of Person Doing Work       Date Signed       3/18/65		
(6) Comments (7) Name of Person or Firm Doing Sealing Work STS Consultants Ltd. Signature of Person Doing Work Jate Signed Jate Sign		
(6) Comments     (7) Name of Person or Firm Doing Sealing Work     Date of Abandonment       STS Consultants Ltd.     2/23/05     FOR DNR OR COUNTY USE ONLY       Signature of Person Doing Work     Date Signed     Date Received       Signature of Submitt     3/18/65     Noted By		
(6) Comments       (7) Name of Person or Firm Doing Sealing Work       STS Consultants Ltd.       2/23/05       Signature of Person Doing Work       Date Signed       Jair C. Submitt       3/18/65		
(7) Name of Person or Firm Doing Sealing Work     Date of Abandonment       STS Consultants Ltd.     2/23/05       Signature of Person Doing Work     Date Signed       Mathematical Signed     Date Signed       Mathematical Signed     Noted By	(6) Comments	
(7) Name of Person or Firm Doing Sealing Work     Date of Abandonment       STS Consultants Ltd.     2/23/05       Signature of Person Doing Work     Date Signed       Date Signed     Noted By       3/18/65		
STS Consultants Ltd.     2/23/05     FOR DIR OR COUNTY USE ONLY       Signature of Person Doing Work     Date Signed     Date Received     Noted By       Jai:     Signature     3/18/65     Signature     Signature	(7) Name of Person or Firm Doing Sealing Work Date of Abandonn	nent
Signature of reison Doing work Date signed Date Received Wiley By	STS Consultants Ltd. 2/23/05	Date Despired
12 JIKIOS	Date Signed	Mail Recureu Mulcurdy
Street or Route Telephone Number Comments	Street or Route Telephone Number	Comments
1035 Kepler Drive 920-468-1978	1035 Kepler Drive 920-468-1978	
City, State, Zip Code	City, State, Zip Code	
		ga sa

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State of Wisconsin Department of Natural Resources WELL/DRILLHOLE/BOREHOLE ABANDONMENTForm 3300-52/2000Page 1 of 2

Notice: Please complete Form 3300-5 and return it to the appropriate DNR office and bureau. Completion of this report is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See the instructions for more information.

Route to: Drinking Water Watershed/Wastewater Waste Manager	ent Ren	nediation/Redev	elopment Other	
(1) GENERAL INFORMATION	(2) FACILI	TY /OWNEI	R INFORMATION	
WI Unique Well No. DNR Well ID No. County	Facility Nan	ne		
Marathon	WisDOT	T STH 13		
Common Well Name GP-2 Gov't Lot (if applicable)	Facility ID		License/Permit/Me	onitoring No.
$\frac{SW}{Grid Location} \frac{1/4 \text{ of } SW}{1/4 \text{ of Sec. } 31 \text{ ; } T. 29 \text{ N; } R. 2 W}$	Street Addre	ess of Well th 4th Street		
	City, Village	e, or Town		
	Abbotsf	ord ·-		
Local Grid Origin (estimated: ) or Well Location	Present Wel	l Owner	Original (	Dwner
Lat Long or or	WisDO1	<u> </u>	WisD	T
State Plane ft. N ft. E. $\Box$ $\Box$ Zone	Street Addre	ess or Route of (	Dwner	
Reason For Abandonment WI Unique Well No.	City, State, 2	Zip Code		
completed sampling of Replacement Well	Abbotsfo	ord, Wisconsi	n	
(3) WELL/DRILLHOLE/BOREHOLE INFORMATION	(4) PUMP, 1	<u>LINER, SCR</u>	EEN, CASING, &	SEALING MATERIAL
Original Construction Date 2/23/2005 Monitoring Well Water Well If a Well Construction Report is available. please attach.	Pump & Liner(s) Screen	& Piping Remov ) Removed? Removed? Left in Place?	ed?	No Not Applicable No Not Applicable No Not Applicable
Drillhole / Borehole	Wee Ce			
Construction Type:	Was Ca	lsing Cut Off Be	ise to Surface?	
Drilled Driven (Sandpoint) Dug	Did Sea	terial Settle Aft	er 24 Hours?	$\nabla \operatorname{res} \square \operatorname{No}$
	If Yes	s Was Hole Ret	conned?	
Other (Specify)				
Formation Type:		a Method of Pla	acing Sealing Material	
Unconsolidated Formation		nductor Pipe - ( reened & Poure	d Other	uctor Pipe - Pumped r (Explain) Gravity
Total Well Depth (ft) 8.0 Casing Diameter (in.)	(E	Bentonite Chips	)	
(From ground surface) Casing Depth (ft.)		Materials	Fo	r monitoring wells and
Lower Drillhole Diameter (in.)		at Cement Grou nd-Cement (Cor	nt mo ncrete) Grout	mitoring well boreholes only
Was Well Annular Space Grouted? 🛛 Yes 🛛 No 🗍 Unknown		ncrete		Bentonite Chips
If Yes, To What Denth? Feet		y-Sand Slurry		Granular Bentonite
		ntonite-Sand Sl	urry IL	Bentonite-Cement Grout
Depth to Water (Feet)	Ch	ipped Bentonite	;, IL 1	Bentonite - Sand Slurry
(5) Sealing Material Used	From (Ft.)	To (Ft.)	Sacks Sealant	Mix Ratio or Mud Weight
Bentonite	Surface	8.0	0.25	
(6) Comments				
		<u> </u>		
(7) Name of Person or Firm Doing Sealing Work Date of Abandonn	nent	го	P DND OD COUNTY	USE ONLY
STS Consultants Ltd. 2/23/05	n	rU Deceived	Natad D	UDE UNE I
Signature of reison Doing work	Date	C INCLUIVEU	TOILD DY	
Street of Route Telephone Number	Con	iments		
1035 Kenler Drive 020-468-1078				
City, State, Zip Code	— I —			د: <del>بارت داری در در از آن آن از از از از از از از</del>
Green Bay, Wisconsin 54311				
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## 3.4 Laboratory Reports and Chain of Custody Forms

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## **Cover Page**

All analyses performed according to EPA Methods (EPA-600/4-79/020, March 1983 or SW-846, Third Edition). Sample chain-of-custody form(s) attached.

Client: STS Consultants - Green Bay

WWA Job #: 21615

Project: Date Received:	27811XV 2/25/2005	Sample Matrix: Date Reported:	Soil 3/17/2005
Sample Number	Client Sample ID	Date Sampled	
21615-001	GP-1 (2-4)	02/23/05	
21615-002	GP-1 (5-8)	02/23/05	
21615-003	GP-2 (0-3.5)	02/23/05	
21615-00 <u>4</u>	GP-2 (5.5-8)	02/23/05	
21615-00 <u>5</u>	GP-3 (3-6.5)	02/23/05	
21615-006_	GP-3 (6.5-8)	02/23/05	
21615-007_	GP-4 (3-5)	02/23/05	
21615-008	GP-4 (5-8)	02/23/05	
21615-009	GP-5 (3-5)	02/23/05	
21615-0 <u>10</u>	GP-5 (5-8)	02/23/05	
21615-0 <u>11</u>	GP-6 (2.5-6)	02/23/05	
21615-012	GP-6 (6-8)	02/23/05	
21615-0 <u>13</u>	GP-7 (0.3-2.5)	02/23/05	
21615-014	GP-7 (2.5-8)	02/23/05	
21615-0 <u>15</u>	GP-8 (4-8)	02/23/05	
21615-0 <u>16</u>	GP-9 (4-8)	02/23/05	
21615-0 <u>17</u>	GP-10 (3.5-8)	02/23/05	
21615-0 <u>18</u>	GP-11 (0-4.5)	02/23/05	
21615-019	GP-11 (4.5-8)	02/23/05	
21615-0 <u>20</u>	GP-12 (0-4.5)	02/23/05	
21615-0 <u>21</u>	GP-12 (4.5-8)	02/23/05	
21615-0 <u>22</u>	GP-13 (0-4)	02/23/05	
21615-023	GP-13 (4-8)	02/23/05	
21615-024	GP-14 (0-4)	02/23/05	·
21615-025-	GP-14 (4-8)	02/23/05	
21615-026	GP-15 (0-1)	02/23/05	

429 River Lane •



Comments (if any):

#### Key to Laboratory Flags:

B: The analyte was found in the associated blank as well as in the sample.

J: The analyte was positively identified, the quantitation is an estimation.

M: A matrix effect was present.

Q: Batch QC data associated with samples does not meet stated objectives.

U: The analyte was analyzed for, but not detected. The associated numerical value is at or below the MDL.

I certify that the data contained in this Final Report has been generated and reviewed in accordance with approved methods and White Water Associates Standard Operating Procedures. Exceptions, if any, are discussed in the accompanying sample narrative. Release of this Final Report is authorized by White Water Associates management, as is verified by the following signature.

**Approved By:** 

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Client: STS Consultants - Green Bay

WWA Job #: 21615

**Project:** 27811XV **Date Received:** 2/25/2005

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Sample Matrix: Soil **Date Reported:** 3/17/2005

Trace Metals in Solids										
Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL				
21615-005 / GP-3 (3-6.5)										
Lead (s)	120	mg/kg	3/1/2005	6010B	1	3				
21615-008 / GP-4 (5-8)										
Lead (s)	130	mg/kg	3/1/2005	6010B	1	3				
21615-009 / GP-5 (3-5)										
Lead (s)	140	mg/kg	3/1/2005	6010B	1	4				
21615-012 / GP-6 (6-8)										
Lead (s)	130	mg/kg	3/1/2005	6010B	1	3				
21615-014 / GP-7 (2.5-8)										
Lead (s)	130	mg/kg	3/1/2005	6010B	1	3				
21615-019 / GP-11 (4.5-8)										
Lead (s)	130	mg/kg	3/1/2005	6010B	1	3				
21615-021 / GP-12 (4.5-8)										
Lead (s)	140	mg/kg	3/1/2005	6010B	1	3				
21615-023 / GP-13 (4-8)										
Lead (s)	130	mg/kg	3/1/2005	6010B	1	3				

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 1 of 2



Client: STS Consultants - Green Bay

WWA Job #: 21615

Sample Matrix: Soil **Project:** 27811XV **Date Received: Date Reported:** 3/17/2005 2/25/2005 TCLP - Metals - EPA 1311/7000 Sample / Client Sample ID Result Units Date Method MDL MQL 21615-005 / GP-3 (3-6.5) Lead (TCLP) 0.006 J 3/11/2005 6010B 0.003 mg/L 0.009 21615-014 / GP-7 (2.5-8) Lead (TCLP) mg/L 3/11/2005 6010B 0.003 0.015 0.009 21615-017 / GP-10 (3.5-8) Lead (TCLP) 6010B 0.009 J mg/L 3/11/2005 0.003 0.009 21615-021 / GP-12 (4.5-8) 3/11/2005 Lead (TCLP) 0.012 mg/L 6010B 0.003 0.009 21615-026 / GP-15 (0-1) 3/11/2005 Nickel (TCLP) 0.014 mg/L 6010B 0.001 0.003 Arsenic (TCLP) mg/L 3/11/2005 6010B 0.006 0.020 ND Barium (TCLP) mg/L 3/11/2005 6010B 0.0003 0.412 0.001 Cadmium (TCLP) ND mg/L 3/11/2005 6010B 0.001 0.003 Chromium (TCLP) mg/L 3/11/2005 6010B 0.001 0.003 0.006 Copper (TCLP) 0.010 mg/L 3/11/2005 6010B 0.001 0.003 Lead (TCLP) 3/11/2005 6010B 0.003 0.009 0.024 mg/L Mercury (TCLP) mg/L 3/11/2005 7470A 0.0001 0.0004 ND Selenium (TCLP) mg/L 3/11/2005 6010B 0.006 0.020 ND ND 6010B 0.0003 Silver (TCLP) mg/L 3/11/2005 0.001 Zinc (TCLP) 0.113 mg/L 3/11/2005 6010B 0.003 0.010

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 1 of 2
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Client: STS Consultants - Green Bay

WWA Job #: 21615

 Project:
 27811XV

 Date Received:
 2/25/2005

Sample Matrix: Soil Date Reported: 3/8/2005

### Volatile Organics

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL	
21615-001 / GP-1 (2-4)							
Dichlorodifluoromethane	ND	ug/kg	2/28/2005	8260B	88	180	
Chloromethane	ND	ug/kg	2/28/2005	8260B	88	180	
Vinyl Chloride	ND	ug/kg	2/28/2005	8260B	18	35	
Chloroethane	ND	ug/kg	2/28/2005	8260B	88	180	
Bromomethane	ND	ug/kg	2/28/2005	8260B	88	180	
Trichlorofluoromethane	ND	ug/kg	2/28/2005	8260B	18	35	
Diethyl Ether	ND	ug/kg	2/28/2005	8260B	88	180	
1,1-Dichloroethene	ND	ug/kg	2/28/2005	8260B	18	35	
Carbon Disulfide	ND	ug/kg	2/28/2005	8260B	18	35	
Methyl Iodide	ND	ug/kg	2/28/2005	8260B	18	35	
Methylene Chloride	ND	ug/kg	2/28/2005	8260B	88 .	180	
Acetone	ND	ug/kg	2/28/2005	8260B	350	700	
trans-1,2-Dichloroethene	ND	ug/kg	2/28/2005	8260B	18	35	
MtBE	ND	ug/kg	2/28/2005	8260B	18	35	
1,1-Dichloroethane	ND	ug/kg	2/28/2005	8260B	18	35	
Acrylonitrile	ND	ug/kg	2/28/2005	8260B	88	180	
Vinyl Acetate	ND	ug/kg	2/28/2005	8260B	18	35	
cis-1,2-Dichloroethene	ND	ug/kg	2/28/2005	8260B	18	35	
2,2-Dichloropropane	ND	ug/kg	2/28/2005	8260B	18	35	
Bromochloromethane	ND	ug/kg	2/28/2005	8260B	18	35	
Chloroform	ND	ug/kg	2/28/2005	8260B	18	35	
Carbon Tetrachloride	ND	ug/kg	2/28/2005	8260B	18	35	
1,1,1-Trichloroethane	ND	ug/kg	2/28/2005	8260B	18	35	
MEK	395 J	ug/kg	2/28/2005	8260B	88	700	
1,1-Dichloropropene	ND	ug/kg	2/28/2005	8260B	18	35	

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 1 of 48

429 River Lane • P.O. Box 27 • Amasa, Michigan 49903 • Phone (906) 822-7373 • FAX (906) 822-7977

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# WHITE WATER ASSOCIATES, INC.

Client: STS Consultants - Green Bay

WWA Job #: 21615

**Project:** 27811XV **Date Received:** 2/25/2005 Sample Matrix: Soil 3/8/2005 **Date Reported:** 

## **Volatile Organics**

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL	
21615-001 / GP-1 (2-4)							
Benzene	ND	ug/kg	2/28/2005	8260B	18	35	
1,2-Dichloroethane	ND	ug/kg	2/28/2005	8260B	18	35	
Trichloroethene	ND	ug/kg	2/28/2005	8260B	18	35	
Dibromomethane	ND	ug/kg	2/28/2005	8260B	18	35	
1,2-Dichloropropane	ND	ug/kg	2/28/2005	8260B	18	35	
Bromodichloromethane	ND	ug/kg	2/28/2005	8260B	18	35	
cis-1,3-Dichloropropene	ND	ug/kg	2/28/2005	8260B	18	35	
Toluene	ND	ug/kg	2/28/2005	8260B	18	35	
MIBK	ND	ug/kg	2/28/2005	8260B	88	180	
Tetrachloroethene	ND	ug/kg	2/28/2005	8260B	18	35	
trans-1,3-Dichloropropene	ND	ug/kg	2/28/2005	8260B	18	35	
1,1,2-Trichloroethane	ND	ug/kg	2/28/2005	8260B	18	35	
Dibromochloromethane	ND	ug/kg	2/28/2005	8260B	18	35	
1,3-Dichloropropane	ND	ug/kg	2/28/2005	8260B	18	35	
1,2-Dibromoethane	ND	ug/kg	2/28/2005	8260B	18	35	
2-Hexanone	ND	ug/kg	2/28/2005	8260B	88	180	
Chlorobenzene	ND	ug/kg	2/28/2005	8260B	18	35	
1,1,1,2-Tetrachloroethane	ND	ug/kg	2/28/2005	8260B	18	35	
Ethylbenzene	ND	ug/kg	2/28/2005	8260B	18	35	
m/p-Xylene	ND	ug/kg	2/28/2005	8260B	35	70	
o-Xylene	ND	ug/kg	2/28/2005	8260B ·	18	35	
Styrene	ND	ug/kg	2/28/2005	8260B	18	35	
Bromoform	ND	ug/kg	2/28/2005	8260B	18	35	
Isopropylbenzene	ND	ug/kg	2/28/2005	8260B	18	35	
n-Propylbenzene	ND	ug/kg	2/28/2005	8260B	18	35	

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

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Page 2 of 48

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# WHITE WATER ASSOCIATES, INC.

Cliante STS Consultanta Groop Day

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T-L #.

Chent: STS Consultants - Green Bay			YY YY A JUD #: 21015									
Project: Date Received:	27811XV 2/25/2005		Sample Matrix: Soil Date Reported: 3/8/2005									
	Volatile Organics											
Sample / Client S	ample ID	Result	Units	Date	Method	MDL	MQL					
21615-001 / GP-1	(2-4)											
Bromobenzene		ND	ug/kg	2/28/2005	8260B	18	35					
1,1,2,2-Tetrach1	loroethane	ND	ug/kg	2/28/2005	8260B	18	35					
2-Chlorotoluene	e	ND	ug/kg	2/28/2005	8260B	18	35.					
1,3,5-Trimethyl	benzene	ND	ug/kg	2/28/2005	8260B	18	35					
1,2,3-Trichlorop	oropane	ND	ug/kg	2/28/2005	8260B	18	35					
Trans-1,4-Dichl	oro-2-butene	ND	ug/kg	2/28/2005	8260B	18	35					
4-Chlorotoluene	e	ND	ug/kg	2/28/2005	8260B	18	35					
t-Butylbenzene		ND	ug/kg	2/28/2005	8260B	18	35					
1,2,4-Trimethyll	benzene	ND	ug/kg	2/28/2005	8260B	18	70					
s-Butylbenzene		ND	ug/kg	2/28/2005	8260B	18	35					
p-Isopropyltolue	ene	ND	ug/kg	2/28/2005	8260B	18	35					
1,3-Dichloroben	izene	ND	ug/kg	2/28/2005	8260B	18	35					
1,4-Dichloroben	izene	ND	ug/kg	2/28/2005	8260B	18	35					
n-Butylbenzene		ND	ug/kg	2/28/2005	8260B	18	35					
Hexachloroetha	ne	ND	ug/kg	2/28/2005	8260B	88	180					
1,2-Dichloroben	zene	ND	ug/kg	2/28/2005	8260B	18	35					
1,2-Dibromo-3-o	chloropropane	ND	ug/kg	2/28/2005	8260B	88	180					
Hexachlorobuta	diene	ND	ug/kg	2/28/2005	8260B	18	35					
1,2,4-Trichlorob	enzene	ND	ug/kg	2/28/2005	8260B	88	180					
Naphthalene		ND	ug/kg	2/28/2005	8260B	88	180					
1,2,3-Trichlorob	enzene	ND	ug/kg	2/28/2005	8260B	88	180					
2-Methylnaphtha	alene	ND	ug/kg	2/28/2005	8260B	88	180					

ND = Not Detected, MDL = Method Detection Limit. MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 3 of 48

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ECOLOGICAL CONSULTING AND ENVIRONMENTAL LABORATORY SERVICES

# WHITE WATER ASSOCIATES, INC.

Client: STS Consultants - Green Bay

WWA Job #: 21615

**Project:** Sample Matrix: Soil 27811XV **Date Received:** 2/25/2005 **Date Reported:** 3/8/2005 Volatile Organics Sample / Client Sample ID Units Date Method MDL Result MQL 21615-002 / GP-1 (5-8)

ł	Dichlorodifluoromethane	ND	ug/kg	2/28/2005	8260B	69	140
	Chloromethane	ND	ug/kg	2/28/2005	8260B	69	140
	Vinyl Chloride	ND	ug/kg	2/28/2005	8260B	14	28
	Chloroethane	ND	ug/kg	2/28/2005	8260B	69	140
	Bromomethane	ND	ug/kg	2/28/2005	8260B	69	140
	Trichlorofluoromethane	ND	ug/kg	2/28/2005	8260B	14	28
	Diethyl Ether	ND	ug/kg	2/28/2005	8260B	69	140
	l,1-Dichloroethene	ND	ug/kg	2/28/2005	8260B	14	28
	Carbon Disulfide	ND	ug/kg	2/28/2005	8260B	14	28
	Methyl Iodide	ND	ug/kg	2/28/2005	8260B	14	28
	Methylene Chloride	ND	ug/kg	2/28/2005	8260B	69	140
	Acetone	ND	ug/kg	2/28/2005	8260B	280	550
	trans-1,2-Dichloroethene	ND	ug/kg	2/28/2005	8260B	14	28
	MtBE	ND	ug/kg	2/28/2005	8260B	14	28
	1,1-Dichloroethane	ND	ug/kg	2/28/2005	8260B	14	28
	Acrylonitrile	ND	ug/kg	2/28/2005	8260B	69	140
	Vinyl Acetate	.ND	ug/kg	2/28/2005	8260B	14	28
	cis-1,2-Dichloroethene	ND	ug/kg	2/28/2005	8260B	14	28
	2,2-Dichloropropane	ND	ug/kg	2/28/2005	8260B	14	28
	Bromochloromethane	ND	ug/kg	2/28/2005	8260B	14	28
	Chloroform	ND	ug/kg	2/28/2005	8260B ·	14	28
	Carbon Tetrachloride	ND	ug/kg	2/28/2005	8260B	14	28
	1,1,1-Trichloroethane	ND	ug/kg	2/28/2005	8260B	14	28
	MEK	286 J	ug/kg	2/28/2005	8260B	69	550
	1,1-Dichloropropene	ND	ug/kg	2/28/2005	8260B	14	28

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 4 of 48



Client: STS Consultants - Green Bay

WWA Job #: 21615

 Project:
 27811XV

 Date Received:
 2/25/2005

Sample Matrix:SoilDate Reported:3/8/2005

### Volatile Organics

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL	
21615-002 / GP-1 (5-8)							
Benzene	ND	ug/kg	2/28/2005	8260B	14	28	
1,2-Dichloroethane	ND	ug/kg	2/28/2005	8260B	14	28	
Trichloroethene	ND	ug/kg	2/28/2005	8260B	14	28	
Dibromomethane	ND	ug/kg	2/28/2005	8260B	14	28	
1,2-Dichloropropane	ND	ug/kg	2/28/2005	8260B	14	28	
Bromodichloromethane	ND	ug/kg	2/28/2005	8260B	14	28	
cis-1,3-Dichloropropene	ND	ug/kg	2/28/2005	8260B	14	28	
Toluene	ND	ug/kg	2/28/2005	8260B	14	28	
MIBK	ND	ug/kg	2/28/2005	8260B	69	140	
Tetrachloroethene	ND	ug/kg	2/28/2005	8260B	14	28	
trans-1,3-Dichloropropene	ND	ug/kg	2/28/2005	8260B	14	28	
1,1,2-Trichloroethane	ND	ug/kg	2/28/2005	8260B	14	28	
Dibromochloromethane	ND	ug/kg	2/28/2005	8260B	14	28	
1,3-Dichloropropane	ND	ug/kg	2/28/2005	8260B	14	28	
1,2-Dibromoethane	ND	ug/kg	2/28/2005	8260B	14	28	
2-Hexanone	ND	ug/kg	2/28/2005	8260B	69	140	
Chlorobenzene	. ND	ug/kg	2/28/2005	8260B	14	28	
1, 1, 1, 2-Tetrachloroethane	ND	ug/kg	2/28/2005	8260B	14	28	
Ethylbenzene	ND	ug/kg	2/28/2005	8260B	14	28	
m/p-Xylene	ND	ug/kg	2/28/2005	8260B	28	55	
o-Xylene	ND	ug/kg	2/28/2005	8260B ·	14	28	
Styrene	ND	ug/kg	2/28/2005	8260B	14	28	
Bromoform	ND	ug/kg	2/28/2005	8260B	14	28	
Isopropylbenzene	ND	ug/kg	2/28/2005	8260B	14	28	
n-Propylbenzene	ND	ug/kg	2/28/2005	8260B	14	28	

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 5 of 48

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ECOLOGICAL CONSULTING AND ENVIRONMENTAL LABORATORY SERVICES

# WHITE WATER ASSOCIATES, INC.

Client: STS Consultants - Green Bay

WWA Job #: 21615

Soil Sample Matrix: **Project:** 27811XV Date Reported: 3/8/2005 **Date Received:** 2/25/2005 Volatile Organics Sample / Client Sample ID Result Units Date Method MDL MQL

21615-002 / GP-1 (5-8)

1015 0027 01 1 (5-8)						
Bromobenzene	ND	ug/kg	2/28/2005	8260B	14	28
1,1,2,2-Tetrachloroethane	ND	ug/kg	2/28/2005	8260B	14	28
2-Chlorotoluene	ND	ug/kg	2/28/2005	8260B	14	28
1,3,5-Trimethylbenzene	ND	ug/kg	2/28/2005	8260B	14	28
1,2,3-Trichloropropane	ND	ug/kg	2/28/2005	8260B	14	28
Trans-1,4-Dichloro-2-butene	ND	ug/kg	2/28/2005	8260B	14	28
4-Chlorotoluene	ND	ug/kg	2/28/2005	8260B	14	28
t-Butylbenzene	ND	ug/kg	2/28/2005	8260B	14	28
1,2,4-Trimethylbenzene	ND	ug/kg	2/28/2005	8260B	14	55
s-Butylbenzene	ND	ug/kg	2/28/2005	8260B	14	28
p-Isopropyltoluene	ND	ug/kg	2/28/2005	8260B	14	28
1,3-Dichlorobenzene	ND	ug/kg	2/28/2005	8260B	14	28
1,4-Dichlorobenzene	ND	ug/kg	2/28/2005	8260B	14	28
n-Butylbenzene	ND	ug/kg	2/28/2005	8260B	14	28
Hexachloroethane	ND	ug/kg	2/28/2005	8260B	69	140
1,2-Dichlorobenzene	ND	ug/kg	2/28/2005	8260B	14	28
1,2-Dibromo-3-chloropropane	ND	ug/kg	2/28/2005	8260B	69	140
Hexachlorobutadiene	ND	ug/kg	2/28/2005	8260B	14	28
1,2,4-Trichlorobenzene	ND	ug/kg	2/28/2005	8260B	69	140
Naphthalene	ND	ug/kg	2/28/2005	8260B	69	140
1,2,3-Trichlorobenzene	ND	ug/kg	2/28/2005	8260B	69	140
2-Methylnaphthalene	ND	ug/kg	2/28/2005	8260B	69	140

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 6 of 48

ECOLOGICAL CONSULTING AND ENVIRONMENTAL LABORATORY SERVICES

# WHITE WATER ASSOCIATES, INC.

Client: STS Consultants - Green Bay

WWA Job #: 21615

**Project:** 27811XV **Date Received:** 2/25/2005

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Sample Matrix: Soil **Date Reported:** 

3/8/2005

## Volatile Organics

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
21615-003 / GP-2 (0-3.5)						
Dichlorodifluoromethane	ND	ug/kg	2/28/2005	8260B	87	170
Chloromethane	ND	ug/kg	2/28/2005	8260B	87	170
Vinyl Chloride	ND	ug/kg	2/28/2005	8260B	17	35
Chloroethane	ND	ug/kg	2/28/2005	8260B	87	170
Bromomethane	ND	ug/kg	2/28/2005	8260B	87	170
Trichlorofluoromethane	ND	ug/kg	2/28/2005	8260B	17	35
Diethyl Ether	ND	ug/kg	2/28/2005	8260B	87	170
1,1-Dichloroethene	ND	ug/kg	2/28/2005	8260B	17	35
Carbon Disulfide	ND	ug/kg	2/28/2005	8260B	17	35
Methyl Iodide	ND	ug/kg	2/28/2005	8260B	17	35
Methylene Chloride	ND	ug/kg	2/28/2005	8260B	87	170
Acetone	ND	ug/kg	2/28/2005	8260B	350	700
trans-1,2-Dichloroethene	ND	ug/kg	2/28/2005	8260B	17	35
MtBE	ND	ug/kg	2/28/2005	8260B	17	35
1,1-Dichloroethane	ND	ug/kg	2/28/2005	8260B	1.7	35
Acrylonitrile	ND	ug/kg	2/28/2005	8260B	87	170
Vinyl Acetate	.ND	ug/kg	2/28/2005	8260B	17	35
cis-1,2-Dichloroethene	ND	ug/kg	2/28/2005	8260B	17	35
2,2-Dichloropropane	ND	ug/kg	2/28/2005	8260B	17	35
Bromochloromethane	ND	ug/kg	2/28/2005	8260B	17	35
Chloroform	ND	ug/kg	2/28/2005	8260B ·	17	35
Carbon Tetrachloride	ND	ug/kg	2/28/2005	8260B	17	35
1,1,1-Trichloroethane	ND	ug/kg	2/28/2005	8260B	17	35
MEK	480 J	ug/kg	2/28/2005	8260B	87	700
1,1-Dichloropropene	ND	ug/kg	2/28/2005	8260B	17	35

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 7 of 48



Client: STS Consultants - Green Bay

WWA Job #: 21615

**Project:** 27811XV Sample Matrix: Soil **Date Reported:** 3/8/2005 **Date Received:** 2/25/2005 **Volatile Organics** Sample / Client Sample ID Result Units Date Method MDL MQL

21615-003 / GP-2 (0-3.5) 8260B 17 ND ug/kg 2/28/2005 35 Benzene 1,2-Dichloroethane ND ug/kg 2/28/2005 8260B 17 35 Trichloroethene 2/28/2005 8260B 17 35 ND ug/kg Dibromomethane 2/28/2005 8260B 17 ND ug/kg 35 8260B 1,2-Dichloropropane ND ug/kg 2/28/2005 17 35 Bromodichloromethane ND ug/kg 2/28/2005 8260B 17 35 2/28/2005 8260B 17 cis-1,3-Dichloropropene ND ug/kg 35 8260B Toluene ND ug/kg 2/28/2005 17 35 MIBK ND ug/kg 2/28/2005 8260B 87 170 2/28/2005 8260B 17 Tetrachloroethene ND ug/kg 35 8260B 17 35 trans-1,3-Dichloropropene ND ug/kg 2/28/2005 1,1,2-Trichloroethane 2/28/2005 8260B 17 35 ND ug/kg Dibromochloromethane 8260B 17 35 ND ug/kg 2/28/2005 1,3-Dichloropropane ND ug/kg 2/28/2005 8260B 17 35 1,2-Dibromoethane 2/28/2005 8260B 17 ND ug/kg 35 2-Hexanone 2/28/2005 8260B 87 ND ug/kg 170 8260B 17 Chlorobenzene ND ug/kg 2/28/2005 35 17 1,1,1,2-Tetrachloroethane ND ug/kg 2/28/2005 8260B 35 Ethylbenzene ND ug/kg 2/28/2005 8260B 17 35 70 m/p-Xylene ND ug/kg 2/28/2005 8260B 35 8260B 17 o-Xylene ug/kg 2/28/2005 35 ND Styrene 2/28/2005 8260B 17 ND ug/kg 35 Bromoform 8260B 17 ND ug/kg 2/28/2005 35 Isopropylbenzene 8260B 17 ND ug/kg 2/28/2005 35 n-Propylbenzene ND ug/kg 2/28/2005 8260B 17 35

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 8 of 48

WWA Job #: 21615



Client: STS Consultants - Green Bay

Project:         27811XV         Sample Matrix:         Soil           Date Received:         2/25/2005         Date Reported:         3/8/2005											
Volatile Organics											
Sample / Client S	ample ID	Result	Units	Date	Method	MDL	MQL				
21615-003 / GP-2	(0-3.5)										
Bromobenzene		ND	ug/kg	2/28/2005	8260B	17	35				
1,1,2,2-Tetrach	loroethane	ND	ug/kg	2/28/2005	8260B	17	35				
2-Chlorotoluene	9	ND	ug/kg	2/28/2005	8260B	17	35				
1,3,5-Trimethyl	lbenzene	ND	ug/kg	2/28/2005	8260B	17	35				
1,2,3-Trichlorop	propane	ND	ug/kg	2/28/2005	8260B	17	35				
Trans-1,4-Dichl	loro-2-butene	ND	ug/kg	2/28/2005	8260B	17	35				
4-Chlorotoluene	e	ND	ug/kg	2/28/2005	8260B	17	35				
t-Butylbenzene		ND	ug/kg	2/28/2005	8260B	17	35				
1,2,4-Trimethyl	benzene	ND	ug/kg	2/28/2005	8260B	17	70				
s-Butylbenzene		ND	ug/kg	2/28/2005	8260B	17	35				
p-Isopropyltolu	ene	ND	ug/kg	2/28/2005	8260B	17	35				
1,3-Dichlorober	izene	ND	ug/kg	2/28/2005	8260B	17	35				
1,4-Dichlorober	nzene	ND	ug/kg	2/28/2005	8260B	17	35				
n-Butylbenzene		ND	ug/kg	2/28/2005	8260B	17	35				
Hexachloroetha	ne	ND	ug/kg	2/28/2005	8260B	87	170				
1,2-Dichlorober	nzene	ND	ug/kg	2/28/2005	8260B	17	35				
1,2-Dibromo-3-	chloropropane	ND	ug/kg	2/28/2005	8260B	87	170				
Hexachlorobuta	diene	ND	ug/kg	2/28/2005	8260B	17	35				
1,2,4-Trichlorob	penzene	ND	ug/kg	2/28/2005	8260B	87	170				
Naphthalene		ND	ug/kg	2/28/2005	8260B	87	170				
1,2,3-Trichlorob	benzene	ND	ug/kg	2/28/2005	8260B	87	170				
2-Methylnaphth	alene	ND	• ug/kg	2/28/2005	8260B	87	170				

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 9 of 48

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Client: STS Consultants - Green Bay

WWA Job #: 21615

Project:27811XVSample Matrix:SoilDate Received:2/25/2005Date Reported:3/8/2005

## **Volatile Organics**

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
21615-004 / GP-2 (5.5-8)						
Dichlorodifluoromethane	ND	ug/kg	2/28/2005	8260B	160	330
Chloromethane	ND	ug/kg	2/28/2005	8260B	160	330
Vinyl Chloride	ND	ug/kg	2/28/2005	8260B	33	66
Chloroethane	ND	ug/kg	2/28/2005	8260B	160	330
Bromomethane	ND	ug/kg	2/28/2005	8260B	160	330
Trichlorofluoromethane	ND	ug/kg	2/28/2005	8260B	33	66
Diethyl Ether	ND	ug/kg	2/28/2005	8260B	160	330
1,1-Dichloroethene	ND	ug/kg	2/28/2005	8260B	33	66
Carbon Disulfide	ND	ug/kg	2/28/2005	8260B	33	66
Methyl Iodide	ND	ug/kg	2/28/2005	8260B	33	66
Methylene Chloride	ND	ug/kg	2/28/2005	8260B	160	330
Acetone	ND	ug/kg	2/28/2005	8260B	660	1300
trans-1,2-Dichloroethene	ND	ug/kg	2/28/2005	8260B	33	66
MtBE	ND	ug/kg	2/28/2005	8260B	33	66
1,1-Dichloroethane	ND	ug/kg	2/28/2005	8260B	33	66
Acrylonitrile	ND	ug/kg	2/28/2005	8260B	160	330
Vinyl Acetate	ND	ug/kg	2/28/2005	8260B	33	66
cis-1,2-Dichloroethene	ND	ug/kg	2/28/2005	8260B	33	66
2,2-Dichloropropane	ND	ug/kg	2/28/2005	8260B	33	66
Bromochloromethane	ND	ug/kg	2/28/2005	8260B	33	66
Chloroform	ND	ug/kg	2/28/2005	8260B	33	66
Carbon Tetrachloride	ND	ug/kg	2/28/2005	8260B	33	66
1,1,1-Trichloroethane	ND	ug/kg	2/28/2005	8260B	33	66
MEK	736 J	ug/kg	2/28/2005	8260B	160	1300
1,1-Dichloropropene	ND	ug/kg	2/28/2005	8260B	33	66

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

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Page 10 of 48

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Client: STS Con	sultants - Green	n Bay		WWA Job #: 21615							
Project: Date Received:	27811XV 2/25/2005		Sample Matrix:SoilDate Reported:3/8/2005								
		Vola	tile Organics				··				
Sample / Client S	ample ID	Result	Units	Date	Method	MDL	MQL				
21615-004 / GP-2	(5.5-8)										
Benzene		64 J	ug/kg	2/28/2005	8260B	33	66				
1,2-Dichloroeth	ane	ND	ug/kg	2/28/2005	8260B	33	66				
Trichloroethene		ND	ug/kg	2/28/2005	8260B	33	66				
Dibromomethan	ie	ND	ug/kg	2/28/2005	8260B	33	66				
1,2-Dichloropro	pane	ND	ug/kg	2/28/2005	8260B	33	66				
Bromodichloror	nethane	ND	ug/kg	2/28/2005	8260B	33	66				
cis-1,3-Dichloro	propene	ND	ug/kg	2/28/2005	8260B	33	66				
Toluene		150	ug/kg	2/28/2005	8260B	33	66				
MIBK		ND	ug/kg	2/28/2005	8260B	160	330				
Tetrachloroethe	ne	ND	ug/kg	2/28/2005	8260B	33	66				
trans-1,3-Dichlo	propropene	ND	ug/kg	2/28/2005	8260B	33	66				
1,1,2-Trichloroe	thane	ND	ug/kg	2/28/2005	8260B	33	66				
Dibromochloror	nethane	ND	ug/kg	2/28/2005	8260B	33	66				
1,3-Dichloropro	pane	ND	ug/kg	2/28/2005	8260B	33	66				
1,2-Dibromoeth	ane	ND	ug/kg	2/28/2005	8260B	33	66				
2-Hexanone		ND	ug/kg	2/28/2005	8260B	160	330				
Chlorobenzene		ND	ug/kg	2/28/2005	8260B	33	66				
1,1,1,2-Tetrachl	oroethane	ND	ug/kg	2/28/2005	8260B	33	66				
Ethylbenzene		1850	ug/kg	2/28/2005	8260B	33	66				
m/p-Xylene		3800	ug/kg	2/28/2005	8260B	66	130				
o-Xylene		1 <b>7</b> 70	ug/kg	2/28/2005	8260B	33	66				
Styrene		ND	ug/kg	2/28/2005	8260B	33	66				
Bromoform		ND	ug/kg	2/28/2005	8260B	33	66				
Isopropylbenzen	ie	1140	ug/kg	2/28/2005	8260B	33	66				
n-Propylbenzene	e	2280	ug/kg	2/28/2005	8260B	33	66				

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

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Page 11 of 48

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ECOLOGICAL CONSULTING AND ENVIRONMENTAL LABORATORY SERVICES

# WHITE WATER ASSOCIATES, INC.

Client: STS Consultants - Green Bay

WWA Job #: 21615

 Project:
 27811XV
 Sample Matrix:
 Soil

 Date Received:
 2/25/2005
 Date Reported:
 3/8/2005

## Volatile Organics

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
21615-004 / GP-2 (5.5-8)						
Bromobenzene	ND	ug/kg	2/28/2005	8260B	33	66
1,1,2,2-Tetrachloroethane	ND	ug/kg	2/28/2005	8260B	33	66
2-Chlorotoluene	ND	ug/kg	2/28/2005	8260B	33	66
1,3,5-Trimethylbenzene	4210	ug/kg	2/28/2005	8260B	33	66
1,2,3-Trichloropropane	ND	ug/kg	2/28/2005	8260B	33	66
Trans-1,4-Dichloro-2-butene	ND	ug/kg	2/28/2005	8260B	33	66
4-Chlorotoluene	ND	ug/kg	2/28/2005	8260B	33	66
t-Butylbenzene	ND	ug/kg	2/28/2005	8260B	33	66
1,2,4-Trimethylbenzene	1110	ug/kg	2/28/2005	8260B	160	660
s-Butylbenzene	640	ug/kg	2/28/2005	8260B	33	66
p-Isopropyltoluene	1180	ug/kg	2/28/2005	8260B	33	66
1,3-Dichlorobenzene	ND	ug/kg	2/28/2005	8260B	33	66
1,4-Dichlorobenzene	ND	ug/kg	2/28/2005	8260B	33	66
n-Butylbenzene	2730	ug/kg	2/28/2005	8260B	33	66
Hexachloroethane	ND	ug/kg	2/28/2005	8260B	160	330
1,2-Dichlorobenzene	ND	ug/kg	2/28/2005	8260B	33	66
1,2-Dibromo-3-chloropropane	. ND	ug/kg	2/28/2005	8260B	160	330
Hexachlorobutadiene	ND	ug/kg	2/28/2005	8260B	33	66
1,2,4-Trichlorobenzene	ND	ug/kg	2/28/2005	8260B	160	330
Naphthalene	2180	ug/kg	2/28/2005	8260B	160	330
1,2,3-Trichlorobenzene	ND	ug/kg	2/28/2005	8260B	160	330
2-Methylnaphthalene	1020	ug/kg	2/28/2005	8260B	160	330

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 12 of 48



WHITE WATER ASSOCIATES

BETTY PREMO

429 RIVER LN AMASA, MI 49903 1230 Lange Court Baraboo, WI 53913-3109 Phone: (800) 228-3012 Fax: (608) 356-2766 www.ctlaboratories.com

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### ANALYTICAL REPORT

Page 1 of 15

Project Name: Contract #: 581 Project #: Folder #: 45653 Purchase Order #: Arrival Temperature: See COC

Report Date: 3/15/2005 Date Received: 3/1/2005

Reprint Date:

CTI LAB#:	301827	Sample Description:	21615-4					Sampled	2/23	/2005
Analyte		Result Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Result	e									
Solids, Percent	5	90.0 %	N/A	N/A	1.0			3/1/2005	GCE	EPA 5030A
Organic Results										
Diesel Range Organic	s	99 mg/kg	2.2	7.4	1.0		3/4/2005	3/8/2005	CLW	WDNR DRO
Gasoline Range Organ	nics	1500 mg/kg	29	96	20.0	· L	3/3/2005	3/7/2005	APG	WDNR GRO
Aroclor-1016		<0.012 mg/kg	0.012	0.044	1.0		3/4/2005	3/8/2005	CLW	EPA 8082
Aroclor-1221		<0.017 mg/kg	0.017	0.056	1.0		3/4/2005	3/8/2005	CLW	EPA 8082
Aroclor-1232		<0.014 mg/kg	0.014	0.044	1.0		3/4/2005	3/8/2005	CLW	EPA 8082
Aroclor-1242		<0.012 mg/kg	0.012	0.044	1.0		3/4/2005	3/8/2005	CLW	EPA 8082
Arocior-1248		<0.017 mg/kg	0.017	0.056	1.0		3/4/2005	3/8/2005	CLW	EPA 8082
Aroclor-1254		<0.011 mg/kg	0.011	0.033	1.0		3/4/2005	3/8/2005	CLW	EPA 8082
Aroclor-1260		<0.011 mg/kg	0.011	0.022	1.0		3/4/2005	3/8/2005	CLW	EPA 8082
1,2,4,5-Tetrachloroben	izene	<0.041 mg/kg	0.041	0.14	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
1,2,4-Trichlorobenzene	e	<0.054 mg/kg	0.054	0.18	1.0		3/2/2005	3/11/2005	JJA	EPA 8270C
1,2-Dichlorobenzene		<0.038 mg/kg	0.038	0.13	1.0		3/2/2005	3/11/2005	JJA	EPA 8270C
1,3-Dichlorobenzene		<0.042 mg/kg	0.042	0.14	1.0		3/2/2005	3/11/2005	JJA	EPA 8270C
1,4-Dichlorobenzene		<0.044 mg/kg	0.044	0.15	1.0		3/2/2005	3/11/2005	JJA	EPA 8270C
2,4,5-Trichlorophenol		<0.048 mg/kg	0.048	0.16	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
2,4,6-Trichlorophenol		<0.034 mg/kg	0.034	0.11	1.0		3/2/2005	3/11/2005	JJA	EPA 8270C
2,4-Dichlorophenol		<0.028 mg/kg	0.028	0.092	1.0		3/2/2005	3/11/2005	JJA	EPA 8270C
2,4-Dimethylphenol		<0.019 mg/kg	0.019	0.063	1.0		3/2/2005	3/11/2005	JJA	EPA 8270C
2,4-Dinitrophenol		<0.044 mg/kg	0.044	0.15	1.0		3/2/2005	3/11/2005	ALL	EPA 8270C

WI DNR Lab Certification Number: 157066030 DATCP Certification Number: 105-000289 LA NELAP Certification Number: 04091



# Laboratories

WHITE WATER ASSOCIATES

Project Name: Project #:

Contract #: 581 Folder #: 45,653

Page 2 of 15

CTI LAB#: 301827	Sample Description:	21615-4				Sampled	: 2/23	/2005
	Result Units	LOD	LOQ	Dilution Qualifier	Prep Date	Analysis Date	Analyst	Method
4-Dinitrotoluene	<0.081 mg/kg	0.081	0.27	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
2,6-Dichlorophenol	<0.021 mg/kg	0.021	0.071	1.0	3/2/2005	3/11/2005	JJA	EPA 8270C
6-Dinitrotoluene	<0.097 mg/kg	0.097	0.32	1.0	3/2/2005	3/11/2005	JJÅ	EPA 8270C
	<0.018 mg/kg	0.018	0.061	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
2-Chlorophenol	<0.067 mg/kg	0.067	0.22	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
-Methylnaphthalene	<0.028 mg/kg	0.028	0.091	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
	<0.089 mg/kg	0.089	0.29	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
2-Nitroaniline	<0.069 mg/kg	0.069	0.23	1.0	3/2/2005	3/11/2005	JJA	EPA 8270C
-Nitrophenol	<0.027 mg/kg	0.027	0.090	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
🛁 & 4-Methylphenol	<0.064 mg/kg	0.064	0.22	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
3,3'-Dichlorobenzidine	<0.063 mg/kg	0.063	0.21	1.0	3/2/2005	3/11/2005	JJA	EPA 8270C
∃-Nitroaniline	<0.053 mg/kg	0.053	0.18	1.0	3/2/2005	3/11/2005	JJA	EPA 8270C
4,6-Dinitro-2-methylphenol	<0.030 mg/kg	0.030	0.10	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
4-Bromophenyl-phenyl ether	<0.030 mg/kg	0.030	0.099	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
- Chloro-3-methylphenol	<0.066 mg/kg	0.066	0.22	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
4-Chloroaniline	<0.024 mg/kg	0.024	0.080	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
4 Chlorophenyl-phenyl ether	<0.079 mg/kg	0.079	0.26	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
4-NItroaniline	<0.074 mg/kg	0.074	0.25	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
4-Nitrophenol	<0.13 mg/kg	0.13	0.42	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
Acenaphthene	<0.034 mg/kg	0.034	0.12	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
Acenaphthylene	<0.034 mg/kg	0.034	0.11	· 1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
Acetophenone	<0.031 mg/kg	0.031	0.11	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
Aniline	<0.033 mg/kg	0.033	0.11	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
Anthracene	<0.027 mg/kg	0.027	0.088	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
Azobenzene & 1,2-Diphenylhydra	<0.076 mg/kg	0.076	0.25	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
Benzo(a)anthracene	<0.038 mg/kg	0.038	0.13	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
Benzo(a)pyrene	<0.053 mg/kg	0.053	0.18	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
Benzo(b)fluoranthene	<0.044 mg/kg	0.044	0.15	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
Benzo(g,h,i)perylene	<0.038 mg/kg	0.038	0.13	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
Benzo(k)fluoranthene	<0.048 mg/kg	0.048	0.16	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
Benzyl alcohol	<0.057 mg/kg	0.057	0.19	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
Bis(2-chloroethoxy)methane	<0.019 mg/kg	0.019	0.064	1.0	3/2/2005	3/11/2005	JJA	EPA 8270C
Bis(2-chloroethyl)ether	<0.032 mg/kg	0.032	0.11	1.0	3/2/2005	3/1 1/2005	JJY	EPA 8270C
Bis(2-chloroisopropyl)ether	<0.033 mg/kg	0.033	0.11	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
Bis(2-ethylhexyl)phthalate	<0.047 mg/kg	0.047	0.16	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
Butylbenzylphthalate	<0.036 mg/kg	0.036	0.12	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
Carbazole	<0.041 mg/kg	0.041	0.14	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C

WI DNR Lab Certification Number: 157066030 DATCP Certification Number: 105-000289 LA NELAP Certification Number: 04091

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# TLaboratories

WHITE WATER ASSOCIATES

Project Name:

Project #:

Contract #: 581

Folder #: 45,653

Page 3 of 15

CIILAB#: 301827	Sample Description:	21615-4					Sampled:	2/23	/2005
Million Analyte	Result Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
thrysene	<0.031 mg/kg	0.031	0.10	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
.n-butylphthalate	<0.046 mg/kg	0.046	0.15	. 1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
Di-n-octylphthalate	<0.041 mg/kg	0.041	0.14	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
ibenzo(a,h)anthracene	<0.043 mg/kg	0.043	0.14	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
benzofuran	<0.059 mg/kg	0.059	0.20	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
Diethylphthalate	<0.087 mg/kg	0.087	0.29	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
⊃imethylphthalate	<0.087 mg/kg	0.087	0.29	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
Fluoranthene	<0.036 mg/kg	0.036	0.12	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
Fluorene	<0.072 mg/kg	0.072	, 0.24	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
lexachlorobenzene	<0.023 mg/kg	0.023	0.079	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
Hexachlorobutadiene	<0.059 mg/kg	0.059	0.20	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
Hexachlorocyclopentadiene	<0.036 mg/kg	0.036	0.12	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
exachloroethane	<0.040 mg/kg	0.040	0.13	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
Hexachloropropene	<0.076 mg/kg	0.076	0.25	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
Indeno(1,2,3-cd)pyrene	<0.044 mg/kg	0.044	0.15	1.0		3/2/2005	3/11/2005	JJA	EPA 8270C
Isophorone	<0.018 mg/kg	0.018	0.060	1.0		3/2/2005	3/11/2005	JJA	EPA 8270C
N-Nitroso-di-n-propylamine	<0.039 mg/kg	0.039	0.13	1.0		3/2/2005	3/11/2005	JJA	EPA 8270C
N-Nitrosodimethylamine	<0.053 mg/kg	0.053	0.18	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
N-Nitrosodiphenylamine & Diphn	<0.060 mg/kg	0.060	0.20	1.0		3/2/2005	3/11/2005	JJA	EPA 8270C
N-Nitrosopyrrolidine	<0.040 mg/kg	0.040	0.13	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
Naphthalene	<0.043 mg/kg	0.043	0.1.5	1.0		3/2/2005	3/11/2005	JJA	EPA 8270C
Nitrobenzene	<0.029 mg/kg	0.029	0.094	1.0		3/2/2005	3/11/2005	JJÅ	EPA 8270C
Pentachlorophenol	<0.028 mg/kg	0.028	0.091	1.0		3/2/2005	3/11/2005	JJA	EPA 8270C
Phenanthrene	<0.019 mg/kg	0.019	0.064	1.0		3/2/2005	3/11/2005	JJA	EPA 8270C
Phenoi	<0.070 mg/kg	0.070	0.23	1.0		3/2/2005	3/11/2005	JJA	EPA 8270C
Pyrene	<0.031 mg/kg	0.031	0.11	1.0		3/2/2005	3/11/2005	JJY .	EPA 8270C
<sup>o</sup> yridine	<0.037 mg/kg	0.037	0.12	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
CTI LAB#: 301828	Sample Description:	21615-5					Sampled:	2/23/	2005
nalyte	Result Units	LOD	LOQ	Dilution (	Qualifier	Prep Date	Analysis Date	Analyst	Method
norganic Results									
Solids, Percent	86.0 %	N/A	N/A	1.0			3/1/2005	GCE	EPA 5030A
Organic Results									
Diesel Range Organics	5.3 mg/kg	2.3 *	7.8	1.0	L	3/4/2005	3/8/2005	CLW	WDNR DRO

WI DNR Lab Certification Number: 157066030 DATCP Certification Number: 105-000289 LA NELAP Certification Number: 04091



WHITE WATER ASSOCIATES Project Name: Project #: Contract #: 581 Folder #: 45,653 Page 15 of 15

#### Notes regarding entire Chain of Custody:

Notes: \* Indicates Value in between LOD and LOQ. -Il samples were received intact and properly preserved unless otherwise noted. The results reported relate only to the samples tested. This report shall not be reproduced, except in full, without written approval of this laboratory. The Chain of Custody is attached. This report satisfies the requirements of your project but has not been prepared to comply with NELAP reporting requirements. **QC** Qualifiers Code Description A Analyte averaged calibration criteria within acceptable limits. в Analyte detected in associated Method Blank. С Toxicity present in BOD sample. D **Diluted Out.** Ε Safe, No Total Coliform detected. F Unsafe, Total Coliform detected, no E. Coli detected. G Unsafe, Total Coliform detected and E. Coli detected. Н Holding time exceeded. J Estimated value. L Significant peaks were detected outside the chromatographic window. М Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits. Ν Insufficient BOD oxygen depletion. 0 Complete BOD oxygen depletion. Ρ Concentration of analyte differs more than 40% between primary and confirmation analysis. Q Laboratory Control Sample outside acceptance limits. R See Narrative at end of report. S Surrogate standard recovery outside acceptance limits due to apparent matrix effects. Т Sample received with improper preservation or temperature. ۷ Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference. W Sample amount received was below program minimum. X Analyte exceeded calibration range. Y Replicate/Duplicate precision outside acceptance limits. z Calibration criteria exceeded.

> WI DNR Lab Certification Number: 157066030 DATCP Certification Number: 105-000289 LA NELAP Certification Number: 04091





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J.O.#	CLIENT	NAME ST.S	CONSULTA	~5													ZOFJIN
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giel School	7	1		SAN	IPLE TYP		4- 4- 3	1.6/	) Š				/ /ş	A A A	bbottsd	prord	
SAMPLE LOCATION	SAMPLE I.D.#	TIME	DATE	GRAB	COMPOSITE	MATRIX	-	2/1		\$/ /				3 al	EMARKS:		422 Ph
GP-1 (2-4)	(2-4*)	10:50	2/23/05	×		5/2		A									9 River lasa, N one (90
6P-1 ( <del>5-8')</del>	(5-8')	11:00 7				1 Z	XX										Lane, lichigar 06) 822
6P-2	(0-3.s)	11:303				1/2	1 (x										P.O. Bo 1 4990 -7373,
67-2	(5.5-8)	11:40 4				1G		X	X	R	X			ODOR			0x 27 )3 Fax -7
6P-3	(3-6.5)	12:005				5		)		×		X	Ø	HOLD TO KUNT	CLP Bb	3/4 PC	977
67-3	(6.5-8)	12:10				2								×			
GP-4	(3-5)	12:30	<b>7</b>			12								×			
GP-4	(5-8)	12:40 8				Z	) (x					X	┼╌┨				
GP-5	(3-5)	13:00				D	R R	4				*					
GP-S	(5-8)	13:10/K	P			3								X			
6P-6	(2.5-6)	14:00 []			<u> </u>	Z						4					
6P-6	(6-8)	14:10		1			/ XX	1				X			. i		
RELINQUISHED BY	DATE	1/05 16	: <i>0</i> Q		ЕD ВY	1		IELINQUI	SHED BY	(		DATE		TIME	RECE	EIVED BY	
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	raye vi
1	Attach to the COC and include with the final report.
	WHITE WATER ASSOCIATES, INC.
	Login Checklist
Project Number: <u>21615</u>	Date Logged in: _2 125105 Login Person Initials:
# of Coolers	Courier: <u>UPS</u>
Client: <u>575</u>	Project Name: <u>27811×</u>

raye.

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If no to any, notify the project manager and project manager documents client response below.

	YES NO
1.	Were custody seals/original packing tape intact?
2.	Are the samples in good condition, i.e. not broken or leaking?
3.	Are samples within holding times?
4.	Were the samples received on ice (ice in direct contact with the samples)?
5.	Is the temperature of the samples between 2-6°C? Temp
6.	Do the samples match the COC?
7.	Were the proper containers used?
8.	Were the samples collected in White Water lab containers?
9.	Is there adequate sample volume for requested analyses and QC?
10.	Do water VOC samples contain headspace less than the size of a pea?
11.	Are samples preserved to the proper pH? If no, identify sample bottle and
12.	Is the chain of custody signed?
13.	Is sub-sampling required? (Note bottles created and preserved below.)
14.	For Dissolved Analysis, were samples filtered in the lab?
15.	Were encores received? (VOC analysis)
16.	Were soil VOCs preserved with methanol in the lab?
17.	Is client contact necessary? Provide documentation below.

COMMENTS/CORRECTIVE ACTION

\_\_\_\_

CLIENT RESPONSE (Provide date/time of contact, client response and project manager initials)



# RECEIVED

MAY 2 6 2005



# STS CANSULTANTS, LTD.

### Phase II Subsurface Investigation

State Highway 13 Right-of-Way Area of Stained Soil along Drainage Ditch North of Carquest Auto Parts

State Highway 13 Reconstruction Pine Street to Linden Street City of Abbotsford Marathon and Clark County, Wisconsin

### WisDOT Project ID 1620-01-04

Report Prepared By:

STS Consultants, Ltd. 1035 Kepler Drive Green Bay, Wisconsin 54311 Telephone: (920) 468-1978 Fax: (920) 468-3312 Email: garvey@stsconsultants.com STS Project No. 4-27811XV

May 2005



STS Consultants, Ltd. 1035 Kepler Drive Green Bay, Wisconsin 54311

May 9, 2005

Ms. Janet Smith, Environmental Coordinator Wisconsin Department of Transportation 1681 Second Avenue South Wisconsin Rapids, Wisconsin 54495

Re: Phase II Subsurface Assessment, Proposed State Highway 13 Upgrade Project, Area of Stained Soil Located along a Drainage Ditch North of Carquest Auto Parts (206 North Fourth Street), Abbotsford, Marathon County, Wisconsin -- **WisDOT Project ID No. 1620-01-04** --STS Project No. 4-27811XV

Dear Ms. Smith:

STS Consultants, Ltd. (STS) is pleased to submit this Phase II Subsurface Assessment (Phase II) for the area of stained soil located along a drainage ditch north of Carquest Auto Parts (206 North Fourth Street) in the City of Abbotsford, Marathon County, Wisconsin. The site was selected for a Phase II to characterize the stained soil identified during a Phase I Hazardous Material Assessment.

Phase II results indicate that stained soil is impacted with benzo(a)pyrene above regulatory standards. STS recommends that this report be submitted to the Wisconsin Department of Natural Resources and that the Wisconsin Department of Transportation (WisDOT) utilize Special Provisions with the selected contractor during construction in this area to accommodate disposal of the stained soil in accordance with state and local regulations.

This report was completed in accordance with WisDOT Work Order No. 52 for Project ID No. 1620-01-04. If you have any questions regarding this report, please contact Mr. Paul Garvey at (920) 406-3149.

Sincerely,

STS CONSULTANTS, LTD.

Eric C. Schmidt Assistant Project Engineer

Paul M. Garvey Senior Project Scientist

Michael J. Carney, P.G. Associate Geologist

Copy: Mr. John Lewis Bureau of Environment 4802 Sheboygan Avenue, Room 451 P.O. Box 7965 Madison, Wisconsin 53707-7965

> Ms. Kitt Siegfried Wisconsin Department of Natural Resources West Central Region Office 1300 West Clairemont Avenue P.O. Box 4001 Eau Claire, Wisconsin 54701-4001

### **Table of Contents**

1.0	EXECUTIVE SUMMARY	1
2.0	SITE INVESTIGATION	2
	2.1 Purpose and Scope	2
	2.2 Investigation Program	2
	2.3 Site Maps	3
	2.4 Geology	3
	2.5 Results	7
	2.6 Conclusions	10
	2.7 Recommendations	10
	2.8 General Qualifications	10
3.0	APPENDICES	11
	3.1 Photo Log	11
	3.2 WDNR Soil Boring Log Information Forms	12
	3.3 WDNR Well/Drillhole/Borehole Abandonment Forms	13
	3.4 Laboratory Reports and Chain of Custody Forms	14

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## **Figures**

Figure 1 - Site Location Map	5
Figure 2 - Boring Location Map	6

## <u>Table</u>

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Table 1 - Soil Analytical Results8	3-9
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### **1.0 EXECUTIVE SUMMARY**

As part of the State Highway 13 (STH 13) upgrade project in Abbotsford, Wisconsin, STS Consultants, Ltd. (STS) was retained by the Wisconsin Department of Transportation (WisDOT) (Client) to perform a Phase II Subsurface Assessment (Phase II) of an area of stained soil located near a drainage ditch in a former railroad corridor. The area of stained soil is located approximately 200 feet east of Fourth Street (STH 13), north of Carquest Auto Parts (206 North Fourth Street) in the City of Abbotsford, Marathon County, Wisconsin. The site was selected for a Phase II to characterize the soil stain.

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Laboratory analytical results indicate that the area of stained soil contains a polycyclic aromatic hydrocarbon (benzo[a]pyrene) above regulatory standards. Soil samples analyzed did not indicate concentrations of volatile organic compounds (VOCs), diesel range organics (DRO), or polychlorinated biphenyls (PCBs) above regulatory standards. Also, leachable metals were not detected above concentrations indicative of background levels.

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### 2.0 SITE INVESTIGATION

### 2.1 Purpose and Scope

The purpose of the Phase II was to characterize an area of stained soil along a drainage ditch located in the area of the proposed STH 13 reconstruction in Abbotsford, Wisconsin.

A supplemental Phase I Hazardous Material Assessment (HMA) completed by Short Elliott Hendrickson, Inc. dated November 2004 indicated the presence of an oil stain on the ground surface along a drainage ditch. The soil stain was believed to be the result of a release of oil from a vehicle. The bank of the drainage ditch appeared to be used as a parking area. The extent of the soil stain reportedly appeared to be limited and was considered a *de minimis* condition.

According to the Phase I HMA, proposed construction requirements adjacent to the site include storm sewer excavations to an approximate depth of 9 to 12 feet below ground surface (bgs). STS is not aware of planned WisDOT property acquisitions in the area of the drainage ditch.

The Phase II included the advancement of one soil boring to characterize the soil within the stained area. Site and soil boring locations are presented on Figures 1 and 2 (Section 2.3).

### 2.2 Investigation Program

STS personnel accessed the area of stained soil on February 24, 2005, to collect a soil sample within the proposed project limits. STS retained a subcontract direct push firm (Kitson Environmental Services, Inc., Helenville, Wisconsin) to advance the boring. One direct push borings (GP-15) was advanced at the site to a depth of one foot below the ground surface. Borings were sequentially numbered based on all borings conducted for multiple Phase IIs completed for WisDOT in the STH 13 ROW.

Soil samples were collected from the boring using standard direct-push technology with a powerdriven sampling spoon. A single-use disposable acetate liner was placed in the spoon and the spoon was advanced to the desired depth. The spoon was then retrieved from the boring, the acetate liner is extracted from the spoon, and the liner cut open allowing removal of the sample. The soil sample recovered from the boring was field-screened with a photoionization detector (PID), which was equipped with a 10.6-electron volt lamp. Soil PID field screening results are indicated on the Soil Boring Log Information Form (Section 3.2). Following completion of sampling,

()



the boring was abandoned with bentonite and Wisconsin Department of Natural Resources (WDNR) Well/Drillhole/Borehole Abandonment forms were prepared (Section 3.3).

Soil samples were prepared in the field and submitted to White Water Associates, Inc., Amasa, Michigan (White Water), for analysis of one or more of the following analytes:

- Volatile Organic Compounds (VOCs) Environmental Protection Agency (EPA) Method 8260B
- Diesel Range Organics (DRO) Wisconsin Modified Method
- Polychlorinated Biphenyls (PCBs) EPA Method 8082
- Semi-Volatiles EPA Method 8270C
- Toxicity Characteristic Leaching Procedure (TCLP) Metals EPA Method 6010B

### 2.3 Site Maps

Figure 1 shows the location of the site on a portion of the United States Geological Survey (USGS) 7.5-minute topographical quadrangle map of Abbotsford, Wisconsin. Also included on Figure 1 is a state and county map illustrating the location of Abbotsford. Figure 2 is a Site Diagram, which illustrates the locations of boring completed during the Phase II activities.

### 2.4 Geology

Review of the Department of the Interior, USGS Publication *Water Resources of Wisconsin, Central Wisconsin River Basin, Hydrogeologic Investigations, Atlas HA-367*, Sheet 1 of 4, 1971, indicated that the subject property is located in an area of ground-moraine deposits (silty and clayey till) that overlie crystalline bedrock. The thickness of the glacial lake deposits over the bedrock varies.

The USDA Soil Survey of Marathon County, Wisconsin, (1989) indicated that the native surficial soil in the area of the drainage ditch is Withee silt loam. The Withee Series is described as nearly level and gently sloping, somewhat well-drained soil in convex and concave areas on broad ground moraines. Permeability is moderate to moderately slow, and surface runoff is slow or medium.



Regional groundwater flow direction is likely south and southeast toward the Wisconsin River (*Water Resources of Wisconsin, Central Wisconsin River Basin, Hydrogeologic Investigations, Atlas HA-367*, Sheet 1 of 4, 1971). Existing ditches, underground utilities (such as sanitary/storm sewer piping systems), and other natural and manmade features may influence local groundwater flow direction. Site-specific groundwater flow direction cannot be determined without installation of monitoring wells.

A review of the Abbotsford, Wisconsin, USGS 7.5-minute topographic map dated 1981 showed the drainage ditch as being located in a generally flat area that slopes to the east at an elevation of approximately +1,410 feet above mean sea level.



X:PROJECTS/427811XV/Dwg/G427811XV\_SITE\_LOCATION\_MAP\_DRAINAGE\_DITCH\_ROW\_FIG1.dwg, FIG 1, 5/2/2005 9:45:47 AM, reince





### 2.5 Results

Soils encountered in Boring GP-15 consisted of fill (silty sand). The PID reading from the soil sample from Boring GP-15 was less than 1 PID unit. The PID screening result for the soil sample is summarized on the Soil Boring Log Information Form in Section 3.2 of the Appendix.

Soil laboratory analytical results are summarized on Table 1, and the laboratory report is attached. Soil samples analyzed did not indicate concentrations of VOCs, DRO, or PCBs above regulatory standards. Leachable metals were not detected above concentrations indicative of background levels. Benzo(a)pyrene was detected at 0.060 micrograms per kilogram ( $\mu$ g/kg), which exceeds the suggested generic Residual Contaminant Level (RCL) for direct contact at non-industrial sites of 0.0088  $\mu$ g/kg (*Soil Cleanup Levels for Polycyclic Aromatic Hydrocarbons (PAHs) Interim Guidance*, WDNR, April 1997). Benzo(b)fluoranthene, 2-methylnaphthalene, and pyrene were also detected in the sample but at levels below applicable RCLs. According to the laboratory analytical report, the four PAH compounds were detected at levels between the limit of detection and the limit of quantification.

### Table 1 (Page 1 of 2) Soil Analytical Results Drainage Ditch (WisDOT STH 13) Abbotsford, Wisconsin

CamalaNa	00.45		<sup>1</sup> NR 720 RCL	
Sample No.	GP-15	Groundwater	Non-Industrial	Industria Direct
Sample Date	2/23/05	Pathway	Direct Contact	Contact
Sample Depth (ft)	0.0-1.0		Pathway	Pathway
		Concentration	n (mg/kg)	
Diesel Range Organics	<2.2	100	NL	NL
PCBs				
Aroclor-1016	<0.012	NL .	NL	, NL
Aroclor-1221	<0.016	NL	NL	NL
Aroclor-1232	<0.014	NL	NL	NL
Aroclor-1242	<0.012	NL	NL	· NL
Aroclor-1248	<0.016	NL	NL	NL
Aroclor-1254	<0.011	NL	NL	NL
Aroclor-1260	<0.011	NL	NL	NL
	Concentration			
TCLP - Metals	(mg/L)			
Nickel	0.014			
Arsenic	<0.006	-		
Barium	0.412			
Cadmium	<0.001			
Chromium	0.006			
Copper	0.01	1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -		
Lead	0.024			
Mercury	<0.0001			
Selenium	<0.006			
0.1				
Silver	<0.0003	· .		

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		<sup>3</sup> Suggested Generic R			
		Groundwater Pathway	Non-Industrial Direct Contact Pathway		
PAHs/Semivolatiles	Conce	entration (ug/	kg)		
1,2,4,5-Tetrachlorobenzene	<0.040	NL	• NL		
1,2,4-Trichlorobenzene	<0.053	NL	NL ,		
1,2-Dichlorobenzene	<0.037	NL	NL <sup>*</sup>		
1,3-Dichlorobenzene	<0.041	NL	NL		
1,4-Dichlorobenzene	<0.043	NL	NL		
2,4,5-Trochlorophenol	<0.047	NL	NL		
2,4,6-Trichlorophenol	<0.034	NL	NL		
2,4-Dichlorophenol	<0.027	NL	NL		
2,4-Dimethylphenol	<0.018	NL	NL		
2,4-Dinitrophenol	<0.043	NL	• NL		
2,4-Dinitroltoluene	< 0.079	. NL	. NL		
2,6-Dichlorophenol	<0.021	NL	NL		
2,6-Dinitrotoluene	<0.094	NL	, NL		
2-Chloronaphthalene	<0.017	NL	NL		
2-Chlorophenol	< 0.065	NL	NL.		
2-Methylnaphthalene	0.027*	20	600		
2-Methylphenol	<0.087	NL	NL		
2-Nitroaniline	<0.067	NL <sup>1</sup>	NL		
2-Nitrophenol	< 0.026	NL	NL		
3 & 4-Methylphenol	< 0.063	NL	NL		
3,3'-Dichlorobenzidine	<0.062	NL	NL		
3-Nitroaniline	< 0.052	NL	NL		
4,6-Dinitro-2-methylphenol	<0.029	NL	NL		
4-Bromophenyl-phenyl ether	<0.029	NL	NL		
4-Chloro-3-methylphenol	<0.064	NL	NL		
4-Chloroaniline	<0.024	NL	NL		
4-Chlorophenyl-phenyl ether	<0.077	NL	NL		
4-Nitroaniline	<0.073	NL	NL		
4-Nitrophenol	<0.12	NL	NĻ		
Acenaphthene	<0.034	38	900		
Acenapthylene	< 0.034	0.7	18		
Acetophenone	<0.030	NL 1	NL		
Aniline	< 0.032	NL	NL		

#### Table 1 (Page 2 of 2) **Soil Analytical Results** Drainage Ditch (WisDOT STH 13) Abbotsford, Wisconsin

	GP-15	<sup>2</sup> Suggested Generic RC	
		Groundwater	Non-Industrial
	2/23/05	Pathway	Direct Contact
Anthony and	0.0-1.0	000	5000
	<0.026	300	5000
Azobenzene & 1,2-Dipnenyinyora	<0.074	NL 17	
	<0.037		0.088
Denzo(a)pyrene	0.060*	48	0.0088
Benzo(b)nuorantnene	0.069*	360	0.088
Benzo(g,n,i)perviene	<0.037	870	0.88
Benzo(k)fluorantnene	<0.047	6800	1.8
	<0.055	NL	NL
Bis(2-chloroethoxy)methane	<0.018	NL	NL
Bis(2-chloroethyl)ether	<0.031	NL	NL
Bis(2-chloroisopropyl)ether	<0.032	NL	NL
Bis(2-ethylhexyl)phthalate	<0.045	NL	NL
Butylbenzylphthalate	<0.035	NL	NL
Carbazole	<0.040	NL	NL
Chrysene	<0.030	37	8.8
Di-n-butylphthalate	<0.044	NL	NL
Di-n-octylphthalate	<0.040	NL	NL
Dibenzo(a,h)anthracene	<0.042	NL	NL
Dibenzofuran	<0.057	NL	NL
Diethylphthalate	<0.084	NL	NL
Dimethylphthalate	<0.084	NL	NL
Fluoranthene	<0.035	500	600
Fluorene	<0.070	100	600
Hexachlorobenzene	<0.023	NL	NL
Hexachlorobutadiene	<0.057	NL	NL
Hexachlorocyclopentadiene	<0.035	NL	NL
Hexachloroethane	<0.039	NL	NL
Hexachloropropene	<0.074	NL	NL
Indeno(1,2,3-cd)pyrene	<0.043	680	0.088
Isophorone	<0.017	NL	NL
N-Nitroso-di-n-propylamine	<0.038	NL	NL
N-Nitrosodimethylamine	<0.052	NL	NL
N-Nitrosodiphenylamine	<0.058	NL	NL
N-Nitrosopyrrolidient	<0.039	NL	NL
Naphthalene	<0.042	0.4	20
Nitrobenzene	<0.028	NL	NL
Pentachlorophenol	<0.027	NL	NL
Phenanthrene	<0.018	1.8	18
Phenol	<0.068	NL	NL
Pyrene	0.036*	8700	500
Pyridine	<0.036	NL	NL

			<sup>1</sup> NR 720 RCL		<sup>2</sup> NR 746
		Groundwator	Non-Industrial	Industrial	Values
		Bathway	Direct Contact	Direct	Table 1
		Fattiway	Pathway	Contact	SSLs
PVOCs (AND Detected VOCs)		Concent	ration (ug/kg)		
1,2,4-Trimethylbenzene	<24	NL ·	NL	NL	83,000
1,3,5-Trimethylbenzene	<24	NL	NL	NL	11,000
Benzene	<24	5.5	NL	NL	8,500
Ethylbenzene	<24	2,900	NL	NL	4,600
m/p-Xylene	<48	4,100	NL	NL	42,000
Methyl ethyl keytone (MEK)	507 (j)	NL	NL	NL	NL
Methyl tert-butyl ether	<24	NL	NL	NL	NL
Naphthalene	<120	400	20,000	110,000	2,700
o-Xylene	<24	4,100	NL	NL	42,000
Toluene	<24	1,500	NL	NL	38,000

Notes:

(mg/kg) = milligrams per kilogram; (ug/kg) = micrograms per kilogram; < = not detected above method detection limit; NA = not analyzed; NL = No regulatory limit listed for analyte; 'RCL = Residual Contaminant Level; SSLs = Soil Screening \* - Analyte detected between limit of detection and limit of quantitation

(j) = The analyte was positively identified, the quantification is an estimation.

MEK has been found in methanol (used as preservative during sample preparation) at 620 ug/kg.

<sup>1</sup> NR 720 RCL = Wisconsin Administrative Code Chapter NR 720 Generic Residual Contaminant Level

<sup>2</sup> NR 746 Values = Wisconsin Administrative Code Chapter NR 746 Risk Screening and Closure Criteria "Suggested Generic RCLs for PAHs from WDNR's Soil Cleanup Levels for PAHs Interim Guidance dated 1997

51 Exceeds Applicable NR 720 RCL

Exceeds NR 746 Soil Screening Levels 4,700



### 2.6 Conclusions

Soils encountered in Boring GP-15 consisted of fill (silty sand). Groundwater was not encountered in the boring. The PID reading from the soil sample from Boring GP-15 was less than 1 PID unit. The PID screening result for the soil sample is summarized on the Soil Boring Log Information Form in Section 3.2 of the Appendix.

Laboratory analytical results indicate that the area of stained soil contains a polycyclic aromatic hydrocarbon (benzo[a]pyrene) above regulatory standards. Soil samples analyzed did not indicate concentrations of VOCs, DRO, or PCBs above regulatory standards. Also, leachable metals were not detected above concentrations indicative of background levels.

### 2.7 Recommendations

STS recommends that this report be submitted to the WDNR, and that WisDOT utilize Special Provisions with the selected contractor during construction in this area to accommodate disposal of the stained soil in accordance with state and local regulations.

### 2.8 General Qualifications

Conclusions presented in this report are based on field observations documented in the Phase I report and subsurface conditions as revealed in soil borings at locations identified on the figures. Stratification lines shown on the boring logs (Section 3.2) represent approximate boundaries between soil types. Variations may exist in both the horizontal and vertical directions between boring locations. In addition, seasonal and annual fluctuations of the groundwater table may influence the distribution of compounds in the subsurface environment causing variations in groundwater quality.

STS has prepared this report at the request of our Client. STS assumes responsibility for the accuracy of the contents of this report, subject to what is stated elsewhere in this section, but recommends this report be used only for the purposes intended by the Client and STS at the time this report was prepared. This report may be unsuitable for other uses, and reliance on its content by anyone other than the Client is done at the sole risk of the user. Our interpretations of results represent our scientific judgement based on available information. No other warranties, either expressed or implied, are made.



### 3.0 APPENDICES

3.1 Photo Log



View to the southwest of the Carquest site. The soil sample location is identified with the orange traffic cone.



View to the west of the Carquest site. The soil sample location is identified with the orange traffic cone.



### 3.2 WDNR Soil Boring Log Information Forms

State of Wisconsin Department of Natural Resources

SOIL BORING	LOG INFORMATION
Form 4400-122	Rev. 7-98

n

Rev. 7-98

1

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1

Route To:

Watershed/Wastewater Remediation/Redevelopment  $\Box$  Waste Management 🛛 Other 🗌

Facility/I	Proje	ct Nan	ne			License	/Permit	/Monit	oring N	lumbe	r · ·	Boring	Numb	er	01	<u> </u>
WisDOT STH 13									GP			-15				
Boring Drilled By: Name of crew chief (first, last) and Firm				Date Di	Date Drilling Started Date				te Drill	Drilling Completed				ing Method		
STS Project No. 27811XV					2/24/2005				2/24/2005				direct push			
WI Unique Well No.  DNR Well ID No.  Common Well Name				Final St	Final Static Water Level Su				Irface Elevation B				rehole	Diameter		
GP-15				_	Feet MSL				Feet MSL				2.0 inches			
State Pla	na Or ane	igin		N.	E S/C/N	L	at	<u> </u>	<u> </u>		Local	Jria Lo	cation			
NW 1/4 of SW 1/4 of Section 31, T 29 N, R 2 E				Lor	Long '				$\frac{\Box N}{Feet} \Box S$				Feet 🛛 W			
Facility I	ty ID County Cole Civil Town/City/ or Village															
Marathon 3				37	37 Abbotsford											
Sample									5011	Prop	erues					
tt &	E.	ints	Feet	Soul/I	Cock Description						sive					S
ype b A	vere	õ	u In	Fa	ch Major Unit		S	pic	am	Ê	gth	int ent	<b>.</b>	city	-	/ nent
T bun	eco e	Blow	)eptl				1 S (	Grap	Vell Diag	NO.	Com]	Cont	inii	lasti ndev	200	D D D D D D
	12		<b></b> _	Fill: Brown silty sand	(SM) - trace gravel - fro	zen to		ΠĪ		<1	<u> </u>					
GP			Ę	moist			SM							-		
4			-1		· .				Ì		· .					
				End of Boring. Boring advanced from	0.0 feet to 1.0 feet		-									
				Boring backfilled with	bentonite.											
							· .									
		-														
										]						
				4. 												
													· ·			
													1			
								e								. · ·
								· ·								
I hereby	certi	fy that	the inf	formation on this form i	s true and correct to the	e best of n	ny knov	vledge.								
					15.											

1035 Kepler Drive Green Bay, Wisconsin 54311 Fax: 920-468-331	Signature	Firm	STS Consultants Ltd.	Tel: 920-468-1978
	En C. Sala ilt		1035 Kepler Drive Green Bay, Wisconsin 54311	Fax: 920-468-3312

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.


Wisconsin Department of Transportation-Drainage Ditch STS Project No. 4-27811XV May 9, 2005

3.3 WDNR Well/Drillhole/Borehole Abandonment Forms

#### WELL/DRILLHOLE/BOREHOLE ABANDONMENT Form 3300-5 2/2000 Page 1 of 2

Notice: Please complete Form 3300-5 and return it to the appropriate DNR office and bureau. Completion of this report is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See the instructions for more information.

Route to: Drinking Water Watershed/Wastewater Waste Managem	ent Remediation/Redevelopment Other							
(1) GENERAL INFORMATION	(2) FACILITY /OWNER INFORMATION							
WI Unique Well No. DNR Well ID No. County	Facility Name							
Marathon	WisDOT STH 13 Eacility ID License/Permit/Monitoring No.							
Common Well Name GP-15 Gov't Lot (if applicable)								
$\frac{\text{NW}}{\text{C}} \frac{1/4 \text{ of } \text{SW}}{\text{M}} \frac{1/4 \text{ of } \text{Sec. } 31}{1/4 \text{ of } \text{Sec. } 31} \text{ ; T. } \frac{29}{\text{N}} \text{ N; R. } 2 \qquad \boxtimes \frac{\text{E}}{\text{W}}$	Street Address of Well							
	City Village or Town							
	A hhoteford							
Local Grid Origin (estimated: ) or Well Location	Present Well Owner Original Owner							
Lat 0 1 "Long 0 1 "OF	WisDOT WisDOT							
	Street Address or Route of Owner							
State Planeft. Nft. E. L. L. Zone								
Reason For Abandomnent WI Unique Well No.	City, State, Zip Code							
completed sampling of Replacement Well	Abbotstord, Wisconsin							
(3) WELL/DRILLHULE/BUKEHULE INFURMATION	(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL							
Original Construction Date2/24/2005	Pump & Piping Removed? Yes INO Not Applicable							
Monitoring Well	Corean Removed?							
Water Well If a Well Construction Report is available, please attach.	Casing Left in Place?							
Drillhole / Borehole								
Construction Type:	$\frac{1}{100}$ Was Casing Cut Off Delow Surface? $\square$ res $\square$ No							
Drilled Driven (Sandpoint) Dug	Did Material Settle After 24 Hours?							
$\square \text{ Different purchased} \qquad \square \text{ Different purchased} $	If Yes, Was Hole Retopped?							
	Required Method of Placing Sealing Material							
Formation Type:	Conductor Pine - Gravity Conductor Pine - Pumped							
Unconsolidated Formation L Bedrock	$\Box$ Screened & Poured $\blacksquare$ Other (Explain) Gravity							
Total Well Depth (ft) 1.0 Casing Diameter (in )	(Bentonite Chips)							
(From ground surface)	Sealing Materials For monitoring wells and							
Casing Depth (II.)	Neat Cement Grout monitoring well boreholes only							
Lower Drillhole Diameter (in.)	Sand-Cement (Concrete) Grout							
Was Well Annular Space Grouted? 🛛 Yes 🖾 No 🔲 Unknown	Concrete							
If Ves. To What Denth? Feet	Clay-Sand Slurry							
	Bentonite-Sand Slurry							
Depth to water (reet)								
(5) Sealing Material Used	From (Ft.) To (Ft.) Sacks Sealant MIX Katio or Mud Weight							
Destarito	Surface 10 0.25							
Dentointe								
	<u> </u>							
(6) Commants								
(7) Name of Person or Firm Doing Sealing Work Date of Abandonm	nent							
STS Consultants Ltd. 2/24/05	FOR DNR OR COUNTY USE ONLY							
Signature of Person Doing Work Date Signed	Date Received Noted By							
En: (. Schilt 3/18/05								
Street or Route Telephone Number	Comments							
1035 Kepler Drive 920-468-1978								
City, State, Zip Code								
Green Bay Wisconsin 54311								

.



Wisconsin Department of Transportation-Drainage Ditch STS Project No. 4-27811XV May 9, 2005

#### 3.4 Laboratory Reports and Chain of Custody Forms



# **Cover Page**

All analyses performed according to EPA Methods (EPA-600/4-79/020, March 1983 or SW-846, Third Edition). Sample chain-of-custody form(s) attached.

Client: STS Consultants - Green Bay

WWA Job #: 21615

Project: Date Received:	27811XV 2/25/2005	Sample Matrix: Date Reported:	Soil 3/17/2005
Sample Number	Client Sample ID	Date Sampled	
21615-001	GP-1 (2-4)	02/23/05	
21615-002	GP-1 (5-8)	02/23/05	×
21615-003	GP-2 (0-3.5)	02/23/05	
21615-00 <u>4</u> _	GP-2 (5.5-8)	02/23/05	
21615-00 <u>5</u>	GP-3 (3-6.5)	02/23/05	
21615-00 <u>6</u>	GP-3 (6.5-8)	02/23/05	
21615-007_	GP-4 (3-5)	02/23/05	
21615-008	GP-4 (5-8)	02/23/05	
21615-009	GP-5 (3-5)	02/23/05	
21615-0 <u>10</u>	GP-5 (5-8)	02/23/05	
21615-0 <u>11</u>	GP-6 (2.5-6)	02/23/05	
21615-012	GP-6 (6-8)	02/23/05	
21615-0 <u>13</u>	GP-7 (0.3-2.5)	02/23/05	
21615-0 <u>14</u>	GP-7 (2.5-8)	02/23/05	
21615-015	GP-8 (4-8)	02/23/05	
21615-0 <u>16</u>	GP-9 (4-8)	02/23/05	
21615-0 <u>17</u>	GP-10 (3.5-8)	02/23/05	
21615-0 <u>18</u>	GP-11 (0-4.5)	02/23/05	
21615-019	GP-11 (4.5-8)	02/23/05	
21615-0 <u>20</u>	GP-12 (0-4.5)	02/23/05	
21615-0 <u>21</u>	GP-12 (4.5-8)	02/23/05	
21615-0 <u>22</u>	GP-13 (0-4)	02/23/05	
21615-023	GP-13 (4-8)	02/23/05	
21615-024	GP-14 (0-4)	02/23/05	·
21615-025-	GP-14 (4-8)	02/23/05	
21615-026	GP-15 (0-1)	02/23/05	

429 River Lane • P.



Comments (if any):

Key to Laboratory Flags:

B: The analyte was found in the associated blank as well as in the sample.

J: The analyte was positively identified, the quantitation is an estimation.

M: A matrix effect was present.

Q: Batch QC data associated with samples does not meet stated objectives.

U: The analyte was analyzed for, but not detected. The associated numerical value is at or below the MDL.

I certify that the data contained in this Final Report has been generated and reviewed in accordance with approved methods and White Water Associates Standard Operating Procedures. Exceptions, if any, are discussed in the accompanying sample narrative. Release of this Final Report is authorized by White Water Associates management, as is verified by the following signature.

A DAN

Approved By:



Client: STS Consultants - Green Bay

WWA Job #: 21615

**Project:** 27811XV **Date Received:** 2/25/2005

Date Reported: 3/17/2005

Sample Matrix:

Soil

	TCLP - Meta	ls - EPA 131	1/7000			
Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
21615-005 / GP-3 (3-6.5)						
Lead (TCLP)	0.006 J	mg/L	3/11/2005	6010B	0.003	0.009
21615-014 / GP-7 (2.5-8)						
Lead (TCLP)	0.015	mg/L	3/11/2005	6010B	0.003	0.009
21615-017 / GP-10 (3.5-8)	. *					
Lead (TCLP)	0.009 J	mg/L	3/11/2005	6010B	0.003	0.009
21615-021 / GP-12 (4.5-8)						
Lead (TCLP)	0.012	mg/L	3/11/2005	6010B	0.003	0.009
21615-026 / GP-15 (0-1)						
Nickel (TCLP)	0.014	mg/L	3/11/2005	6010B	0.001	0.003
Arsenic (TCLP)	ND	mg/L	3/11/2005	6010B	0.006	0.020
Barium (TCLP)	0.412	mg/L	3/11/2005	6010B	0.0003	0.001
Cadmium (TCLP)	ND	mg/L	3/11/2005	6010B	0.001	0.003
Chromium (TCLP)	0.006	mg/L	3/11/2005	6010B	0.001	0.003
Copper (TCLP)	0.010	mg/L	3/11/2005	6010B	0.001	0.003
Lead (TCLP)	0.024	mg/L	3/11/2005	6010B	0.003	0.009
Mercury (TCLP)	ND	mg/L	3/11/2005	7470A	0.0001	0.0004
Selenium (TCLP)	ND	mg/L	3/11/2005	6010B	0.006	0.020
Silver (TCLP)	ND	mg/L	3/11/2005	6010B	0.0003	0.001
Zinc (TCLP)	0.113	mg/L	3/11/2005	6010B	0.003	0.010

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 1 of 2



Client: STS Consultants - Green Bay

WWA Job #: 21615

 Project:
 27811XV
 Sample Matrix:

 Date Received:
 2/25/2005
 Date Reported:

Matrix: Soil ported: 3/8/2005

# **Volatile Organics**

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
21615-026 / GP-15 (0-1)						
Dichlorodifluoromethane	ND	ug/kg	3/1/2005	8260B	120	240
Chloromethane	ND	ug/kg	3/1/2005	8260B	120	240
Vinyl Chloride	ND	ug/kg	3/1/2005	8260B	24	48
Chloroethane	ND	ug/kg	3/1/2005	8260B	120	240
Bromomethane	ND	ug/kg	3/1/2005	8260B	120	240
Trichlorofluoromethane	ND	ug/kg	3/1/2005	8260B	24	48
Diethyl Ether	ND	ug/kg	3/1/2005	8260B	120	240
1, 1-Dichloroethene	ND	ug/kg	3/1/2005	8260B	24	48
Carbon Disulfide	ND	ug/kg	3/1/2005	8260B	24	48
Methyl Iodide	ND	ug/kg	3/1/2005	8260B	24	48
Methylene Chloride	ND	ug/kg	3/1/2005	8260B	120	240
Acetone	ND	ug/kg	3/1/2005	8260B	480	970
trans-1,2-Dichloroethene	ND	ug/kg	3/1/2005	8260B	24	48
MtBE	ND	ug/kg	3/1/2005	8260B	24	48
1,1-Dichloroethane	ND	ug/kg	3/1/2005	8260B	24	48
Acrylonitrile	ND	ug/kg	. 3/1/2005	8260B	120	240
Vinyl Acetate	ND	ug/kg	3/1/2005	8260B	24	48
cis-1,2-Dichloroethene	ND	ug/kg	3/1/2005	8260B	24	48
2,2-Dichloropropane	ND	ug/kg	3/1/2005	8260B	24	48
Bromochloromethane	ND	ug/kg	3/1/2005	8260B	24	48
Chloroform	ND	ug/kg	3/1/2005	8260B ·	24	48
Carbon Tetrachloride	ND	ug/kg	3/1/2005	8260B	24	48
1, 1, 1-Trichloroethane	ND	ug/kg	3/1/2005	8260B	24	48
MEK	MEK 507 J		3/1/2005	8260B	120	970
1,1-Dichloropropene	ND	ug/kg	3/1/2005	8260B	24	48

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit,

ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 46 of 48



Client: STS Consultants - Green Bay

WWA Job #: 21615

**Project:** 27811XV Date Received: 2/25/2005

1

Sample Matrix: Soil 3/8/2005 **Date Reported:** 

# **Volatile Organics**

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
21615-026/GP-15 (0-1)						
Benzene	ND	ug/kg	3/1/2005	8260B	24	48
1,2-Dichloroethane	ND	ug/kg	3/1/2005	8260B	24	48
Trichloroethene	ND	ug/kg	3/1/2005	8260B	24	48
Dibromomethane	ND	ug/kg	3/1/2005	8260B	24	48
1,2-Dichloropropane	ND	ug/kg	3/1/2005	8260B	24	48
Bromodichloromethane	ND	ug/kg	3/1/2005	8260B	24	48
cis-1,3-Dichloropropene	ND	ug/kg	3/1/2005	8260B	24	48
Toluene	ND	ug/kg	3/1/2005	8260B	24	48
MIBK	ND	ug/kg	3/1/2005	8260B	120	240
Tetrachloroethene	ND	ug/kg	3/1/2005	8260B	24	. 48
trans-1,3-Dichloropropene	ND	ug/kg	3/1/2005	8260B	24	48
l,1,2-Trichloroethane	ND	ug/kg	3/1/2005	8260B	24	48
Dibromochloromethane	ND	ug/kg	3/1/2005	8260B	24	48
1,3-Dichloropropane	ND	ug/kg	3/1/2005	8260B	24	48
1,2-Dibromoethane	ND	ug/kg	3/1/2005	8260B	24	48
2-Hexanone	ND	ug/kg	3/1/2005	8260B	120	240
Chlorobenzene	ND	ug/kg	3/1/2005	8260B	24	48
1,1,1,2-Tetrachloroethane	ND	ug/kg	3/1/2005	8260B	24	48
Ethylbenzene	ND	ug/kg	3/1/2005	8260B	24	48
m/p-Xylene	ND	ug/kg	3/1/2005	8260B	48	97
o-Xylene	ND	ug/kg	3/1/2005	8260B	24	48
Styrene	ND	ug/kg	3/1/2005	8260B	24	48
Bromoform	ND	ug/kg	3/1/2005	8260B	24	48
Isopropylbenzene	ND	ug/kg	3/1/2005	8260B	24	48
n-Propylbenzene	ND	ug/kg	3/1/2005	8260B	24	48

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 47 of 48



Client: STS Consultants - Green Bay

WWA Job #: 21615

 Project:
 27811XV

 Date Received:
 2/25/2005

Sample Matrix:SoilDate Reported:3/8/2005

## Volatile Organics

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
21615-026/GP-15 (0-1)						
Bromobenzene	ND	ug/kg	3/1/2005	8260B	24	48
1,1,2,2-Tetrachloroethane	ND	ug/kg	3/1/2005	8260B	24	48
2-Chlorotoluene	ND	ug/kg	3/1/2005	8260B	24	48
1,3,5-Trimethylbenzene	ND	ug/kg	3/1/2005	8260B	24	48
1,2,3-Trichloropropane	ND	ug/kg	3/1/2005	8260B	24	48
Trans-1,4-Dichloro-2-butene	ND	ug/kg	3/1/2005	8260B	24	48
4-Chlorotoluene	ND	ug/kg	3/1/2005	8260B	24	.48
t-Butylbenzene	ND	ug/kg	3/1/2005	8260B	24	48
1,2,4-Trimethylbenzene	ND	ug/kg	3/1/2005	8260B	24	97
s-Butylbenzene	ND	ug/kg	3/1/2005	8260B	24	48
p-Isopropyltoluene	ND	ug/kg	3/1/2005	8260B	24	48
1,3-Dichlorobenzene	ND	ug/kg	3/1/2005	8260B	24	48
1,4-Dichlorobenzene	ND	ug/kg	3/1/2005	8260B	24	48
n-Butylbenzene	ND	ug/kg	3/1/2005	8260B	24	48
Hexachloroethane	ND	ug/kg	3/1/2005	8260B	120	240
1,2-Dichlorobenzene	ND	ug/kg	3/1/2005	8260B	24	48
1,2-Dibromo-3-chloropropane	ND	ug/kg	3/1/2005	8260B	120	240
Hexachlorobutadiene	ND	ug/kg	3/1/2005	8260B	24	48
1,2,4-Trichlorobenzene	ND	ug/kg	3/1/2005	8260B	120	240
Naphthalene	ND	ug/kg	3/1/2005	8260B	120	240
1,2,3-Trichlorobenzene	ND	ug/kg	3/1/2005	8260B ·	120	240
2-Methylnaphthalene	ND	ug/kg	3/1/2005	8260B	120	240

J: The analyte was positively identified, the quantitation is an estimation.

MEK has been found in MeOH at 12.43ppb or 620ug/Kg.

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 48 of 48

# **TLaboratories**

WHITE WATER ASSOCIATES Project Name:

Project #:

Contract #: 581 Folder #: 45,653 Page 12 of 15

CTI LAB#:	301851	Sample Description:	21615-25					Sampleo	d: 2/23/	2005	
<b>a</b> lyte		Result Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method	,
enanthrene		<0.0011 mg/kg	0.0011	0.0033	1.0		3/8/2005	3/15/2005	SHU	EPA 8310	
Pyrene		<0.0022 mg/kg	0.0022	0.0067	1.0		3/8/2005	3/15/2005	SHU	EPA 8310	

CTI LAB#:	301852	Sample Descripti	ion:	21615-26					Sampled:	2/23	/2005
alyte		Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Horganic Result	ts							-			
⇒lids, Percent		92.9	%	N/A	N/A	1.0			3/1/2005	GCE	EPA 5030A
Prganic Results											
Diesel Range Organio	cs	<2.2	mg/kg	2.2	7.2	1.0		3/4/2005	3/8/2005	CLW	WDNR DRO
Aroclor-1016		<0.012	mg/kg	0.012	0.043	1.0		3/4/2005	3/9/2005	CLW	EPA 8082
Arocior-1221		<0.016	mg/kg	0.016	0.054	1.0		3/4/2005	3/9/2005	CLW	EPA 8082
roclor-1232		<0.014	mg/kg	0.014	0.043	1.0		3/4/2005	3/9/2005	CLW	EPA 8082
Aroclor-1242		<0.012	mg/kg	0.012	0.043	1.0		3/4/2005	3/9/2005	CLW	EPA 8082
Aroclor-1248		<0.016	mg/kg	0.016	0.054	1.0		3/4/2005	3/9/2005	CLW	EPA 8082
-roclor-1254		<0.011	mg/kg	0.011	0.032	1.0		3/4/2005	3/9/2005	CLW	EPA 8082
Aroclor-1260		<0.011	mg/kg	0.011	0.022	1.0		3/4/2005	3/9/2005	CLW	EPA 8082
1,2,4,5-Tetrachlorobe	nzene	<0.040	mg/kg	0.040	0.13	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
1,2,4-Trichlorobenzer	ne	<0.053	mg/kg	0.053	0.18	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
2-Dichlorobenzene		<0.037	mg/kg	0.037	0.12	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
1,3-Dichlorobenzene		<0.041	mg/kg	0.041	0.14	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
4-Dichlorobenzene		<0.043	mg/kg	0.043	0.14	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
⊇,4,5-Trichlorophenol		<0.047	mg/kg	0.047	0.16	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
2,4,6-Trichlorophenol		<0.034	mg/kg	0.034	0.11	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
₽,4-Dichlorophenol		<0.027	mg/kg	0.027	0.090	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
2,4-Dimethylphenol		<0.018	mg/kg	0.018	0.062	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
2,4-Dinitrophenol		<0.043	mg/kg	0.043	0.14	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
2,4-Dinitrotoluene		<0.079	mg/kg	0.079	0.26	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
2,6-Dichlorophenol		<0.021	mg/kg	0.021	0.069	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
2,6-Dinitrotoluene		<0.094	mg/kg	0.094	0.31	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
2-Chloronaphthalene		<0.017	mg/kg	0.017	0.060	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
2-Chlorophenol		<0.065	mg/kg	0.065	0.22	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
2-Methyinaphthalene		0.027	mg/kg	0.027	0.089	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
2-Methylphenol		<0.087	mg/kg <sup>·</sup>	0.087	0.29	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C

WI DNR Lab Certification Number: 157066030 DATCP Certification Number: 105-000289 LA NELAP Certification Number: 04091

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# aboratories

WHITE WATER ASSOCIATES Project Name:

Project #:

Contract #: 581 Folder #: 45,653 Page 13 of 15

CTI LAB#: 301852	Sample Description:	21615-26					Sampled:	2/23	/2005
lyte	Result Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
litroaniline	<0.067 mg/kg	0.067	0.22	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
2-Nitrophenol	<0.026 mg/kg	0.026	0.088	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
4-Methylphenol	<0.063 mg/kg	0.063	0.21	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
]]'-Dichlorobenzidine	<0.062 mg/kg	0.062	0.20	1.0		3/2/2005	3/11/2005	JJA	EPA 8270C
3-Nitroaniline	<0.052 mg/kg	0.052	0.17	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
-Dinitro-2-methylphenol	<0.029 mg/kg	0.029	0.098	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
Bromophenyl-phenyl ether	<0.029 mg/kg	0.029	0.096	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
4-Chloro-3-methylphenol	<0.064 mg/kg	0.064	0.21	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
Chloroaniline	<0.024 mg/kg	0.024	0.078	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
4-Chiorophenyl-phenyl ether	<0.0 <b>7</b> 7 mg/kg	0.077	0.26	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
4-Nitroaniline	<0.073 mg/kg	0.073	0.24	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
Nitrophenol	<0.12 mg/kg	0.12	0.41	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
Acenaphthene	<0.034 mg/kg	0.034	0.11	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
Acenaphthylene	<0.034 mg/kg	0.034	0.11	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
	<0.030 mg/kg	0.030	0.10	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
Aniline	<0.032 mg/kg	0.032	0.11	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
thracene	<0.026 mg/kg	0.026	0.085	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
	<0.074 mg/kg	0.074	0.24	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
Penzo(a)anthracene	<0.037 mg/kg	0.037	0.12	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
Benzo(a)pyrene	0.060 mg/kg	0.052 *	0.18	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
enzo(b)fluoranthene	0.069 mg/kg	0.043 *	0.15	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
-Renzo(g,h,i)pe ylene	<0.037 mg/kg	0.037	0.12	1.0		3/2/2005	3/11/2005	JJA	EPA 8270C
Benzo(k)fluoranthene	<0.047 mg/kg	0.047	0.16	1.0		3/2/2005	3/11/2005	JJA	EPA 8270C
enzyl alcohol	<0.055 mg/kg	0.055	0.18	<u> </u>		3/2/2005	3/11/2005	JJA	EPA 8270C
Bis(2-chloroethoxy)methane	<0.018 mg/kg	0.018	0.063	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
Bis(2-chloroethyl)ether	<0.031 mg/kg	0.031	0.10	1.0		3/2/2005	3/11/2005	JJA	EPA 8270C
⇒is(2-chloroisopropyl)ether	<0.032 mg/kg	0.032	0.11	1.0		3/2/2005	3/11/2005	JJA	EPA 8270C
Bis(2-ethylhexyl)phthalate	<0.045 mg/kg	0.045	0.15	1.0		3/2/2005	3/11/2005	JJA	EPA 8270C
Butylbenzylphthalate	<0.035 mg/kg	0.035	0.11	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
⊇arbazole	<0.040 mg/kg	0.040	0.13	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
Chrysene	<0.030 mg/kg	0.030	0.10	1.0		3/2/2005	3/11/2005	JJA	EPA 8270C
Di-n-butylphthalate	<0.044 mg/kg	0.044	0.15	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
<b>Di-n-octylphthalate</b>	<0.040 mg/kg	0.040	0.13	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
Dibenzo(a,h)anthracene	<0.042 mg/kg	0.042	0.14	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
Dibenzofuran	<0.057 mg/kg	0.057	0.19	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
Diethylphthalate	<0.084 mg/kg	0.084	0.28	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
Dimethylphthalate	<0.084 mg/kg	0.084	0.28	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C

WI DNR Lab Certification Number: 157066030

DATCP Certification Number: 105-000289 LA NELAP Certification Number: 04091



# **CTLab** ratories

WHITE WATER ASSOCIATES Project Name: Project #:

Contract #: 581 Folder #: 45,653 Page 14 of 15

CTILAB#: 301852	Sample Description:	21615-26					Sampled:	2/23/	2005
Analyte	Result Units	LOD	LOQ	Dilution (	Qualifier	Prep Date	Analysis Date	Analyst	Method
Fluoranthene	<0.035 mg/kg	0.035	0.11	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
Fluorene	<0.070 mg/kg	0.070	0.24	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
Hexachlorobenzene	<0.023 mg/kg	0.023	0.077	1.0		3/2/2005	3/11/2005	JJΥ	EPA 8270C
Hexachlorobutadiene	<0.057 mg/kg	0.057	0.19	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
Hexachlorocyclopentadiene	<0.035 mg/kg	0.035	0.12	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
=Hexachloroethane	<0.039 mg/kg	0.039	0.13	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
Hexachloropropene	<0.074 mg/kg	0.074	0.24	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
Indeno(1,2,3-cd)pyrene	<0.043 mg/kg	0.043	0.14	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
Sophorone	<0.017 mg/kg	0.017	0.058	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
_N-Nitroso-di-n-propylamine	<0.038 mg/kg	0.038	0.13	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
N-Nitrosodimethylamine	<0.052 mg/kg	0.052	0.17	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
N-Nitrosodiphenylamine &	<0.058 mg/kg	0.058	0.20	1.0		3/2/2005	3/11/2005	JJA	EPA 8270C
N-Nitrosopyrrolidine	<0.039 mg/kg	0.039	0.13	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
Naphthalene	<0.042 mg/kg	0.042	0.14	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
Nitrobenzene	<0.028 mg/kg	0.028	0.092	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
-Pentachlorophenol	<0.027 mg/kg	0.027	0.089	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
Phenanthrene	<0.018 mg/kg	0.018	0.063	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
Phenol	<0.068 mg/kg	0.068	0.23	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
Pyrene	0.036 mg/kg	0.030	* 0.10	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C
	<0.036 mg/kg	0.036	0.12	1.0		3/2/2005	3/11/2005	JJY	EPA 8270C

CTI LAB#:	302736	Sample Description:	21615-25					Sampled:	2/23/	/2005
nalyte		Result <sup>®</sup> Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
<b>Drganic Results</b>										
CLP Benzene		<0.040 mg/L	0.040	0.13	100.0		3/8/2005	3/11/2005	GRB	EPA 8260B
TCLP 2-Butanone		<0.70 mg/L	0.70	2.5	100.0		3/8/2005	3/11/2005	GRB	EPA 8260B
-CLP Carbon tetrachlo	oride	<0.050 mg/L	0.050	0.16	100.0		3/8/2005	3/11/2005	GRB	EPA 8260B
ICLP Chlorobenzene		<0.050 mg/L	0.050	0.18	100.0		3/8/2005	3/11/2005	GRB	EPA 8260B
TCLP Chloroform		<0.050 mg/L	0.050	0.17	100.0		3/8/2005	3/11/2005	GRB	EPA 8260B
-CLP 1,2-Dichloroetha	ine	<0.050 mg/L	0.050	0.15	100.0		3/8/2005	3/11/2005	GRB	EPA 8260B
TCLP 1,1-Dichloroethe	ene	<0.050 mg/L	0.050	0.18	100.0		-3/8/2005	3/11/2005	GRB	EPA 8260B
CLP Tetrachloroether	ne	<0.040 mg/L	0.040	0.14	100.0		3/8/2005	3/11/2005	GRB	EPA 8260B
-CLP Trichloroethene		<0.015 mg/L	0.015	0.050	100.0		3/8/2005	3/11/2005	GRB	EPA 8260B
		<0.012 mg/L	0.012	0.039	100.0		3/8/2005	3/11/2005	GRB	EPA 8260B

WI DNR Lab Certification Number: 157066030 DATCP Certification Number: 105-000289 LA NELAP Certification Number: 04091





WHITE WATER ASSOCIATES Project Name: Project #: Contract #: 581 Folder #: 45,653 Page 15 of 15

#### Hetes regarding entire Chain of Custody:

Hotes: \* Indicates Value in between LOD and LOQ.

samples were received intact and properly preserved unless otherwise noted. The results reported relate only to the samples tested. is report shall not be reproduced, except in full, without written approval of this laboratory. The Chain of Custody is attached.

is report satisfies the requirements of your project but has not been prepared to comply with NELAP reporting requirements.

Submitted by:

1

#### QC Qualifiers

- ode <u>Description</u> Analyte averaged calibration criteria within acceptable limits.
- Analyte detected in associated Method Blank.
- Toxicity present in BOD sample.
- Diluted Out.
  - Safe, No Total Coliform detected.
- Unsafe, Total Coliform detected, no E. Coli detected.
- Unsafe, Total Coliform detected and E. Coli detected.
- Holding time exceeded.
- Estimated value.
- Significant peaks were detected outside the chromatographic window.
- Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
- Insufficient BOD oxygen depletion.
- Complete BOD oxygen depletion.
- Concentration of analyte differs more than 40% between primary and confirmation analysis.
- Laboratory Control Sample outside acceptance limits.
- See Narrative at end of report.
- Surrogate standard recovery outside acceptance limits due to apparent matrix effects.
- Sample received with improper preservation or temperature.
- Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference.
- V Sample amount received was below program minimum.
- X Analyte exceeded calibration range.
- Y Replicate/Duplicate precision outside acceptance limits.
- Z Calibration criteria exceeded.

WI DNR Lab Certification Number: 157066030 DATCP Certification Number: 105-000289 LA NELAP Certification Number: 04091





216	15	CLIENT		I-OF-CU	STO	DY	RE	CORI	DA	ND	ANA	LYS			UES	ESTED	۲ 		<b>&gt;</b>	
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SAMP LOCAT	LE ION	SAMPLE I.D.#	TIME	DATE	GRAB S	MPLE T BUSONNOO	MATRIX	ERS	1	Co/S	5/4	N <sup>i</sup>		3/2	¥ 5/ ×/		REMAR	KS:		429 Ph
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	Page: of
	Attach to the COC and include with the final report.
WHITE V	VATER ASSOCIATES, INC.
Log	in Checklist
Project Number: <u>21615</u> Date Log	ged in: <u>2125105</u> Login Person Initials: <u>BM</u>
# of Coolers:	Courier: <u>UPS</u>
Client: <u>STS</u>	Project Name: <u>27811×1</u>

If no to any, notify the project manager and project manager documents client response below.

	YES NO	
1.	Were custody seals/original packing tape intact?	
2.	Are the samples in good condition, i.e. not broken or leaking?	
3.	Are samples within holding times?	
4.	Were the samples received on ice (ice in direct contact with the samples)?	
5.	Is the temperature of the samples between 2-6°C? Temp. $47$	
6.	Do the samples match the COC?	
7.	Were the proper containers used?	
8.	Were the samples collected in White Water lab containers?	
9.	Is there adequate sample volume for requested analyses and QC?	
10.	Do water VOC samples contain headspace less than the size of a pea? $\dots \dots \dots$	
11.	Are samples preserved to the proper pH? If no, identify sample bottle and	
12.	Is the chain of custody signed?	
13.	Is sub-sampling required? (Note bottles created and preserved below.)	
14.	For Dissolved Analysis, were samples filtered in the lab?	
15.	Were encores received? (VOC analysis)	
16.	Were soil VOCs preserved with methanol in the lab?	/
17.	Is client contact necessary? Provide documentation below.	

#### COMMENTS/CORRECTIVE ACTION

CLIENT RESPONSE (Provide date/time of contact, client response and project manager initials)

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# DECEIVED

MAY 2 6 2005



#### **Phase II Subsurface Investigation**

State Highway 13 Right-of-Way Adjacent to Wiegel's Auto Body

( )

1

State Highway 13 Reconstruction Pine Street to Linden Street City of Abbotsford Marathon and Clark County, Wisconsin

#### WisDOT Project ID 1620-01-04

**Report Prepared By:** 

STS Consultants, Ltd. 1035 Kepler Drive Green Bay, Wisconsin 54311 Telephone: (920) 468-1978 Fax: (920) 468-3312 Email: garvey@stsconsultants.com STS Project No. 4-27811XV

May 2005



STS Consultants, Ltd. 1035 Kepler Drive Green Bay, Wisconsin 54311

May 9, 2005

Ms. Janet Smith, Environmental Coordinator Wisconsin Department of Transportation 1681 Second Avenue South Wisconsin Rapids, Wisconsin 54495

Re: Phase II Subsurface Assessment, Proposed State Highway 13 Upgrade Project, Right-of-Way Adjacent to Weigel's Auto Body, 500 North Fourth Street, Abbotsford, Marathon County, Wisconsin --WisDOT Project ID No. 1620-01-04 -- STS Project No. 4-27811XV

Dear Ms. Smith:

STS Consultants, Ltd. (STS) is pleased to submit this Phase II Subsurface Assessment (Phase II) for the State Highway 13 (STH 13) right-of-way (ROW) adjacent to the Weigel's Auto Body property located at 500 North Fourth Street in the City of Abbotsford, Marathon County, Wisconsin. The site was selected for a Phase II to assess environmental conditions associated with former fuel dispensing activities and underground storage tanks (USTs) at the Weigel's Auto Body property.

Phase II results indicate that soils in the STH 13 ROW adjacent to Weigel's Auto Body are not impacted with volatile organic compound(s), gasoline range organics, or diesel range organics above regulatory standards.

This report was completed in accordance with WisDOT Work Order No. 52 for Project ID No. 1620-01-04. If you have any questions regarding this report, please contact Mr. Paul Garvey at (920) 406-3149.

Sincerely,

STS CONSULTANTS, LTD.

Eric C. Schmidt Assistant Project Engineer

Paul M. Garvey Senior Project Scientist

Michael J. Carney, P.G.

Associate Geologist

Copy: Mr. John Lewis Bureau of Environment 4802 Sheboygan Avenue, Room 451 P.O. Box 7965 Madison, Wisconsin 53707-7965

> Mr. Jerold Weigel 500 North Fourth Street Abbotsford, Wisconsin 54405

Ms. Kitt Siegfried Wisconsin Department of Natural Resources West Central Region Office 1300 West Clairemont Avenue P.O. Box 4001 Eau Claire, Wisconsin 54701-4001

#### **Table of Contents**

EXECUTIVE SUMMARY	1
SITE INVESTIGATION	2
2.1 Purpose and Scope	2
2.2 Investigation Program	2
2.3 Site Maps	3
2.4 Geology	4
2.5 Results	7
2.6 Conclusions	9
2.7 Recommendations	9
2.8 General Qualifications	9
APPENDICES	.10
3.1 Photo Log	.10
3.2 WDNR Soil Boring Log Information Forms	.11
3.3 WDNR Well/Drillhole/Borehole Abandonment Forms	.12
3.4 Laboratory Reports and Chain of Custody Forms	.13
	EXECUTIVE SUMMARY

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## **Figures**

Figure 1 - Site Location Map	5
Figure 2 - Boring Location Map	6

# <u>Table</u>

Table 1 - Soil Analytical Results	8
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#### **1.0 EXECUTIVE SUMMARY**

As part of the State Highway 13 (STH 13) upgrade project in Abbotsford, Wisconsin, STS Consultants, Ltd. (STS) was retained by the Wisconsin Department of Transportation (WisDOT) (Client) to perform a Phase II Subsurface Assessment (Phase II) within the STH 13 right-of-way (ROW) adjacent to the Weigel's Auto Body property (Weigel's). The Weigel's property is located 500 North Fourth Street (STH 13) in the city of Abbotsford, Marathon County, Wisconsin. The site was selected for a Phase II to assèss environmental conditions associated with former fuel dispensing activities and underground storage tanks (USTs).

Soil samples analyzed did not indicate concentrations of volatile organic compound(s) (VOCs), petroleum volatile organic compounds (PVOCs), gasoline range organics (GRO), diesel range organics (DRO), polycyclic aromatic hydrocarbons (PAHs), or Toxicity Characteristic Leaching Procedure (TCLP) lead above regulatory standards within the ROW adjacent to the Weigel's property. Based on laboratory analytical results and field observations, concentrations of VOCs, PVOCs, GRO, DRO, PAHs, or TCLP lead above generic regulatory standards are not expected to be encountered during the reconstruction of STH 13 in the vicinity of the Weigel's property.

According to laboratory analytical results provided by White Water Associates, Inc. (White Water), Amasa, Michigan, lead was detected in soil samples collected from the site at concentrations of 130 to 140 milligrams per kilogram (mg/kg), which exceeds the Wisconsin Administrative Code NR 720 Residual Contaminant Level (RCL) protective of human health through direct contact at non-industrial sites (50 mg/kg). However, lead was also detected at similar concentrations (120 to 140 mg/kg) in soil samples collected by STS as part of Phase IIs from other sites within the STH 13 ROW in the city of Abbotsford. Due to the consistently high levels of lead detected in the soil samples collected as part of the STH 13 ROW Phase IIs, STS requested that the original soil samples be retested by White Water to confirm the initial analytical results. STS also submitted two of the soil samples to a second analytical laboratory (En Chem, Inc. [En Chem] Green Bay, Wisconsin) for lead analysis. The lead concentrations reported by En Chem and White Water's confirmatory testing ranged from 3.0 to 9.4 mg/kg, which are below Wisconsin Administrative Code NR 720 RCLs for direct contact. Lead concentrations ranged from 3.0 to 5.4 mg/kg in White Water's confirmatory tests from soil samples collected within the ROW adjacent to the Weigel's property. The concentrations of lead detected are considered indicative of natural occurring background concentrations of lead in soil in the Abbotsford area.

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#### 2.0 SITE INVESTIGATION

#### 2.1 Purpose and Scope

The purpose of the Phase II was to determine whether past land use practices impacted the subsurface at the Weigel's property at 500 North Fourth Street in the area of the proposed STH 13 reconstruction in Abbotsford, Wisconsin.

A Phase I Hazardous Material Assessment (HMA) completed by Short Elliott Hendrickson, Inc. dated September 2003 indicated the Weigel's property was formerly occupied by the Motor Inn Garage and sold Sinclair gas. The report indicated that the location and status of the tank(s) were not known.

According to the Phase I HMA, proposed construction requirements adjacent to the site include utility and storm sewer excavations to an approximate depth of 7 to 8 feet below ground surface (bgs). Excavation will also reportedly be completed within the current STH 13 ROW to an approximate depth of 3 feet bgs for new curb, gutter, and pavement installations. A TLE easement will also be obtained.

The Phase II included the advancement of three soil borings within the proposed project limits to sample and analyze soil that could be disturbed during construction activities. STS selected soil boring locations based on the following: proximity to areas of suspected environmental impact identified in the Phase I HMA, truck accessibility, and location of obstructions (e.g., underground utilities, existing structures).

Site and soil boring locations are presented on Figures 1 and 2 (Section 2.3).

#### 2.2 Investigation Program

STS personnel accessed the ROW adjacent to the Weigel's property on February 24, 2005, to collect soil samples within the proposed project limits. STS retained a subcontract direct push firm (Kitson Environmental Services, Inc., Helenville, Wisconsin) to advance the borings. Three direct push borings (GP-11, GP-12, and GP-13) were advanced at the site. Borings were sequentially numbered based on all borings conducted for multiple Phase IIs completed for WisDOT in the STH 13 ROW. Soil borings were advanced to the proposed utility installation depths and were terminated at a depth of approximately 8 feet bgs.



Soil samples were collected from borings using standard direct-push technology with a powerdriven sampling spoon. A single-use disposable acetate liner was placed in each spoon and the spoon was advanced to the desired depth. The spoon was then retrieved from the boring, the acetate liner is extracted from the spoon, and the liner is cut open allowing removal of the sample. Soil samples were collected continuously from the ground surface to boring termination depths (8 feet). Soil samples recovered from the borings were field-screened with a photoionization detector (PID), which was equipped with a 10.6-electron volt lamp. Soil PID field screening results are indicated on the Soil Boring Log Information Forms (Section 3.2). Following completion of sampling, the borings were abandoned with bentonite and WDNR Well/Drillhole/Borehole Abandonment forms were prepared (Section 3.3).

Selected soil samples were prepared in the field and submitted to White Water Associates, Inc., Amasa, Michigan (White Water), for analysis of one or more of the following analytes:

- Volatile Organic Compounds (VOCs) Environmental Protection Agency (EPA) Method 8260B
- Petroleum Volatile Organic Compounds (PVOCs) EPA Method 8020A
- Gasoline Range Organics (GRO) Wisconsin Modified Method
- Diesel Range Organics (DRO) Wisconsin Modified Method
- Polycyclic Aromatic Hydrocarbons (PAH) EPA Method 8310
- ♦ Lead EPA Method 6010B
- Toxicity Characteristic Leaching Procedure (TCLP) Lead EPA Method 6010B

#### 2.3 Site Maps

Figure 1 shows the location of the site on a portion of the United States Geological Survey (USGS) 7.5-minute topographical quadrangle map of Abbotsford, Wisconsin. Also included on Figure 1 is a state and county map illustrating the location of Abbotsford. Figure 2 is a Site Diagram, which illustrates the locations of borings completed during the Phase II activities.



#### 2.4 Geology

Review of the Department of the Interior, USGS Publication *Water Resources of Wisconsin, Central Wisconsin River Basin, Hydrogeologic Investigations, Atlas HA-367*, Sheet 1 of 4, 1971, indicated that the subject property is located in an area of ground-moraine deposits (silty and clayey till) that overlie crystalline bedrock. The thickness of the glacial lake deposits over the bedrock varies.

The USDA Soil Survey of Marathon County, Wisconsin, (1989) indicated that the native surficial soil in the area of the Weigel's property is Withee silt loam. The Withee Series is described as nearly level and gently sloping somewhat well-drained soil in convex and concave areas on broad ground moraines. Permeability is moderate to moderately slow and surface runoff is slow or medium.

Regional groundwater flow direction is likely south and southeast toward the Wisconsin River (*Water Resources of Wisconsin, Central Wisconsin River Basin, Hydrogeologic Investigations, Atlas HA-367*, Sheet 1 of 4, 1971). Existing ditches, underground utilities (such as sanitary/storm sewer piping systems), and other natural and manmade features may influence local groundwater flow direction. Site-specific groundwater flow direction cannot be determined without installation of monitoring wells.

A review of the Abbotsford, Wisconsin, USGS 7.5-minute topographic map dated 1981 showed the Weigel's property as being located in a generally flat area that slopes to the south at an elevation of approximately +1,410 feet above mean sea level (MSL).

THE INFRASTRUCTURE IMPERATIVE

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#### 2.5 Results

Soils encountered in Borings GP-11, GP-12, and GP-13 consisted of approximately 4 to 4.5 feet of fill (silty sand) overlying brown clayey silt. PID readings from soil collected and screened from Borings GP-11, GP-12, and GP-13 were less than 1 PID unit. PID screening results for soil samples are summarized on the Soil Boring Log Information. Forms in Section 3.2 of the Appendix.

Soil laboratory analytical results are summarized on Table 1 and the laboratory report is attached. Analytical results indicate that GRO, DRO, and VOCs were not detected in soil samples, except for methyl ethyl ketone (MEK). MEK was detected at levels ranging from 270 to 285 micrograms per kilogram (µg/kg) According to a representative from the analytical laboratory (White Water), the detections of MEK are likely attributable to the methanol used as a sample preservative. The laboratory report indicated that MEK has been detected in laboratory methanol at 620 µg/kg. Based on this information, the MEK detected in the soil samples should be considered a laboratory artifact.

According to initial laboratory analytical results provided by White Water lead was detected in soil samples collected from the site concentrations of 130 to 140 milligrams per kilogram (mg/kg), which exceeded the Wisconsin Administrative Code (WAC) NR 720 Residual Contaminant Level (RCL) protective of human health through direct contact at non-industrial sites (50 mg/kg). Lead was detected at similar concentrations (120 to 140 mg/kg) in soil samples collected by STS as part of Phase IIs from other sites within the STH 13 ROW in the City of Abbotsford. Due to the consistently high levels of lead detected in the soil samples collected as part of the STH 13 ROW Phase IIs, STS requested that the original soil samples be retested by White Water to confirm the initial analytical results. STS also submitted two of the soil samples to a second analytical laboratory (En Chem, Green Bay, Wisconsin) for lead analysis. The lead concentrations reported by En Chem and White Water's confirmatory testing ranged from 3.0 to 9.4 mg/kg, which are below WAC NR 720 RCLs for direct contact. Lead concentrations ranged from 3.0 to 5.4 mg/kg in White Water's confirmatory tests from soil samples collected within the ROW adjacent to the Weigel's property. The concentrations of lead detected are considered indicative of natural occurring, background concentrations of lead in soil in the Abbotsford area. TCLP lead was detected at 0.009 milligrams per liter from a soil sample collected at 3.5 to 8 feet bgs at GP-10.

# Table 1Soil Analytical ResultsSTH 13 ROW Adjacent to Wiegel's Auto BodyAbbotsford, Wisconsin

Sample No.	G	P-11	GP	-12	GP	-13		<sup>2</sup> NR 746		
Cumple He.	u n		Ū	12	ŭ			Direct Co	Values	
Sample Date	2/23/05	2/23/05	2/23/05	2/23/05	2/23/05	2/23/05 2/23/05 <sup>Gr</sup>	Groundwater Pathway		Industrial	Table 1
Sample Depth (ft)	0.0-4.5	4.5-8.0	0.0-4.5	4.5-8.0	0.0-4.0	4.0-8.0	Tauiway	Non-industrial	muusinai	SSLs
					Concentratio	on (mg/kg)				
Lead	NA	4.3**/3.7***	NA	3.4**	5.4***	3.5**	NL	50	500	NL
Gasoline Range Organics	<1.4	NA	<1.4	NA	<1.4	NA	100	NL	NL	NL
Diesel Range Organics	NA	NA	NA	<2.2	NA	NA	100	NL	NL	NL
PVOCs ( and detected VOCs)					Concentratio	on (ug/kg)				
1,2,4-Trimethylbenzene	<25	<15	<25	<15	<25	<13	NL <sup>1</sup>	NL	NL	83,000
1,3,5-Trimethylbenzene	<25	<15	<25	<15	<25	<13	NL	NL	NL	11,000
Benzene	<25	<15	<25	<15	<25	<13	5.5	NL	NL	8,500
Ethylbenzene	<25	<15	<25	<15	<25	<13	2,900	< NL	NL	4,600
m/p-Xylene	<25	<30	<25	<30	<25	<27	4,100	NL	NL	42,000
Methyl ethyl keytone (MEK)	NA	270 (j)	NA	280 (j)	NA	285 (j)	NL	NL	NL	NL
Methyl tert-butyl ether	<25	<15	<25	<15	<25	NA	NL	NL	NL	NL
Naphthalene	NA	<74	NA	<76	NA	<67	400	20,000	110,000	2,700
o-Xylene	<15	<15	<15	<15	<15	<13	4,100	NL	NL	42,000
Toluene	<25	<15	<25	<15	<25	<13	1,500	NL	NL	38,000

#### Notes:

(mg/kg) = milligrams per kilogram; (ug/kg) = micrograms per kilogram; < = not detected above method detection limit; NA = not analyzed; NL = No regulatory limit listed for an RCL = Residual Contaminant Level; SSLs = Soil Screening Levels

\*\* - Lead result from a re-test run (test date 5/27/05) on original samples (initial test date 3/1/05) - Both tests performed by White Water Associates, Inc.

\*\*\* - Lead result from En Chem laboratory (test date 4/20/05)

(j) = The analyte was positively identified, the quantification is an estimation.

MEK has been found in methanol (used as preservative during sample preparation) at 620 ug/kg.

<sup>1</sup> NR 720 RCL = Wisconsin Administrative Code Chapter NR 720 Generic Residual Contaminant Level

<sup>2</sup>NR 746 Values = Wisconsin Administrative Code Chapter NR 746 Risk Screening and Closure Criteria

51	Exceeds Ap	plicable NR	720 RC
	-		

4,700 Exceeds NR 746 Soil Screening Levels



#### 2.6 Conclusions

Borings GP-8, GP-9, and GP-10 consisted of approximately 4 to 4.5 feet of fill (silty sand) overlying brown clayey silt. Groundwater was not encountered in the borings. PID readings from soil collected and screened from Borings GP-11, GP-12, and GP-13 were less than 1 PID unit. PID screening results for soil samples are summarized on the WDNR Soil Boring Log Information Forms in Section 3.2.

Laboratory analytical results and field observations do not indicate evidence of petroleum-related impacts at the Weigel's property.

#### 2.7 Recommendations

Based on the results of the Phase II, STS does not recommend additional environmental activities within the STH 13 ROW adjacent to the Weigel's property.

#### 2.8 General Qualifications

Conclusions presented in this report are based on field observations documented in the Phase I report and subsurface conditions as revealed in soil borings at locations identified on the figures. Stratification lines shown on the boring logs (Section 3.2) represent approximate boundaries between soil types. Variations may exist in both the horizontal and vertical directions between boring locations. In addition, seasonal and annual fluctuations of the groundwater table may influence the distribution of compounds in the subsurface environment causing variations in groundwater quality.

STS has prepared this report at the request of our Client. STS assumes responsibility for the accuracy of the contents of this report, subject to what is stated elsewhere in this section, but recommends this report be used only for the purposes intended by the Client and STS at the time this report was prepared. This report may be unsuitable for other uses, and reliance on its content by anyone other than the Client is done at the sole risk of the user. Our interpretations of results represent our scientific judgement based on available information. No other warranties, either expressed or implied, are made.

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#### 3.0 APPENDICES

3.1 Photo Log



View to the northwest of Weigel's site. The three soil sample locations are identified with orange traffic cones.



View to the northwest of Weigel's site. The three soil sample locations are identified with orange traffic cones.



## 3.2 WDNR Soil Boring Log Information Forms

SOIL BORING LOG INFORMATION Rev. 7-98

Form 4400-122

Watershed/Wastewater Route To: Remediation/Redevelopment

Waste Management Other 🗌

Page 1 of 1 Facility/Project Name License/Permit/Monitoring Number Boring Number GP-11 WisDOT STH 13 Boring Drilled By: Name of crew chief (first, last) and Fi m Date Drilling Started Date Drilling Completed Drilling Method Kitson Environmental - G. Kitson -STS Project No. 27811XV 2/24/2005 2/24/2005 direct push DNR Well ID No. WI Unique Well No. Common Well Name Final Static Water Level Surface Elevation **Borehole Diameter** 2.0 inches GP-11 Feet MSL Feet MSL Local Grid Origin (estimated: ) or Boring Location Local Grid Location o Lat State Plane N, Ε S/C/N <u>О</u> N Ωе 0 NW 1/4 of SW 1/4 of Section 31, т 29 N, R 2 E Long Feet 🗌 S Feet 🗌 W Facility ID County County Code Civil Town/City/ or Village 37 Marathon Abbotsford Sample Soil Properties Length Att. & Recovered (in) Soil/Rock Description Compressive Strength Depth In Feet Blow Counts RQD/ Comments And Geologic Origin For Moisture PID/FID and Type Plasticity Diagram SCS Graphic Content Number Each Major Unit Limit P 200 Index Well ള് 1 GP <1 52 Fill: B own fine to medium sand (SP) - t ace gravel frozen to moist -1.5 SP 3.0 4.5 2 GP Brown clayey silt (CL-ML) - little sand - trace gravel -42 <1 moist ·6.0 CL-M 7.5 End of Boring. Boring advanced from 0.0 feet to 8.0 feet. Boring backfilled with bentonite.

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

Signature	Firm	STS Consultants Ltd.	Tel: 920-468-1978
fie C. Salut		1035 Kepler Drive Green Bay, Wisconsin 54311	Fax: 920-468-3312

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

Facility/Project Name

WisDOT STH 13

SOIL BORING LOG INFORMATION Form 4400-122

Boring Number

Date Drilling Completed

Rev. 7-98

Watershed/Wastewater Route To: Remediation/Redevelopment

Boring Drilled By: Name of crew chief (first, last) and Firm

Waste Management

Date Drilling Started

License/Permit/Monitoring Number

Other 🛛

Page 1 of 1

**GP-12** 

Drilling Method

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		STS Consultants Ltd.	1 61: 920-408-1978
3.115.1 11			
		10.35 Kenler Drive Green Bay, Wisconsin 54311	Fax: 920-468-3312
- CONCERNE ON			1 44. 720 100 3312
•			

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SOIL	BORING	LOG	<b>INFORMA</b>	TION
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Form 4400-122 Rev. 7-98

Route To:

Watershed/Wastewater

Waste Management 
Other

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

Signature	Firm	STS Consultants Ltd.	Tel: 920-468-1978
En C. Shalt		1035 Kepler Drive Green Bay, Wisconsin 54311	Fax: 920-468-3312

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#### 3.3 WDNR Well/Drillhole/Borehole Abandonment Forms

Notice: Please complete Form 3300-5 and return it to the appropriate DNR office and bureau. Completion of this report is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See the instructions for more information.

Route to: Drinking Water Watershed/Wastewater Waste Managem	ent Remediat	tion/Redevelo	opment Other		
(i) GENERAL INFORMATION	(2) FACILITY /	OWNER I	NFORMATION		
WI Unique Well No. DNR Well ID No. County	Facility Name				
Marathon	WisDOT STH	H 13			
Common Well Name GP-11 Gov't Lot(if applicable)	Facility ID		License/Permit/Monito	oring No.	
	Street Address of	CTT/_11	1		
$\frac{NW}{Grid L contian}$ 1/4 of Sec. 31; T. 29 N; R. 2 $W$	Street Address of	Well			
	City Village or T	h Street		- 	
	Δ hbotsford	10001			
Local Grid Origin (estimated: ) or Well Location	Present Well Own	ner	Original Own	ıer	
Lat O I II Long O I II Or	WisDOT		WisDOT		
$Lat \_$	Street Address or	Route of Ow	vner		
State Planeft. Nft. E. UUU Zone					
Reason For Abandonment WI Unique Well No.	City, State, Zip Co	ode			
completed sampling of Replacement Well	Abbotsford, V	Wisconsin			
(3) WELL/DRILLHOLE/BOREHOLE INFORMATION	(4) PUMP, LINE	ER. SCRE	EN, CASING, & SEA	ALING MATERIAL	
Original Construction Date 2/24/2005	Pump & Pipir	ing Removed	1? 🛛 Yes 🗋 1	No 🔟 Not Applicable	
	Liner(s) Rem	noved?	U Yes U 1	No 🛛 Not Applicable	
Monitoring Well If a Well Construction Report	Screen Remo	oved?	∐ Yes ∐ 1	No 🖾 Not Applicable	
Water Well is available, please attach.	Casing Left in	in Place?		No	
Drillhole / Borehole	Was Casing (	Cut Off Belo	w Surface?	Yes 🛛 No	
Construction Type:	Did Sealing I	Material Rise	e to Surface?	Yes No	
Drilled Driven (Sandpoint) Dug	Did Material Settle After 24 Hours?  Yes X No				
Other (Specify) direct push	If Yes, Was	as Hole Retop	oped?	Yes No	
	Required Me	ethod of Place	ing Sealing Material		
Formation Type:	Conduct	tor Pine - Gra	avity Conducto	or Pine - Pumned	
Unconsolidated Formation	Screener	A & Poured	Other (E	volain) Gravity	
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(From ground surface)	Sealing Mate	oriale	For m	anitoring wells and	
Casing Depth (it.)		eriais	monito	oring well boreholes only	
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		to		Rentonite Chins	
Was Well Annular Space Grouted? 🗀 Yes 🗠 NO 🗀 Unknown	Clay-Sa	and Slurry	· ! 🖾	Granular Bentonite	
If Yes, To What Depth? Feet	Bentonite-Sand Slurry				
Denth to Water (Feet)		d Bentonite		Bentonite - Sand Slurry	
			·	Mix Ratio	
(5) Sealing Material Used	From (Ft.) 7	To (Ft.)	Sacks Sealant	or Mud Weight	
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(C) Commente					
(6) Comments	· · ·				
(7) Name of Person or Firm Doing Sealing Work Date of Abandonr	nent	TAP			
STS Consultants Ltd. 2/24/05		fuk	DNR OR COUNTY UP	Æ ONLY	
Signature of Person Doing Work Date Signed	Date Rec	ceived	Noted By		
200 ( h. 17 3/18/05					
Street or Koute	Commen	nts			
1035 Kepler Drive 920-468-1978					
City, State, Zip Code					
Green Bay, wisconsin 54511					
State of Wisconsin Department of Natural Resources

1

Notice: Please complete Form 3300-5 and return it to the appropriate DNR office and bureau. Completion of this report is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See the instructions for more information.

Route to: Drinking Water 🔛 Watershed/Wastewater 🔛 Waste Manager	nent Remediation/Redevelopment Other
(1) GENERAL INFORMATION	(2) FACILITY /OWNER INFORMATION
WI Unique Well No. DNR Well ID No. County	Facility Name
Marathon	WisDOT STH 13
Gov't Lot (if applicable)	FacilityID         License/Permit/Monitoring No.
<u>NW</u> 1/4 of <u>SW</u> 1/4 of Sec. <u>31</u> ; T. <u>29</u> N; R. <u>2</u> $\bowtie$ E	Street Address of Well
Grid Location	500 North 4th Street
ft. □ N. □ S.,ft. ⊔ E. ⊔ W.	City, Village, or Town
Local Grid Origin (estimated: ) or Well Location	Abbotsford
	Present Well Owner Original Owner
Lat Long or	WisDOT WisDOI
State Planeft. Nft. E. □ □ □ Zone	Street Address or Koute or Owner
Reason For Abandonment WI Unique Well No.	City, State, Zip Code
completed sampling of Replacement Well	Abbotsford, Wisconsin
(3) WELL/DRILLHOLE/BOREHOLE INFORMATION	(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL
2/24/2005	Pumn & Pining Removed? Yes No Not Applicable
Original Construction Date	Liner(s) Removed?
Monitoring Well	Screen Removed? Yes Vos Not Applicable
Water Well II a well construction Report is available, please attach.	Casing Left in Place?
Drillhole / Borehole	
Construction Type	Was Casing Cut Off Below Surface?
	Did Sealing Material Rise to Surface?
Driven (Sandpoint)	Did Material Settle Atter 24 Hours?
Other (Specify) direct push	If Yes, Was Hole Retopped?
Formation Type:	Required Method of Placing Sealing Material
	Conductor Pipe - Gravity Conductor Pipe - Pumped
Unconsolidated Formation	Screened & Poured Other (Explain) Gravity
Total Well Depth (ft) 8.0 Casing Diameter (in.)	(Bentonite Chips)
(From ground surface)	Sealing Materials For monitoring wells and
Casing Deput(10.)	Next Cement Grout monitoring well boreholes only
Lower Drillhole Diameter (in.)	Sand-Cement (Concrete) Grout
	Concrete
Was Well Annular Space Grouted?	Clav-Sand Slurry
If Yes, To What Depth? Feet	Bentonite-Sand Slurry
Denth to Water (Feet)	Chipped Bentonite
	Mix Ratio
(5) Sealing Material Used	From (Ft.) To (Ft.) Sacks Seatant or Mud Weight
Bentonite	Surface 8.0 0.25
<u></u>	·
(6) Comments	
(7) Name of Person or Firm Doing Sealing Work Date of Abandor	iment
STS Consultants Ltd. 2/24/05	FOR DNR OR COUNTY USE ONLY
Signature of Person Doing Work Date Signed	Date Received Noted By
5. C.S. It 3/18/05	
Street or Route Telephone Number	Comments
1035 Kepler Drive 920-468-1978	

Green Bay, Wisconsin 54311

State of Wisconsin Department of Natural Resources

Notice: Please complete Form 3300-5 and return it to the appropriate DNR office and bureau. Completion of this report is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. State, and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. State, failure to file this form may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See the instructions for more information.

Route to: Drinking Wa	ater 🗌 Watershed	1/Wastewa	iter 🗌 Waste Manager	nent 🗌 Rem	ediation/Redeve	lopment	Other		
(1) GENERAL INFO	RMATION			(2) FACILI	<b>FY /OWNER</b>	INFORM	1ATION		
WI Unique Well No.	DNR. Well ID No.	County		Facility Nam	e				
	1	Marat	thon	WisDOT	STH 13				
Common Well Name	<u>GP-13</u>	c	Jov't Lot (if applicable)	Facility ID		License	:/Permit/Monit	oring No.	
NW 1/4 of SW 1	14 of Sac 31	т 29	х. р. 2. 🛛 Е	Street Addres	ss of Well	_1			
Grid Location	4 01 300 ,	, I. <u> </u>	<u> </u>	500 North	h 4th Street				
	N 🗆 S.,		<b>п</b> П.Е. □ W.	City, Village	, or Town				
	(	V or V		Abbotsfo	rd				
Local Grid Origin	(estimated:	) or w		Present Well	Owner		Original Owr	ner	
Lat '	" Long	<u> </u>	or	WisDOT			WisDOT		
State Plane	θN	Ĥ		Street Addres	ss or Route of O	wner			
Reason For Abandonmen	t WIU	Jniaue W		City. State, Z	Lin Code				
completed sampling	of R	eplacemer	of Well	Abbotsfo	rd. Wisconsin				
(3) WELL/DRILLHO	DLE/BOREHOL	E INFO!	RMATION	(4) PUMP, I	LINER, SCR	EEN, CA	SING. & SE	ALING MATERIAL	
	2/24/2	1005		Pump &	Dining Remov	ad2			
Original Construction	Date	.005		Liner(s)	Piping icomoved?	, u	┤╷╦╷╷	No Not Applicable	
Monitoring Well			D-mant	Screen F	Pemoved?	Ī		No Not Applicable	
Water Well	11 a is 7	i Well Con available, j	istruction Report nlease attach.	Casing I	eft in Place?	Ī			
Drillhole / Boreh	iole			Was Car			<u> </u>	·· M	
Construction Type:				Was Cas Did Sea	sing Cut OII De	low Surrace	*? ⊔ -∽ ⊠ ·	$\frac{\text{Yes}}{\text{Y}_{}} \prod_{N_0} N_0$	
		Condmoint		Did Mat	ling Matchan N	Se 10 Jui a	×e? ⊾ ∽ □	$\frac{Yes}{V_{res}} \prod N_0$	
	di-oot mich	Sanupoint	) 🗆 Dug	If Yes	Was Hole Ret	7 24 110013 onned?	í j		
Other (Specify)	direct push				, was now new	Jupou:			
Formation Type:					d Methou oi ria	Cingocann	g Materiai	D' During	
Unconsolidated F	formation	Ľ	Bedrock	Screened & Poured Conductor Pipe - Pumped					
	80	- · D:	<i>*</i> ``	(B	Contonite Chins)			xplain) Glavity	
Total Well Depin (11) (From ground surface	<u> </u>	Casing Dia	ameter (in.)	Sociing Materials					
(	, (	Casing De	pth (ft.)		Materiais		FOr ne	onitoring wells and	
Lower Drillhole Diam	neter (in.)				At Cement (Con	t Grou	11101110	oring well boreholes only	
		۱ F		Concrete					
Was Well Annular op	ace Grouted?	Yes 🗠	No Li Unknown		v-Sand Slurry		! 🖾	Granular Bentonite	
If Yes, To W	hat Depth?		Feet	Ber	ntonite-Sand Slu	Irry		Bentonite-Cement Grout	
Depth to Water (Feet)	)				ipped Bentonite		iD	Bentonite - Sand Slurry	
(5)	Sealing Materia	-1 Used	········	Erom (Ft)		Sack	- Caalant	Mix Ratio	
(3)	Jeaning manana	1 USCU		From (rv.)	10(r.)	Jäck	s Sealant	or Mud Weight	
Bentonite				Surface	8.0		0.25		
						[			
					<b> </b>	İ		· · · · · ·	
				4	I;			<b></b>	
(6) Comments									
(7) Name of Person or Fit	rm Doing Sealing W	/ork	Date of Abandon	ment					
STS Consultants Lto	d		2/24/05		FO	R DNR OF	COUNTY US	SE ONLY	
Signature of Person Doing	g Work		Date Signed	Dat	e Received		oted By		
5.75	-1.6	4	3/12/05		, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		un,		
Street or Route	a marcine	Telephon	e Number	Con	aments	E			
1035 Kepler Drive		920-4	68-1978						
City, State, Zip Code									
Green Bay, Wiscons	sin 54311								



Wisconsin Department of Transportation-Weigel's Auto Body STS Project No. 4-27811XV May 9, 2005

### 3.4 Laboratory Reports and Chain of Custody Forms



## **Cover Page**

All analyses performed according to EPA Methods (EPA-600/4-79/020, March 1983 or SW-846, Third Edition). Sample chain-of-custody form(s) attached.

Client: STS Consultants - Green Bay

WWA Job #: 21615

Project: Date Received:	27811XV 2/25/2005	Sample Matrix: Date Reported:	Soil 3/17/2005
Sample Number	Client Sample ID	Date Sampled	
21615-001	GP-1 (2-4)	02/23/05	
21615-002	GP-1 (5-8)	02/23/05	
21615-003	GP-2 (0-3.5)	02/23/05	
21615-00 <u>4</u> _	GP-2 (5.5-8)	02/23/05	
21615-00 <u>5</u>	GP-3 (3-6.5)	02/23/05	
21615-00 <u>6</u>	GP-3 (6.5-8)	02/23/05	
21615-007_	GP-4 (3-5)	02/23/05	
21615-008	GP-4 (5-8)	02/23/05	
21615-009	GP-5 (3-5)	02/23/05	
21615-0 <u>10</u>	GP-5 (5-8)	02/23/05	
21615-0 <u>11</u>	GP-6 (2.5-6)	02/23/05	
21615-012	GP-6 (6-8)	02/23/05	
21615-0 <u>13</u>	GP-7 (0.3-2.5)	02/23/05	
21615-0 <u>14</u>	GP-7 (2.5-8)	02/23/05	
21615-0 <u>15</u>	GP-8 (4-8)	02/23/05	
21615-0 <u>16</u>	GP-9 (4-8)	02/23/05	· · · · · · · · · · · · · · · · · · ·
21615-0 <u>17</u>	GP-10 (3.5-8)	02/23/05	
21615-0 <u>18</u>	GP-11 (0-4.5)	02/23/05	
21615-019	GP-11 (4.5-8)	02/23/05	
.21615-0 <u>20</u>	GP-12 (0-4.5)	02/23/05	
21615-0 <u>21</u>	GP-12 (4.5-8)	02/23/05	
21615-0 <u>22</u>	GP-13 (0-4)	02/23/05	
21615-023	GP-13 (4-8)	02/23/05	
21615-024	GP-14 (0-4)	02/23/05	•
21615-025- 1	GP-14 (4-8)	02/23/05	
21615-026	GP-15 (0-1)	02/23/05	
<i>u</i>			

I



Comments (if any):

#### Key to Laboratory Flags:

B: The analyte was found in the associated blank as well as in the sample.

J: The analyte was positively identified, the quantitation is an estimation.

M: A matrix effect was present.

Q: Batch QC data associated with samples does not meet stated objectives.

U: The analyte was analyzed for, but not detected. The associated numerical value is at or below the MDL.

I certify that the data contained in this Final Report has been generated and reviewed in accordance with approved methods and White Water Associates Standard Operating Procedures. Exceptions, if any, are discussed in the accompanying sample narrative. Release of this Final Report is authorized by White Water Associates management, as is verified by the following signature.

**Approved By:** OANL



Client: STS Consultants - Green Bay

WWA Job #: 21615

Date Received:	2/25/2005		Date Repo	atrix: Soi orted: 3/1	1 7/2005				
Trace Metals in Solids									
Sample / Client San	nple ID	Result	Units	Date	Method	MDL	MQL		
21615-005/GP-3 (3	3-6.5)								
Lead (s)		120	mg/kg	3/1/2005	6010B	1	3		
21615-008 / GP-4 (5	5-8)								
Lead (s)		130	mg/kg	3/1/2005	6010B	1	3		
21615-009 / GP-5 (3	3-5)								
Lead (s)		140	mg/kg	3/1/2005	6010B	1	4		
21615-012/GP-6 (6	5-8)								
Lead (s)		130	mg/kg	3/1/2005	6010B	1	3		
21615-014/GP-7 (2	2.5-8)								
Lead (s)		130	mg/kg	3/1/2005	6010B	1	3		
21615-019 / GP-11	(4.5-8)								
Lead (s)		130	mg/kg	3/1/2005	6010B	1	3		
21615-021 / GP-12	(4.5-8)								
Lead (s)		140	mg/kg	3/1/2005	6010B ·	1	3		
21615-023 / GP-13	(4-8)								
Lead (s)		130	mg/kg	3/1/2005	6010B	1	3		

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 1 of 2



Client: STS Consultants - Green Bay

**WWA Job #:** 21615

Project: Date Received:	27811XV 2/25/2005	Sample Matrix:SoilDate Reported:3/17/2005							
TCLP - Metals - EPA 1311/7000									
Sample / Client Sar	mple ID	Result	Units	Date	Method	MDL	MQL		
21615-005/GP-3 (	3-6.5)								
Lead (TCLP)		0.006 J	mg/L	3/11/2005	6010B	0.003	0.009		
21615-014/GP-7 (	2.5-8)		* .						
Lead (TCLP)		0.015	mg/L	3/11/2005	6010B	0.003	0.009		
21615-017 / GP-10	(3.5-8)								
Lead (TCLP)		0.009 J	mg/L	3/11/2005	6010B	0.003	0.009		
21615-021 / GP-12	(4.5-8)								
Lead (TCLP)		0.012	mg/L	3/11/2005	6010B	0.003	0.009		
21615-026 / GP-15	(0-1)								
Nickel (TCLP)		0.014	mg/L	3/11/2005	6010B	0.001	0.003		
Arsenic (TCLP)		ND	mg/L	3/11/2005	6010B	0.006	0.020		
Barium (TCLP)		0.412	mg/L	3/11/2005	6010B	0.0003	0.001		
Cadmium (TCLP	)	ND	mg/L	3/11/2005	6010B	0.001	0.003		
Chromium (TCL)	P)	0.006	mg/L	3/11/2005	6010B	0.001	0.003		
Copper (TCLP)		0.010	mg/L	3/11/2005	6010B	0.001	0.003		
Lead (TCLP)		0.024	mg/L	3/11/2005	6010B	0.003	0.009		
Mercury (TCLP)		ND	mg/L	3/11/2005	7470A ·	0.0001	0.0004		
Selenium (TCLP)	)	ND	mg/L	3/11/2005	6010B	0.006	0.020		
Silver (TCLP)		ND	mg/L	3/11/2005	6010B	0.0003	0.001		
Zinc (TCLP)		0.113	mg/L	3/11/2005	6010B	0.003	0.010		

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 1 of 2



Client: STS Consultants - Green Bay

WWA Job #: 21615

Project:	27811XV	Sample Matrix:	Soil
Date Received:	2/25/2005	Date Reported:	3/8/2005

# Volatile Organics

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL	
21615-019/GP-11 (4.5-8)							
Dichlorodifluoromethane	ND	ug/kg	3/1/2005	8260B	74	150	
Chloromethane	ND	ug/kg	3/1/2005	8260B	74	150	
Vinyl Chloride	ND	ug/kg	3/1/2005	8260B	15	30	
Chloroethane	ND	ug/kg	3/1/2005	8260B	74	150	
Bromomethane	ND	ug/kg	3/1/2005	8260B	74	150	
Trichlorofluoromethane	ND	ug/kg	3/1/2005	8260B	15	30	
Diethyl Ether	ND	ug/kg	3/1/2005	8260B	74	150	
1, 1-Dichloroethene	ND	ug/kg	3/1/2005	8260B	15	30	
Carbon Disulfide	ND	ug/kg	3/1/2005	8260B	15	30	
Methyl Iodide	ND	ug/kg	3/1/2005	8260B	15	30	
Methylene Chloride	ND	ug/kg	3/1/2005	8260B	74	150	
Acetone	ND	ug/kg	3/1/2005	8260B	300	590	
trans-1,2-Dichloroethene	ND	ug/kg	3/1/2005	8260B	15	30	
MtBE	ND	ug/kg	3/1/2005	8260B	15	30	
1, 1-Dichloroethane	ND	ug/kg	3/1/2005	8260B	15	30	
Acrylonitrile	ND	ug/kg	3/1/2005	8260B	74	150	
Vinyl Acetate	ND	ug/kg	3/1/2005	8260B	15	30	
cis-1,2-Dichloroethene	ND	ug/kg	3/1/2005	8260B	15	30	
2,2-Dichloropropane	ND	ug/kg	3/1/2005	8260B	15	30	
Bromochloromethane	ND	ug/kg	3/1/2005	8260B	15	30	
Chloroform	ND	ug/kg	3/1/2005	8260B	15	30	
Carbon Tetrachloride	ND	ug/kg	3/1/2005	8260B	15	30	
1,1,1-Trichloroethane	ND	ug/kg	3/1/2005	8260B	15	30	
MEK	270 J	ug/kg	3/1/2005	8260B	74	590	
l,1-Dichloropropene	ND	ug/kg	3/1/2005	8260B	15	30	

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 37 of 48



Client: STS Consultants - Green Bay

**WWA Job #:** 21615

Project:	27811XV	Sample Matrix:	Soil
Date Received:	2/25/2005	Date Reported:	3/8/2005

## **Volatile Organics**

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
21615-019/GP-11 (4.5-8)						
Benzene	ND	ug/kg	3/1/2005	8260B	15	30
1,2-Dichloroethane	ND	ug/kg	3/1/2005	8260B	15	30
Trichloroethene	ND	ug/kg	3/1/2005	8260B	15	30
Dibromomethane	ND	ug/kg	3/1/2005	8260B	15	30
1,2-Dichloropropane	ND	ug/kg	3/1/2005	8260B	15	30
Bromodichloromethane	ND	ug/kg	3/1/2005	8260B	15	30
cis-1,3-Dichloropropene	ND	ug/kg	3/1/2005	8260B	15	30
Toluene	ND	ug/kg	3/1/2005	8260B	15	30
MIBK	ND	ug/kg	3/1/2005	8260B	74	150
Tetrachloroethene	ND	ug/kg	3/1/2005	8260B	15	30
trans-1,3-Dichloropropene	ND	ug/kg	3/1/2005	8260B	15	30
1,1,2-Trichloroethane	ND	ug/kg	3/1/2005	8260B	15	30
Dibromochloromethane	ND	ug/kg	3/1/2005	8260B	15	30
1,3-Dichloropropane	ND	ug/kg	3/1/2005	8260B	15	30
1,2-Dibromoethane	ND	ug/kg	3/1/2005	8260B	15	30
2-Hexanone	ND	ug/kg	3/1/2005	8260B	74	150
Chlorobenzene	ND	ug/kg	3/1/2005	8260B	15	30
1,1,1,2-Tetrachloroethane	ND	ug/kg	3/1/2005	8260B	15	30
Ethylbenzene	ND	ug/kg	3/1/2005	8260B	15	30
m/p-Xylene	ND	ug/kg	3/1/2005	8260B	30	59
o-Xylene	ND	ug/kg	3/1/2005	8260B	15	30
Styrene	ND	ug/kg	3/1/2005	8260B	15	30
Bromoform	ND	ug/kg	3/1/2005	8260B	15	30
Isopropylbenzene	ND	ug/kg	3/1/2005	8260B	15	30
n-Propylbenzene	ND	ug/kg	3/1/2005	8260B	15	30

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 38 of 48



ECOLOGICAL CONSULTING AND ENVIRONMENTAL LABORATORY SERVICES

## WHITE WATER ASSOCIATES, INC.

Client: STS Consultants - Green		<b>WWA Job #: 21615</b>						
Project:         27811XV           Date Received:         2/25/2005	•	Sample M Date Repo	atrix: Soi	1 /2005				
Volatile Organics								
Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL		
21615-019 / GP-11 (4.5-8)								
Bromobenzene	ND	ug/kg	3/1/2005	8260B	15	30		
1,1,2,2-Tetrachloroethane	ND	ug/kg	3/1/2005	8260B	15	30		
2-Chlorotoluene	ND	ug/kg	3/1/2005	8260B	15	30		
1,3,5-Trimethylbenzene	ND	ug/kg	3/1/2005	8260B	15	30		
1,2,3-Trichloropropane	ND	ug/kg	3/1/2005	8260B	15	30		
Trans-1,4-Dichloro-2-butene	ND	ug/kg	3/1/2005	8260B	15	30		
4-Chlorotoluene	ND	ug/kg	3/1/2005	8260B	15	30		
t-Butylbenzene	ND	ug/kg	3/1/2005	8260B	15	30		
1,2,4-Trimethylbenzene	ND	ug/kg	3/1/2005	8260B	15	59		
s-Butylbenzene	ND	ug/kg	3/1/2005	8260B	15	30		
p-Isopropyltoluene	ND	ug/kg	3/1/2005	8260B	15	30		
1,3-Dichlorobenzene	ND	ug/kg	3/1/2005	8260B	15	30		
1,4-Dichlorobenzene	ND	ug/kg	3/1/2005	8260B	15	30		
n-Butylbenzene	ND	ug/kg	3/1/2005	8260B	15	30		
Hexachloroethane	ND	ug/kg	3/1/2005	8260B	74	150		
1,2-Dichlorobenzene	ND	ug/kg	. 3/1/2005	8260B	15	30		
1,2-Dibromo-3-chloropropane	ND	ug/kg	3/1/2005	8260B	74	150		
Hexachlorobutadiene	ND	ug/kg	3/1/2005	8260B	15	30		
1,2,4-Trichlorobenzene	ND	ug/kg	3/1/2005	8260B	74	150		
Naphthalene	ND	ug/kg	3/1/2005	8260B	74	150		
1,2,3-Trichlorobenzene	ND	ug/kg	3/1/2005	8260B ·	74	150		
2-Methylnaphthalene	ND	ug/kg	3/1/2005	8260B	74	150		

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 39 of 48



Client: STS Consultants - Green Bay

WWA Job #: 21615

 Project:
 27811XV
 Sample Matrix:
 Soil

 Date Received:
 2/25/2005
 Date Reported:
 3/8/2005

Volatile Organics								
Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL		
21615-021 / GP-12 (4.5-8)								
Dichlorodifluoromethane	ND	ug/kg	3/1/2005	8260B	76	150		
- Chloromethane	ND	ug/kg	3/1/2005	8260B	76	150		
Vinyl Chloride	ND	ug/kg	3/1/2005	8260B	15	30		
Chloroethane	ND	ug/kg	3/1/2005	8260B	76	150		
Bromomethane	ND	ug/kg	3/1/2005	8260B	76	150		
Trichlorofluoromethane	ND	ug/kg	3/1/2005	8260B	15	30		
Diethyl Ether	ND	ug/kg	3/1/2005	8260B	76	150		
1,1-Dichloroethene	ND	ug/kg	3/1/2005	8260B	15	30		
Carbon Disulfide	ND	ug/kg	3/1/2005	8260B	15	30		
Methyl Iodide	ND	ug/kg	3/1/2005	8260B	15	30		
Methylene Chloride	ND	ug/kg	3/1/2005	8260B	76	150		
Acetone	ND	ug/kg	3/1/2005	8260B	300	600		
trans-1,2-Dichloroethene	ND	ug/kg	3/1/2005	8260B	15	30		
MtBE	ND	ug/kg	3/1/2005	8260B	15	30		
1,1-Dichloroethane	ND	ug/kg	3/1/2005	8260B	15	30		
Acrylonitrile	ND	ug/kg	. 3/1/2005	8260B	76	150		
Vinyl Acetate	ND	ug/kg	3/1/2005	8260B	15	30		
cis-1,2-Dichloroethene	ND	ug/kg	3/1/2005	8260B	15	30		
2,2-Dichloropropane	ND	ug/kg	3/1/2005	8260B	15	30		
Bromochloromethane	ND	ug/kg	3/1/2005	8260B	15	30		
Chloroform	ND	ug/kg	3/1/2005	8260B ·	15	30		
Carbon Tetrachloride	ND	ug/kg	3/1/2005	8260B	15	30		
1,1,1-Trichloroethane	ND	ug/kg	3/1/2005	8260B	15	30		
MEK	280 J	ug/kg	3/1/2005	8260B	76	600		
1,1-Dichloropropene	ND	ug/kg	3/1/2005	8260B	15	30		

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit,

ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 40 of 48



Client: STS Consultants - Green Bay

1

WWA Job #: 21615

 Project:
 27811XV
 Sample Matrix:
 Soil

 Date Received:
 2/25/2005
 Date Reported:
 3/8/2005

## **Volatile Organics**

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL	
21615-021 / GP-12 (4.5-8)							
Benzene	ND	ug/kg	3/1/2005	8260B	15	30	
1,2-Dichloroethane	ND	ug/kg	3/1/2005	8260B	15	30	
Trichloroethene	ND	ug/kg	3/1/2005	8260B	15	30	
Dibromomethane	ND	ug/kg	3/1/2005	8260B	15	30	
1,2-Dichloropropane	ND	ug/kg	3/1/2005	8260B	15	30	
Bromodichloromethane	ND	ug/kg	3/1/2005	8260B	15	30	
cis-1,3-Dichloropropene	ND	ug/kg	3/1/2005	8260B	15	30	
Toluene	ND	ug/kg	3/1/2005	8260B	15	30	
MIBK	ND	ug/kg	3/1/2005	8260B	76	150	1
Tetrachloroethene	ND	ug/kg	3/1/2005	8260B	15	30	
trans-1,3-Dichloropropene	ND	ug/kg	3/1/2005	8260B	15	30	
1,1,2-Trichloroethane	ND	ug/kg	3/1/2005	8260B	15	30	
Dibromochloromethane	ND	ug/kg	3/1/2005	8260B	15	30	
1,3-Dichloropropane	ND	ug/kg	3/1/2005	8260B	15	30	
1,2-Dibromoethane	ND	ug/kg	3/1/2005	8260B	15	30	
2-Hexanone	ND	ug/kg	3/1/2005	8260B	76	150	
Chlorobenzene	ND	ug/kg	3/1/2005	8260B	15	30	
1,1,1,2-Tetrachloroethane	ND	ug/kg	3/1/2005	8260B	15	30	
Ethylbenzene	ND	ug/kg	3/1/2005	8260B	15	30	
m/p-Xylene	ND	ug/kg	3/1/2005	8260B	30	60	
o-Xylene	ND	ug/kg	3/1/2005	8260B ·	15	30	
Styrene	ND	ug/kg	3/1/2005	8260B	15	30	
Bromoform	ND	ug/kg	3/1/2005	8260B	15	30	
Isopropylbenzene	ND	ug/kg	3/1/2005	8260B	15	30	
n-Propylbenzene	ND	ug/kg	3/1/2005	8260B	15	30	
	•						

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 41 of 48



Client: STS Consultants - Green Bay

**WWA Job #:** 21615

 Project:
 27811XV

 Date Received:
 2/25/2005

Sample Matrix:SoilDate Reported:3/8/2005

### **Volatile Organics**

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
21615-021 / GP-12 (4.5-8)						
Bromobenzene	ND	ug/kg	3/1/2005	8260B	15	30
1,1,2,2-Tetrachloroethane	ND	ug/kg	3/1/2005	8260B	15	30
2-Chlorotoluene	ND	ug/kg	3/1/2005	8260B	15	30
1,3,5-Trimethylbenzene	ND	ug/kg	3/1/2005	8260B	15	30
1,2,3-Trichloropropane	ND	ug/kg	3/1/2005	8260B	15	30
Trans-1,4-Dichloro-2-butene	ND	ug/kg	3/1/2005	8260B	15	30
4-Chlorotoluene	ND	ug/kg	3/1/2005	8260B	15	30
t-Butylbenzene	ND	ug/kg	3/1/2005	8260B	15	30
1,2,4-Trimethylbenzene	ND	ug/kg	3/1/2005	8260B	15	60
s-Butylbenzene	ND	ug/kg	3/1/2005	8260B	15	30
p-Isopropyltoluene	ND	ug/kg	3/1/2005	8260B	15	30
1,3-Dichlorobenzene	ND	ug/kg	3/1/2005	8260B	15	30
1,4-Dichlorobenzene	ND	ug/kg	3/1/2005	8260B	15	30
n-Butylbenzene	ND	ug/kg	3/1/2005	8260B	15	30
Hexachloroethane	ND	ug/kg	3/1/2005	8260B	76	150
1,2-Dichlorobenzene	ND	ug/kg	. 3/1/2005	8260B	15	30
1,2-Dibromo-3-chloropropane	ND	ug/kg	3/1/2005	8260B	76	150
Hexachlorobutadiene	ND	ug/kg	3/1/2005	8260B	15	30
1,2,4-Trichlorobenzene	ND	ug/kg	3/1/2005	8260B	76	150
Naphthalene	ND	ug/kg	3/1/2005	8260B	76	150
1,2,3-Trichlorobenzene	ND	ug/kg	3/1/2005	8260B	76	150
2-Methylnaphthalene	ND	ug/kg	3/1/2005	8260B	76	150

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 42 of 48



Client: STS Consultants - Green Bay

WWA Job #: 21615

 Project:
 27811XV

 Date Received:
 2/25/2005

Sample Matrix:SoilDate Reported:3/8/2005

## **Volatile Organics**

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
21615-023 / GP-13 (4-8)		4				
Dichlorodifluoromethane	ND	ug/kg	3/1/2005	8260B	67	130
Chloromethane	ND	ug/kg	3/1/2005	8260B	67	130
Vinyl Chloride	ND	ug/kg	3/1/2005	8260B	13	27
Chloroethane	ND	ug/kg	3/1/2005	8260B	67	130
Bromomethane	ND	ug/kg	3/1/2005	8260B	67	130
Trichlorofluoromethane	ND	ug/kg	3/1/2005	8260B	13	27
Diethyl Ether	ND	ug/kg	3/1/2005	8260B	67	130
1,1-Dichloroethene	ND	ug/kg	3/1/2005	8260B	13	27
Carbon Disulfide	ND	ug/kg	3/1/2005	8260B	13	27
Methyl Iodide	ND	ug/kg	3/1/2005	8260B	13	27
Methylene Chloride	ND	ug/kg	3/1/2005	8260B	67	130
Acetone	ND	ug/kg	3/1/2005	8260B	270	540
trans-1,2-Dichloroethene	ND	ug/kg	3/1/2005	8260B	13	27
MtBE	ND	ug/kg	3/1/2005	8260B	13	27
1,1-Dichloroethane	ND	ug/kg	3/1/2005	8260B	13	27
Acrylonitrile	ND	ug/kg	3/1/2005	8260B	67	130
Vinyl Acetate	ND	ug/kg	3/1/2005	8260B	13	27
cis-1,2-Dichloroethene	ND	ug/kg	3/1/2005	8260B	13	27
2,2-Dichloropropane	ND	ug/kg	3/1/2005	8260B	13	27
Bromochloromethane	ND	ug/kg	3/1/2005	8260B	13	27
Chloroform	ND	ug/kg	3/1/2005	8260B	13	27
Carbon Tetrachloride	ND	ug/kg	3/1/2005	8260B	13	27
1,1,1-Trichloroethane	ND	ug/kg	3/1/2005	8260B	13	27
MEK	285 J	ug/kg	3/1/2005	8260B	67	540
1,1-Dichloropropene	ND	ug/kg	3/1/2005	8260B	13	27

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 43 of 48



Client: STS Consultants - Green Bay

WWA Job #: 21615

Sample Matrix: **Project:** 27811XV Soil **Date Received:** 2/25/2005 **Date Reported:** 3/8/2005 **Volatile Organics MDL** Sample / Client Sample ID Result Units Date Method MQL

21615-023 / GP-13 (4-8)

Benzene	ND	ug/kg	3/1/2005	8260B	13	27
1,2-Dichloroethane	ND	ug/kg	3/1/2005	8260B	13	27
Trichloroethene	ND	ug/kg	3/1/2005	8260B	13	27
Dibromomethane	ND	ug/kg	3/1/2005	8260B	13	27
1,2-Dichloropropane	ND	ug/kg	3/1/2005	8260B	13	27
Bromodichloromethane	ND	ug/kg	3/1/2005	8260B	13	27
cis-1,3-Dichloropropene	ND	ug/kg	3/1/2005	8260B	13	27
Toluene	ND	ug/kg	3/1/2005	8260B	13	27
MIBK	ND	ug/kg	3/1/2005	8260B	67	130
Tetrachloroethene	ND	ug/kg	3/1/2005	8260B	13	27
trans-1,3-Dichloropropene	ND	ug/kg	3/1/2005	8260B	13	27
1,1,2-Trichloroethane	ND	ug/kg	3/1/2005	8260B	13	27
Dibromochloromethane	ND	ug/kg	3/1/2005	8260B	13	27
1,3-Dichloropropane	ND	ug/kg	3/1/2005	8260B	13	27
1,2-Dibromoethane	ND	ug/kg	3/1/2005	8260B	13	27
2-Hexanone	ND	ug/kg	. 3/1/2005	8260B	67	130
Chlorobenzene	ND	ug/kg	3/1/2005	8260B	13	27
1,1,1,2-Tetrachloroethane	ND	ug/kg	3/1/2005	8260B	13	27
Ethylbenzene	ND	ug/kg	3/1/2005	8260B	13	27
m/p-Xylene	ND	ug/kg	3/1/2005	8260B	27	54
o-Xylene	ND	ug/kg	3/1/2005	8260B	13	27
Styrene	ND	ug/kg	3/1/2005	8260B	13	27
Bromoform	ND	ug/kg	3/1/2005	8260B	13	27
Isopropylbenzene	ND	ug/kg	3/1/2005	8260B	13	27
n-Propylbenzene	ND	ug/kg	3/1/2005	8260B	13	27

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 44 of 48



Client: STS Consultants - Green Bay

WWA Job #: 21615

Project:         27811XV           Date Received:         2/25/2005		Sample M Date Rep	fatrix: Soi orted: 3/8	1 /2005		
	Volati	e Organics			· · ·	
Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
21615-023 / GP-13 (4-8)						
Bromobenzene	ND	ug/kg	3/1/2005	8260B	13	27
1,1,2,2-Tetrachloroethane	ND	ug/kg	3/1/2005	8260B	13	27
2-Chlorotoluene	ND	ug/kg	3/1/2005	8260B	13	27
1,3,5-Trimethylbenzene	ND	ug/kg	3/1/2005	8260B	13	27
1,2,3-Trichloropropane	ND	ug/kg	3/1/2005	8260B	13	27
Trans-1,4-Dichloro-2-butene	ND	ug/kg	3/1/2005	8260B	13	27
4-Chlorotoluene	ND	ug/kg	3/1/2005	8260B	13	27
t-Butylbenzene	ND	ug/kg	3/1/2005	8260B	13	27
1,2,4-Trimethylbenzene	ND	ug/kg	3/1/2005	8260B	13	54
s-Butylbenzene	ND	ug/kg	3/1/2005	8260B	13	27
p-Isopropyltoluene	ND	ug/kg	3/1/2005	8260B	13	27
1,3-Dichlorobenzene	ND	ug/kg	3/1/2005	8260B	13	27
1,4-Dichlorobenzene	ND	ug/kg	3/1/2005	8260B	13	27
n-Butylbenzene	ND	ug/kg	3/1/2005	8260B	13	27
Hexachloroethane	ND	ug/kg	3/1/2005	8260B	67	130
1,2-Dichlorobenzene	ND	ug/kg	3/1/2005	8260B	13	27
1,2-Dibromo-3-chloropropane	ND	ug/kg	3/1/2005	8260B	67	130
Hexachlorobutadiene	ND	ug/kg	3/1/2005	8260B	13	27
1,2,4-Trichlorobenzene	ND	ug/kg	3/1/2005	8260B	67	130
Naphthalene	ND	ug/kg	3/1/2005	8260B	67	130
1,2,3-Trichlorobenzene	ND	ug/kg	3/1/2005	8260B	67	130
2-Methylnaphthalene	ND	ug/kg	3/1/2005	8260B	67	130

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 45 of 48

WHITE WATER ASSOCIATES Project Name:

Project #:

Contract #: 581 Folder #: 45,653 Page 8 of 15

CTI LAB#:	301842	Sample Description:	21615-16				Sampled:	2/23/	2005
Analyte		Result Uni <b>ts</b>	LOD	LOQ	Dilution Qualifier	Prep Date	Analysis Date	Analyst	Method
Indeno(1,2,3-cd)pyren	e	<0.0011 mg/kg	0.0011	0.0023	1.0	3/8/2005	3/14/2005	SHU	EPA 8310
Naphthalene		<0.012 mg/kg	0.012	0.041	1.0	3/8/2005	3/14/2005	SHU	EPA 8310
Phenanthrene		<0.0011 mg/kg	0.0011	0.0034	1.0	3/8/2005	3/14/2005	SHU	EPA 8310
Pyrene		<0.0023 mg/kg	0.0023	0.0068	1.0	3/8/2005	3/14/2005	SHU	EPA 8310

CTI LAB#:	301843	Sample Descript	tion:	21615-17					Sampled: 2/23/2005		/2005
Analyte		Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Results	S										
Solids, Percent		87.7	7%	N/A	N/A	1.0	)		3/1/2005	GCE	EPA 5030A
Organic Results											
Diesel Range Organics	S	<2.3	8 mg/kg	2.3	7.6	1.0	)	3/4/2005	3/8/2005	CLW	WDNR DRO
1-Methylnaphthalene		<0.0068	3 mg/kg	0.0068	0.023	1.0	)	3/8/2005	3/15/2005	SHU	EPA 8310
2-Methylnaphthalene		<0.0068	3 mg/kg	0.0068	0.024	1.0	1	3/8/2005	3/15/2005	SHU	EPA 8310
Acenaphthene		<0.0057	′ mg/kg	0.0057	0.019	1.0	1	3/8/2005	3/15/2005	SHU	EPA 8310
Acenaphthylene		<0.0057	′ mg/kg	0.0057	0.021	1.0	1	3/8/2005	3/15/2005	SHU	EPA 8310
Anthracene		<0.0011	mg/kg	0.0011	0.0034	1.0	)	3/8/2005	3/15/2005	SHU	EPA 8310
Benzo(a)anthracene		<0.0011	mg/kg	0.0011	0.0023	1.0	)	3/8/2005	3/15/2005	SHU	EPA 8310
Benzo(a)pyrene		<0.0011	mg/kg	0.0011	0.0046	1.0	1	3/8/2005	3/15/2005	SHU	EPA 8310
Benzo(b)fluoranthene		0.0014	mg/kg	0.0011 *	0.0023	1.0	P	3/8/2005	3/15/2005	SHU	EPA 8310
Benzo(g,h,i)perylene		<0.0011	mg/kg	0.0011	0.0023	1.0		3/8/2005	3/15/2005	SHU	EPA 8310
Benzo(k)fluoranthene		0.0013	8 mg/kg	0.0011 *	0.0023	1.0	)	3/8/2005	3/15/2005	SHU	EPA 8310
Chrysene		<0.0011	l mg/kg	0.0011	0.0034	1.0	)	3/8/2005	3/15/2005	SHU	EPA 8310
Dibenzo(a,h)anthracen	ne	<0.0034	l mg/kg	0.0034	0.0091	1.0	)	3/8/2005	3/15/2005	SHU	EPA 8310
Fluoranthene		<0.0011	l mg/kg	0.0011	0.0034	1.0		3/8/2005	3/15/2005	SHU	EPA 8310
Fluorene		<0.0023	3 mg/kg	0.0023	0.0080	1.0	1	3/8/2005	3/15/2005	SHU	EPA 8310
Indeno(1,2,3-cd)pyrend	е	<0.0011	mg/kg	0.0011	0.0023	1.0	)	3/8/2005	3/15/2005	SHU	EPA 8310
Naphthatene		<0.013	8 mg/kg	0.013	0.041	1.0	)	3/8/2005	3/15/2005	SHU	EPA 8310
Phenanthrene		<0.0011	mg/kg	0.0011	0.0034	1.0	ľ	3/8/2005	3/15/2005	SHU	EPA 8310
Pyrene		<0.0023	3 mg/kg	0.0023	0.0068	1.0	)	3/8/2005	3/15/2005	SHU	EPA 8310

CTI LAB#:	301844	Sample Descripti	on:	21615-18					Sampled:	2/23/	2005	
Analyte		Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method	,

WI DNR Lab Certification Number: 157066030 DATCP Certification Number: 105-000289 LA NELAP Certification Number: 04091



#### WHITE WATER ASSOCIATES

Project Name: Project #: Contract #: 581 Folder #: 45,653 Page 9 of 15

CTI LAB#:	301844	Sample Descripti	ion:	21615-18					Sampled:	2/23	/2005
Analyte		Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
norganic Result	s										
Solids, Percent		91.2	%	N/A	N/A	1.0	I		3/1/2005	GCE	EPA 5030A
Organic Results											
Gasoline Range Orga	nics	<1.4	mg/kg	1.4	4.7	1.0		3/3/2005	3/4/2005	APG	WDNR GRO
Benzene		<0.025	mg/kg	0.0090	0.029	1.0	I	3/3/2005	3/4/2005	APG	EPA 8020A
Ethylbenzene		<0.025	mg/kg	0.0090	0.029	1.0	I	3/3/2005	3/4/2005	APG	EPA 8020A
Methyl tert-butyl ether	r	<0.025	mg/kg	0.016	0.052	1.0	I	3/3/2005	3/4/2005	APG	EPA 8020A
Toluene		<0.025	mg/kg	0.010	0.034	1.0	I	3/3/2005	3/4/2005	APG	EPA 8020A
1,2,4-Trimethylbenze	ne	<0.025	mg/kg	0.0090	0.031	1.0	)	3/3/2005	3/4/2005	APG	EPA 8020A
1,3,5-Trimethylbenzer	ne	<0.025	mg/kg	0.011	0.037	1.0	1	3/3/2005	3/4/2005	APG	EPA 8020A
m & p-Xylene		<0.025	mg/kg	0.017	0.056	1.0	1	3/3/2005	3/4/2005	APG	EPA 8020A
o-Xylene		<0.025	ma/ka	0.010	0.032	1.0		3/3/2005	3/4/2005	APG	EPA 8020Å

CTI LAB#:	301845	Sample Descript	ion:	21615-20				-	Sampled:	2/23	/2005
Analyte		Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Resul	lts										
Solids, Percent		95.2	. %	N/A	N/A	1.0			3/1/2005	GCE	EPA 5030A
Organic Results	S										÷
Gasoline Range Org	anics	<1.4	mg/kg	1.4	4.5	1.0		3/3/2005	3/4/2005	APG	WDNR GRO
Benzene		<0.025	mg/kg	0.0090	0.029	1.0		3/3/2005	3/4/2005	APG	EPA 8020A
Ethylbenzene		<0.025	mg/kg	0.0090	0.029	1.0	)	3/3/2005	3/4/2005	APG	EPA 8020A
Methyl tert-butyl ethe	er	<0.025	mg/kg	0.016	0.052	1.0		3/3/2005	3/4/2005	APG	EPA 8020A
Toluene		<0.025	i mg/kg	0.010	0.034	1.0		3/3/2005	3/4/2005	APG	EPA 8020A
1,2,4-Trimethylbenzo	ene	<0.025	mg/kg	0.0090	0.031	1.0		3/3/2005	3/4/2005	APG	EPA 8020A
1,3,5-Trimethylbenzo	ene	<0.025	mg/kg	0.011	0.037	1.0		3/3/2005	3/4/2005	APG	EPA 8020A
m & p-Xylene		<0.025	mg/kg	0.017	0.056	1.0		3/3/2005	3/4/2005	APG	EPA 8020A
o-Xylene		<0.025	ma/ka	0.010	0.032	1.0		3/3/2005	3/4/2005	APG	EPA 8020A

CTILAB#: 301	846 Sample Description:	21615-21				Sampled:	2/23/2005	
Analyte	Result Units	LOD	LOQ	Dilution Qualifier	Prep Date	Analysis Date	Analyst Method	

**Inorganic Results** 

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WI DNR Lab Certification Number: 157066030 DATCP Certification Number: 105-000289 LA NELAP Certification Number: 04091



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WHITE WATER ASSOCIATES Project Name:

Project #:

Contract #: 581 Folder #: 45,653 Page 10 of 15

CTI LAB#: 301846 Sample Description: 21615-21 Sampled: 2/23								2005			
Analyte		Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Solids, Percent		89.0	%	N/A	N/A	1.0			3/1/2005	GCE	EPA 5030A
Organic Results Diesel Range Organics		<2.2	mg/kg	2.2	7.5	1.0		3/4/2005	3/8/2005	CLW	WDNR DRO

CTI LAB#:	301847	Sample Descript	tion:	21615-22					Sampled:	2/23	/2005
Analyte		Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Res	ults							<i></i>			
Solids, Percent		92.1	8	N/A	N/A	1.0	)		3/1/2005	GCE	EPA 5030A
Organic Resu	lts										
Gasoline Range C	Organics	<1.4	mg/kg	1.4	4.7	1.0	)	3/3/2005	3/4/2005	APG	WDNR GRO
Benzene		<0.025	i mg/kg	0.0090	0.029	1.0	)	3/3/2005	3/4/2005	APG	EPA 8020A
Ethylbenzene		<0.025	5 mg/kg	0.0090	0.029	1.0	)	3/3/2005	3/4/2005	APG	EPA 8020A
Methyl tert-butyl e	ther	<0.025	5 mg/kg	0.016	0.052	1.0	)	3/3/2005	3/4/2005	APG	EPA 8020A
Toluene		<0.025	i mg/kg	0.010	0.034	1.0	)	3/3/2005	3/4/2005	APG	EPA 8020A
1,2,4-Trimethylber	nzene	<0.025	i mg/kg	0.0090	0.031	1.0	) •	3/3/2005	3/4/2005	APG	EPA 8020A
1,3,5-Trimethylber	nzene	<0.025	i mg/kg	0.011	0.037	1.0	)	3/3/2005	3/4/2005	APG	EPA 8020A
m & p-Xylene		<0.025	i mg/kg	0.017	0.056	1.0	)	3/3/2005	3/4/2005	APG	EPA 8020A
o-Xylene		<0.025	mg/kg	0.010	0.032	1.0	)	3/3/2005	3/4/2005	APG	EPA 8020A

CTI LAB#:	301848	Sample Description:	21615-24					Sampled:	2/23	/2005
Analyte		Result Units	LOD	LOQ	Dilution Q	lualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Resul	ts									
Solids, Percent		91.9 %	N/A	N/A	1.0			3/1/2005	GCE	EPA 5030A
Organic Results	5									
1-Methylnaphthalene	•	<0.0065 mg/kg	0.0065	0.022	1.0		3/8/2005	3/15/2005	SHU	EPA 8310
2-Methylnaphthalene	•	<0.0065 mg/kg	0.0065	0.023	1.0		3/8/2005	3/15/2005	SHU	EPA 8310
Acenaphthene		<0.0054 mg/kg	0.0054	0.018	1.0		3/8/2005	3/15/2005	SHU	EPA 8310
Acenaphthylene		<0.0054 mg/kg	0.0054	0.020	1.0		3/8/2005	3/15/2005	SHU	EPA 8310
Anthracene		<0.0011 mg/kg	0.0011	0.0033	1.0		3/8/2005	3/15/2005	SHU	EPA 8310
Benzo(a)anthracene		0.0034 mg/kg	0.0011	0.0022	1.0		3/8/2005	3/15/2005	SHU	EPA 8310
Benzo(a)pyrene		0.0057 mg/kg	0.0011	0.0044	1.0		3/8/2005	3/15/2005	SHU	EPA 8310

WI DNR Lab Certification Number: 157066030 DATCP Certification Number: 105-000289 LA NELAP Certification Number: 04091



WHITE WATER ASSOCIATES Project Name: Project #: Contract #: 581 Folder #: 45,653 Page 15 of 15

#### Notes regarding entire Chain of Custody:

Notes: \* Indicates Value in between LOD and LOQ.

All samples were received intact and properly preserved unless otherwise noted. The results reported relate only to the samples tested. This report shall not be reproduced, except in full, without written approval of this laboratory. The Chain of Custody is attached.

This report satisfies the requirements of your project but has not been prepared to comply with NELAP reporting requirements.

	$\overline{}$
mitted by:	$\underline{}$

Sul

#### **QC** Qualifiers

#### Code Description

- A Analyte averaged calibration criteria within acceptable limits.
- B Analyte detected in associated Method Blank.
- C Toxicity present in BOD sample.
- D Diluted Out.
- E Safe, No Total Coliform detected.
- F Unsafe, Total Coliform detected, no E. Coli detected.
- G Unsafe, Total Coliform detected and E. Coli detected.
- H Holding time exceeded.
- J Estimated value.
- L Significant peaks were detected outside the chromatographic window.
- M Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
- N Insufficient BOD oxygen depletion.
- O Complete BOD oxygen depletion.
- P Concentration of analyte differs more than 40% between primary and confirmation analysis.
- Q Laboratory Control Sample outside acceptance limits.
- R See Narrative at end of report.
- S Surrogate standard recovery outside acceptance limits due to apparent matrix effects.
- T Sample received with improper preservation or temperature.
- V Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference.
- W Sample amount received was below program minimum.
- X Analyte exceeded calibration range.
- Y Replicate/Duplicate precision outside acceptance limits.
- Z Calibration criteria exceeded.



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## CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

21619		CHAIN	OF-CUS	тор	Y RE	ECOR	DA	ND /	ANA	LYSI	SF	REQ	UES	Τ	<u></u>	<u></u>	7	
J.O.# 27811XV SAMPLER'S SIGNAT	TURE PHONE	NAME PAUL STS C S 1035 KE GREEN D # 920-4	64RV87 2050277 2052 D2 47, WI S 68-19 Z2	15 431) 8		NO. OF CON-			8	An		S TYPE	REQUE	ESTED			+3 oF 110 Cox 1	3 sæR
C SAMPLE LOCATION	SAMPLE I.D.#	TIME	DATE	GRAB GRAB	COMPOSITE MATTRIX MATTRIX	ERS	4	5 (S				3/2	3 3/2	REF	MARKS:		429 Am Phc	Wł
ner reta	(0.3·2.5)	14:30	2/23/05	×	5	$\left( \frac{2}{2} \right)$		X									- River asa, M one (90	nite M
in pink; s	(2.5-8)	14:464				15	X		Ø	x	Ø	()		Here I	CLPS	3/1	Lane, I lichigar )6) 822	ater /
end whit	(4-8)	15:30	5			H S	X			(g)			X	HUN	CLP TO	, 7C	P.O. Bo 1 4990 -7373,	Assoc
GP-9	(4-8)	16:00 /	0			Ð	XX	>		X			×	/			ox 27 )3 Fax -7	viates
llow with	(35-8)	16:30	7,			6	()			(x)	Ð	$(\mathbf{k})$	X	HOLD 7	CLPS	3/1	977 2	, Inc.
GP-11	(0-4.5)	09:00	2/24/05			(2)		X	)						· · · · · · · · · · · · · · · · · · ·			
s. Origin	(4.5-8)	09:10	191			(J	X		X	>								
al (white	(0-4.5)	10:000	20	-		E		x										<b>A</b>
will be r	(4.5-8)	10:10	2/			16	K		×	X	X	$\overline{(8)}$		HOCD 7	TCLPS	- (	Pb. P	CLP '63/4
eturned GP-13	(0-4)	10:30	22			Z	(	X	/						,		1	ľ
with repo	(4-8)	10:40 8	23			3	X	2-0	×									
F GP-14 GP-14	<u>(0-4)</u> (4-8)	<u> </u>	24			$\frac{\sqrt{3}}{3}$				R	$\overline{\mathcal{O}}$	 	X	HOLD	TCLPS	$\overline{\mathbf{N}}$	Kein T Bensjere	3/4
	Lift Z/2	1/05 16	: <i>0</i> 0	ECEIVED	вч	1 1	RE	LINQUISI	HED BY	-		DATE		TIME	RECEIVED	D BY	0	<b>1</b> : :
RELINQUISHED BY	DATE	TIME	R			AATORY	DA 2	TE / TS	105	TIME	100	REMAR	1KS: 9					

1	Page: of
1	Attach to the COC and include with the final report.
	WHITE WATER ASSOCIATES, INC.
	Login Checklist
Project Number: 21615	Date Logged in: <u>2125105</u> Login Person Initials: <u>BM</u>
# of Coolers:	Courier: <u>UPS</u>
Client: <u>575</u>	Project Name: _ 27811 XV

If no to any, notify the project manager and project manager documents client response below.

		YES	NO
1.	Were custody seals/original packing tape intact?	$\checkmark$	/
2.	Are the samples in good condition, i.e. not broken or leaking?	$\checkmark$	<u>/</u>
3.	Are samples within holding times?	$\leq$	· ·
4.	Were the samples received on ice (ice in direct contact with the samples)?	$\underline{\vee}$	
5.	Is the temperature of the samples between 2-6°C? Temp NOTE: Samples not between 2-6°C that are received at the laboratory on the day of sample collections do not require client notification.	<u> </u>	
6.	Do the samples match the COC?	$\overline{\mathbf{V}}$	`—
7.	Were the proper containers used?	$\underline{\checkmark}$	<b>^</b>
8.	Were the samples collected in White Water lab containers?		<i>_</i>
9.	Is there adequate sample volume for requested analyses and QC?	$\underline{\mathcal{V}}$	
10.	Do water VOC samples contain headspace less than the size of a pea?	NA	
11.	Are samples preserved to the proper pH? <i>If no, identify sample bottle and</i> preservative, adjust to the proper pH, and note below.	$\checkmark$	
12.	Is the chain of custody signed?	$\underline{\vee}$	,
13.	Is sub-sampling required? (Note bottles created and preserved below.)		$\overline{\mathbf{V}}$
14.	For Dissolved Analysis, were samples filtered in the lab?	NA	·**.
15.	Were encores received? (VOC analysis)	<u> </u>	$\sim$
<b>1</b> 6.	Were soil VOCs preserved with methanol in the lab?		
17.	Is client contact necessary? Provide documentation below.		$\checkmark$

#### COMMENTS/CORRECTIVE ACTION

CLIENT RESPONSE (Provide date/time of contact, client response and project manager initials)



Client: STS Consultants - Green Bay

WWA Job #: 21615

27811XV **Project:** Date Received:

2/25/2005

Sample Matrix: Soil **Date Reported:** 4/28/2005 .

			uə —			
Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
21615-005 / GP-3 (3-6.5)					•	
Lead (s)	4.0	mg/kg	4/27/2005	6010B	0.7	2.1
21615-008/GP-4 (5-8)			-		•	•
Lead (s)	3.4	mg/kg	4/27/2005	6010B	<b>0.7</b> <sup>.</sup>	2.1
21615-009 / GP-5 (3-5)	· ·	• •			÷	•
Lead (s)	5.2	mg/kg	4/27/2005	.6010B	<b>0.7</b>	2.2
21615-012/GP-6 (6-8)				• •		
Lead (s)	3.0	mg/kg	4/27/2005	6010B	0.7	2.1
21615-014/GP-7 (2.5-8)					·	•
Lead (s)	9.4	mg/kg	4/27/2005	6010B	0.7	2.1
21615-019/GP-11 (4.5-8)		. •				
Lead (s)	4.3	mg/kg	4/27/2005	6010B	0.7	2.1
21615-021 / GP-12 (4.5-8)						
Lead (s)	3.4	mg/kg	4/27/2005	6010B	0.7	2.1
21615-023 / GP-13 (4-8)						•
Lend (s)	3.5	mg/kg	4/27/2005	6010B	0.7	2.0

 $ppm \neq mg/l$  (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 1 of 2

429 River Lane

P.O. Box 27

Amasa, Michigan 49903

Phone (906) 822-7373

FAX (906) 822-7977



1241 Bellevue Street, Suite 9 Green Bay, WI 54302 920-469-2436, Fax: 920-469-8827

#### **Analytical Report Number: 858319**

Client: STS CONSULTANTS - GB

Lab Contact: Eric Bullock

Project Name: ABBOTSFORD, WI

Project Number: 27811XV

Lab Sample Number	Field ID	Matrix	Collection Date
858319-001	GP-11 (4.5-8)	SOIL	02/24/05
858319-002	GP-13 (0-4)	SOIL	02/24/05

I certify that the data contained in this Final Report has been generated and reviewed in accordance with approved methods and Laboratory Standard Operating Procedure. Exceptions, if any, are discussed in the accompanying sample comments. Release of this final report is authorized by Laboratory management, as is verified by the following signature. This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc. The sample results relate only to the analytes of interest tested.

an σ

Approval Signature

Date

## **En Chem**

I

### **Analytical Report Number: 858319**

1241 Bellevue Street Green Bay, WI 54302 920-469-2436

A Division of Pace Analytical Services, Inc. Client: STS CONSULTANTS - GB Project Name: ABBOTSFORD, WI Project Number: 27811XV Field ID: GP-13 (0-4)

Matrix Type : SOIL Collection Date : 02/24/05 Report Date : 04/21/05 Lab Sample Number : 858319-002

#### INORGANICS

Test	Result	LOD	LOQ	EQL	Dil.	Units	Code	Anl Date	Prep Method	Anl Method
Lead	5.4	0.12	0.39		1	mg/Kg		04/20/05	SW846 3050B	SW846 6010B
Percent Solids	93.7				1	%		04/20/05	SM 2540G M	SM 2540G M

Batch No. 858319 En Chem, Inc. Cooler Receipt	Log		
Project Name or ID Abbotsford WI No. of Coolers:	Temps	E01	
A Receipt Phase: Date cooler was opened: 4-18-05 By: AD			· · ·
1: Were samples received on ice? (Must be $\leq 6 \text{ C}$ )	NO <sup>2</sup>	NA	
2. Was there a Temperature Blank?YES	(OM)		.*
3: Were custody seals present and intact on cooler? (Record on COC)YES	M		
4: Are COC documents present?	NO <sup>2</sup>		
5: Does this Project require quick tum around analysis?	NO		
6: Is there any sub-work?YES	<b>B</b>		
7: Are there any short hold time tests?YES	Ø		
8: Are any samples nearing expiration of hold-time? (Within 2 days)	Ň	Contacted by/Who	······
9: Do any samples need to be Filtered or Preserved in the lab?	Ø	Contacted by/Who	
B. Check-in Phase: Date samples were Checked-in: <u>4-18-05</u> By: <u>AB</u>	·		
1: Were all sample containers listed on the COC received and intact?	NO <sup>2</sup>	NA	
2: Sign the COC as received by En Chem. Completed	NO		
3: Do sample labels match the COC?	NO <sup>2</sup>		
4: Completed pH check on preserved samples	NO		
(This statement does not apply to water. VOC, Ox6, TOC, DRO, Total Rec. Phenolics) 5: Do samples have correct chemical preservation?	NO <sup>2</sup>		
6: Are dissolved parameters field filtered?	NO <sup>2</sup>	(A)	
7: Are sample volumes adequate for tests requested?	NO <sup>2</sup>		
8: Are VOC samples free of bubbles >6mmYES	NO <sup>2</sup>	(NA)	
9: Enter samples into logbook. Completed	NO		
10: Place laboratory sample number on all containers and COC. Completed	NO		
11: Complete Laboratory Tracking Sheet (LTS). CompletedYES	NO	(NA)	
12: Start Nonconformance form	NO	(NA)	
13: Initiate Subcontracting procedure. Completed	NO	KA)	
14: Check laboratory sample number on all containers and COC	NO	NA	
Short Hold-time tests:			

24 Hours or less	48 Hours	7 days	Footnotes
Coliform	BOD	Ash	1 Notify proper lab group
Corrosivity = pH	Color	Aqueous Extractable Organics- ALL	immediately.
Dissolved Oxygen	Nitrite or Nitrate	Flashpoint	2 Complete nonconformance
Hexavalent Chromium	Ortho Phosphorus	Free Liquids	memo.
HPC	Surfactants	Sulfide	Y
Ferrous Iron	Turbidity	TDS	
Eh	En Core Preservation	TSS	2
Qdor	Power stop preservation	Total Solids	l de la factoria de la companya de l
Residual Chlorine		TVS	
Sulfite		TVSS	
		Unpreserved VOC's	

Rev. 2/05/04, Attachment to 1-REC-5. Subject to QA Audit.

Reviewed by/date <u>551/#9/04</u>

Contact Person Phone No. <u>926</u> Project No. <u>278</u> Project Name _A	ERIC 406- 211XY	<u>321</u>	× ≤ 0 P	ffice _2 0 No. 	6 ° 4-	21	-0 <u>-</u>	<b>&gt;</b>		Specia	Handling Request Rush Verbal Other	RECORI tact Person ne No ults Due	DNUMBER	THROUGH
Sample I.D.	Date 2005	Time	Grab	Composite No. of Containers	Sample Type Water, soit air, studge, etc.)	Y	Z Preservation	Fie D/FID Samble	Id Dat	Special Cond.	Analysis Request	t	Comments (Include Major (	on Sample Contaminants)
6P-11 (4.5-8)	2/24	09:0	X	1	SOIL		X				LEAD 1-402D	ohia	NEED RESULT	SBr
2 GP-13 (0-4)		10:30	X		<u> </u>		<u>×</u> _				* *		4/21/05	AM
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Received by	the	JB	N	sa	Date 4-19	-01	5	· Ti	me	45	) Relinquished by Paul	Campin 1	Date 4-18-05	Time 🖡
Received by:		0			Date			Ti	ime		Relinquished by:		Date	Time
Received for lab t	oy:				Date	· · · · · ·		Ti	me		Relinquished by:	[	Date	Time
Laboratory Com	nents	Only:	Se	als Inta	act Upon Re	ceip	t?	<b>ا</b> ا	Yes	K No	🗆 N/A			
Final Disposition:									<u></u>		Comments (Weather Co	onditions, Precaution	s, Hazards):	
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<u> </u>						•						· · · · · · · · · · · · · · · · · · ·		

\_



## RECEIVED

MAY 2 6 2005



#### Phase II Subsurface Investigation

State Highway 13 Right-of-Way Adjacent to Sebold Chevrolet

State Highway 13 Reconstruction Pine Street to Linden Street City of Abbotsford Marathon and Clark County, Wisconsin

#### WisDOT Project ID 1620-01-04

Report Prepared By:

STS Consultants, Ltd. 1035 Kepler Drive Green Bay, Wisconsin 54311 Telephone: (920) 468-1978 Fax: (920) 468-3312 Email: garvey@stsconsultants.com STS Project No. 4-27811XV

May 2005



STS Consultants, Ltd. 1035 Kepler Drive Green Bay, Wisconsin 54311

May 9, 2005

Ms. Janet Smith, Environmental Coordinator Wisconsin Department of Transportation 1681 Second Avenue South Wisconsin Rapids, Wisconsin 54495

Re: Phase II Subsurface Assessment, Proposed State Highway 13 Upgrade Project, Right-of-Way Adjacent to Sebold Chevrolet, 202 South Fourth Street, Abbotsford, Marathon County, Wisconsin --WisDOT Project ID No. 1620-01-04 -- STS Project No. 4-27811XV

Dear Ms. Smith:

STS Consultants, Ltd. (STS) is pleased to submit this Phase II Subsurface Assessment (Phase II) for the State Highway 13 right-of-way (ROW) adjacent to the Sebold Chevrolet property located at 202 South Fourth Street in the city of Abbotsford, Marathon County, Wisconsin. The site was selected for a Phase II to assess environmental conditions associated with former fuel dispensing activities and underground storage tanks (USTs) at the Sebold Chevrolet property.

Phase II results indicate that soils in the State Highway 13 ROW adjacent to the Sebold Property are not impacted with volatile organic compound(s), gasoline range organics, or diesel range organics above regulatory standards.

This report was completed in accordance with WisDOT Work Order No. 52 for Project ID No. 1620-01-04. If you have any questions regarding this report, please contact Mr. Paul Garvey at (920) 406-3149.

Sincerely,

STS CONSULTANTS, LTD.

Eric C. Schmidt Assistant Project Engineer

Paul M. Garve

Senior Project Scientist

Michael J. Carney, P.G. Associate Geologist

Copy: Mr. John Lewis Bureau of Environment 4802 Sheboygan Avenue, Room 451 P.O. Box 7965 Madison, Wisconsin 53707-7965

> Sebold Chevrolet 202 South Fourth Street Abbotsford, Wisconsin 54405

Ms. Kitt Siegfried Wisconsin Department of Natural Resources West Central Region Office 1300 West Clairemont Avenue P.O. Box 4001 Eau Claire, Wisconsin 54701-4001

#### **Table of Contents**

1.0	EX	ECUTIVE SUMMARY	1
2.0	) SITE INVESTIGATION		
	2.1	Purpose and Scope	2
	2.2	Investigation Program	2
	2.3	Site Maps	3
	2.4	Geology	4
	2.5	Results	7
	2.6	Conclusions	9
	2.7	Recommendations	9
	2.8	General Qualifications	9
3.0	AP	PENDICES	10
	3.1	Photo Log	10
	3.2	WDNR Soil Boring Log Information Forms	.11
	3.3	WDNR Well/Drillhole/Borehole Abandonment Forms	.12
	3.4	Laboratory Reports and Chain of Custody Forms	.13

## **Figures**

Figure 1 - Site Location Map	.5
Figure 2 -Boring Location Map	.6

## Table

Table 1 - Soil Analytical	Results8
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#### **1.0 EXECUTIVE SUMMARY**

As part of the State Highway 13 (STH 13) upgrade project in Abbotsford, Wisconsin, STS Consultants, Ltd. (STS) was retained by the Wisconsin Department of Transportation (WisDOT) (Client) to perform a Phase II Subsurface Assessment (Phase II) within the STH 13 right-of-way (ROW) adjacent to the Sebold Chevrolet (Sebold) property. The Sebold property is located at 202 South Fourth Street (STH 13) in the City of Abbotsford, Marathon County, Wisconsin. The site was selected for a Phase II to assess environmental conditions associated with former fuel dispensing activities and underground storage tanks (USTs).

According to laboratory analytical results provided by White Water Associates, Inc. (White Water), Amasa, Michigan, lead was detected in soil samples collected from the site at concentrations of 130 to 140 milligrams per kilogram (mg/kg), which exceeds the Wisconsin Administrative Code (WAC) NR 720 Residual Contaminant Level (RCL) protective of human health through direct contact at non-industrial sites (50 mg/kg). Lead was detected at similar concentrations (120 to 140 mg/kg) in soil samples collected by STS as part of Phase IIs from other sites within the STH 13 ROW in the City of Abbotsford. Due to the consistently high levels of lead detected in the soil samples collected as part of the STH 13 ROW Phase IIs, STS requested that the original soil samples be retested by White Water to confirm the initial analytical results. STS also submitted two soil samples to a second analytical laboratory (En Chem, Inc. [En Chem] of Green Bay, Wisconsin) for lead analysis. The lead concentrations reported by En Chem and White Water's confirmatory testing ranged from 3.0 to 9.4 mg/kg, which are below Wisconsin Administrative Code NR 720 RCLs for direct contact. Lead concentrations ranged from 3.0 to 9.4 mg/kg in White Water's confirmatory tests from soil samples collected within the ROW adjacent to the Sebold property. The concentrations of lead detected are considered indicative of natural occurring, background concentrations of lead in soil in the Abbotsford area..

Soil samples analyzed did not indicate concentrations of volatile organic compound(s) (VOC), petroleum volatile organic compounds (PVOCs), gasoline range organics (GRO), or diesel range organics (DRO) above regulatory standards within the ROW adjacent to the Sebold property. Based on laboratory analytical results and field observations, concentrations of VOCs, PVOCs, GRO, DRO, or lead above generic regulatory standards is not expected to be encountered during the reconstruction of STH 13 in the vicinity of the Sebold property.



#### 2.0 SITE INVESTIGATION

#### 2.1 Purpose and Scope

The purpose of the Phase II was to determine whether past land use practices impacted the subsurface at the Sebold property at 202 South Fourth Street in the area of the proposed STH 13 reconstruction in Abbotsford, Wisconsin.

A Phase I Hazardous Material Assessment (HMA) completed by Short Elliott Hendrickson, Inc. dated September 2003 indicated the Sebold property was formerly occupied by a retail petroleum service station. Two 500-gallon USTs were registered as being removed from the property in 1987. The tanks were reportedly located west and northwest of the existing building. The site is also listed as a closed Wisconsin Environmental Repair Program site due to contaminated soil along the east side of the building. The ERP case was closed following soil remediation activities.

According to the Phase I HMA, proposed construction requirements adjacent to the site include utility and storm sewer excavations to an approximate depth of 7 to 8 feet below ground surface (bgs). Excavation will also reportedly be completed within the current STH 13 ROW to an approximate depth of 3 feet below the ground surface for new curb, gutter, and pavement installations. STS is not aware of planned WisDOT property acquisitions in the area of the Sebold property.

The Phase II included the advancement of three soil borings within the proposed project limits to sample and analyze soil that could be disturbed during construction activities. STS selected soil boring locations based on the following: proximity to areas of suspected environmental impact identified in the Phase I HMA, truck accessibility, and location of obstructions (e.g. underground utilities, existing structures).

Site and soil boring locations are presented in Figures 1 and 2 (Section 2.3).

#### 2.2 Investigation Program

STS personnel accessed the ROW adjacent to the Sebold property on February 23, 2005, to collect soil samples within the proposed project limits. STS retained a subcontract direct push firm (Kitson Environmental Services, Inc., Helenville, Wisconsin) to advance the borings. Three direct push borings (GP-5, GP-6, and GP-7) were advanced at the site. Borings were sequentially numbered based on all borings conducted for multiple Phase IIs completed for



WisDOT in the STH 13 ROW. Soil borings were advanced to the proposed utility installation depths and were terminated at a depth of approximately 8 feet bgs.

Soil samples were collected from borings using standard direct-push technology with a powerdriven sampling spoon. A single-use disposable acetate liner was placed in each spoon, and the spoon was advanced to the desired depth. The spoon was then retrieved from the boring, the acetate liner is extracted from the spoon, and the liner is cut open, allowing removal of the sample. Soil samples were collected continuously from the ground surface to boring termination depths (8 feet). Soil samples recovered from the borings were field-screened with a photoionization detector (PID), which was equipped with a 10.6-electron volt lamp. Soil PID field screening results are indicated on the attached Soil Boring Log Information Forms (Section 3.2). Following completion of sampling, the borings were abandoned with bentonite and Wisconsin Department of Natural Resources (WDNR) Well/Drillhole/Borehole Abandonment forms were prepared (Section 3.3).

Selected soil samples were prepared in the field and submitted to White Water Associates, Inc., Amasa, Michigan, for analysis of one or more of the following analytes:

- Volatile Organic Compounds (VOCs) Environmental Protection Agency (EPA) Method 8260B
- Petroleum Volatile Organic Compounds (PVOCs) EPA Method 8020A
- Gasoline Range Organics (GRO) Wisconsin Modified Method
- Diesel Range Organics (DRO) Wisconsin Modified Method
- Lead EPA Method 6010B
- Toxicity Characteristic Leaching Procedure (TCLP) Lead EPA Method 6010B
- TCLP Benzene EPA Method 8260B

#### 2.3 Site Maps

1

Figure 1 shows the location of the site on a portion of the United States Geological Survey (USGS) 7.5-minute topographical quadrangle map of Abbotsford, Wisconsin. Also included on Figure 1 is a state and county map illustrating the location of Abbotsford. Figure 2 is a Site Diagram, which illustrates the locations of borings completed during the Phase II activities.



#### 2.4 Geology

Review of the Department of the Interior, USGS Publication *Water Resources of Wisconsin, Central Wisconsin River Basin, Hydrogeologic Investigations, Atlas HA-367*, Sheet 1 of 4, 1971, indicated that the subject property is located in an area of ground-moraine deposits (silty and clayey till) that overlie crystalline bedrock. The thickness of the glacial lake deposits over the bedrock varies.

The USDA Soil Survey of Marathon County, Wisconsin, (1989) indicated that the native surficial soil in the area of the Sebold Chevrolet property is Withee silt loam. The Withee Series is described as nearly level and gently sloping somewhat well-drained soil in convex and concave areas on broad ground moraines. Permeability is moderate to moderately slow, and surface runoff is slow or medium.

Regional groundwater flow direction is likely south and southeast toward the Wisconsin River (*Water Resources of Wisconsin, Central Wisconsin River Basin, Hydrogeologic Investigations, Atlas HA-367*, Sheet 1 of 4, 1971). Existing ditches, underground utilities (such as sanitary/storm sewer piping systems), and other natural and manmade features may influence local groundwater flow direction. Site-specific groundwater flow direction cannot be determined without installation of monitoring wells.

A review of the Abbotsford, Wisconsin, USGS 7.5-minute topographic map dated 1981 showed the Sebold Chevrolet property as being located in a generally flat area that slopes to the south and east and at an elevation of approximately +1,410 feet above mean sea level.


X:\PROJECTS\427811X\NDwg\G427811XV\_SITE\_LOCATION\_MAP\_SEBOLD\_FIG1.dwg, FIG 1, 5/2/2005 9:47:19 AM, reince



Wisconsin Department of Transportation-Sebold Chevrolet Property STS Project No. 4-27811XV May 9, 2005

#### 2.5 Results

Soils encountered in Boring GP-5, GP-6, and GP-7 consisted of approximately 3 to 6 feet of fill (silty sand) overlying brown clayey silt. PID readings from soil collected and screened from Borings GP-5, GP-6, and GP-7 were less than 1 PID unit. PID screening results for soil samples are summarized on the Soil Boring Log Information Forms in Section 3.2 of the Appendix.

Soil laboratory analytical results are summarized on Table 1, and the laboratory report is attached. Analytical results indicate that GRO and VOCs were not detected in soil samples, except for methyl ethyl ketone (MEK). MEK was detected at levels ranging from 260 to 408 micrograms per kilogram ( $\mu$ g/kg) According to a representative from the analytical laboratory (White Water), the detections of MEK are likely attributable to the methanol used as a sample preservative. The laboratory report indicated that MEK has been detected in laboratory methanol at 620  $\mu$ g/kg. Based on this information, the MEK detected in the soil samples should be considered a laboratory artifact.

According to initial laboratory analytical results provided by White Water, lead was detected in soil samples collected from the site at concentrations of 130 to 140 milligrams per kilogram (mg/kg), which exceeded the Wisconsin Administrative Code NR 720 RCL protective of human health through direct contact at non-industrial sites (50 mg/kg). Lead was detected at similar concentrations (120 to 140 mg/kg) in soil samples collected by STS as part of Phase IIs from other sites within the STH 13 ROW in the city of Abbotsford. Due to the consistently high levels of lead detected in the soil samples collected as part of the STH 13 ROW Phase IIs, STS requested that the original soil samples be retested by White Water to confirm the initial analytical results. STS also submitted two of the soil samples to a second analytical laboratory (En Chem) for lead analysis. The lead concentrations reported by En Chem and White Water's confirmatory testing ranged from 3.0 to 9.4 mg/kg, which are below WAC NR 720 RCLs for direct contact. Lead concentrations ranged from 3.0 to 9.4 mg/kg in White Water's confirmatory tests from soil samples collected within the ROW adjacent to the Sebold property. Detection of lead in the soil samples is expected to be indicative of natural occurring background concentrations of lead in soil in the Abbotsford area.

# Table 1Soil Analytical ResultsSTH 13 ROW Adjacent to Sebold ChevroletAbbotsford, Wisconsin

Sample No.								<sup>2</sup> NR 746		
Sample No.			Gr		Gr	GI - 7		Non-Industrial	Industrial	Values
Sample Date	2/23/05	2/23/05	2/23/05	2/23/05	2/23/05	2/23/05	Groundwater	Direct Contact	Direct	Table 1
Sample Depth (ft)	3.0-5.0	5.0-8.0	2.5-6.0	6.0-8.0	0.3-2.5	2.5-8.0	l autway	Pathway	Pathway	SSLs
	1	Concentration (mg/kg)								
Lead	5.2**	NA	NA	3.0**	NA	9.4**	NL	50	500	NL
Gasoline Range Organics	NA	<1.5	<1.5	NA	<1.3	NA	100	NL	NL	NL
Diesel Range Organics	NA	NA	NA	NA	NA	<2.3	100	NL	NL	NL
TCLP Lead (mg/L)	NA	NA	NA	NA	NA	0.015	NL	• NL	NL	NL
PVOCs (and detected VOCs)					Concentrat	ion (ug/kg)	-	•		
1,2,4-Trimethylbenzene	<16	<25	<25	<14	<25	<15	NL	NL	NL	83,000
1,3,5-Trimethylbenzene	<16	<25	<25	<14	<25	<15	' NL	NL	NL	11,000
Benzene	<16	<25	<25	<14	<25	<15	5.5	NL	NL	8,500
Ethylbenzene	<16	<25	<25	<14	<25	<15	2,900	NL	NL	4,600
m/p-Xylene	<32	<25	<25	<29	<25	<31	4,100	NL	NL	42,000
Methyl ethyl keytone (MEK)	310 (j)	NA	NA	260 (j)	NA	408 (j)	NL	NL .	NL	NL
Methyl tert-butyl ether	NA	<25	<25	NA	<25	NA	NL	NL	NL	NL
Naphthalene	<81	NA	NA	<73	NA	<77	400	20,000	110,000	2,700
o-Xylene	<16	<25	<25	<14	<25	<15	4,100	NL	NL	42,000
Toluene	<16	<25	<25	<14	<25	<15	1,500	NL	NL	38,000

#### Notes:

(mg/kg) = milligrams per kilogram; (ug/kg) = micrograms per kilogram; < = not detected above method detection limit; NA = not analyzed; NL = No regulatory limit listed for analyte; RCL = Residual Contaminant Level; SSLs = Soil Screening Levels

\*\* - Lead result from a re-test run (test date 5/27/05) on original samples (initial test date 3/1/05) - Both tests performed by White Water Associates, Inc.

(j) = The analyte was positively identified, the quantification is an estimation.

MEK has been found in methanol (used as preservative during sample preparation) at 620 ug/kg.

<sup>1</sup> NR 720 RCL = Wisconsin Administrative Code Chapter NR 720 Generic Residual Contaminant Level

<sup>2</sup> NR 746 Values = Wisconsin Administrative Code Chapter NR 746 Risk Screening and Closure Criteria

-	51	le	Exceeds Applicable NR 720 RCL	_

1 800	
4700	Exceeds NR 746 Soil Screening Levels
4,700	



Wisconsin Department of Transportation-Sebold Chevrolet Property STS Project No. 4-27811XV May 9, 2005

#### 2.6 Conclusions

Soils encountered in Boring GP-5, GP-6, and GP-7 consisted of approximately 3 to 6 feet of fill (silty sand) overlying brown clayey silt. Groundwater was not encountered in the borings. PID readings from soil collected and screened from Borings GP-5, GP-6, and GP-7 were less than 1 PID unit. PID screening results for soil samples are summarized on the WDNR Soil Boring Log Information Forms in Section 3.2.

Laboratory analytical results and field observations do not indicate evidence of petroleum-related impacts at the Sebold Chevrolet property.

#### 2.7 Recommendations

Based on the results of the Phase II, STS does not recommend additional environmental activities within the STH 13 ROW adjacent to the Sebold Chevrolet property.

#### 2.8 General Qualifications

Conclusions presented in this report are based on field observations documented in the Phase I report and subsurface conditions as revealed in soil borings at locations identified on the attached figures. Stratification lines shown on the boring logs (Section 3.1) represent approximate boundaries between soil types. Variations may exist in both the horizontal and vertical directions between boring locations. In addition, seasonal and annual fluctuations of the groundwater table may influence the distribution of compounds in the subsurface environment causing variations in groundwater quality.

STS has prepared this report at the request of our Client. STS assumes responsibility for the accuracy of the contents of this report, subject to what is stated elsewhere in this section, but recommends this report be used only for the purposes intended by the Client and STS at the time this report was prepared. This report may be unsuitable for other uses, and reliance on its content by anyone other than the Client is done at the sole risk of the user. Our interpretations of results represent our scientific judgement based on available information. No other warranties, either expressed or implied, are made.



Wisconsin Department of Transportation-Sebold Chevrolet Property STS Project No. 4-27811XV May 9, 2005

- 3.0 APPENDICES
- 3.1 Photo Log



View to the northeast of the Sebold Chevrolet site. Two of the three soil sample locations are identified with orange traffic cones.



View to the southeast of the Sebold Chevrolet site. The three soil sample locations are identified with orange traffic cones.



Wisconsin Department of Transportation-Sebold Chevrolet Property STS Project No. 4-27811XV May 9, 2005

#### 3.2 WDNR Soil Boring Log Information Forms

Rev. 7-98

Route To:	Watershed/Wastewater
	Remediation/Redevelopment

Waste Management Other

																Pag	ge 1	of	1
Facilit W/is	y/Proje	ct Nar STH	ne 13					Li	License/Permit/Monitoring Number					r ·	Boring	Numb	er GP	-5	
Boring	g Drille	d By:	Name	of crew	chief (first, la	st) and Fir	m	D	Date Drilling Started Date Dr				te Drill	rilling Completed			Drilling Method		
Kits STS	son Er S Proje	viron ect N	nment	al - G. 11XV	Kitson -				2/23/2005					2/23/2	2005		direct push		
WIUr	nique W	ell No	).	DNR	Well ID No.	Commo	on Well Nam	e Fi	nal Sta	atic Wa	iter Lev	/el	Surfac	e Eleva	ation		Bo	rehole	Diameter
<del></del>	<u></u>						GP-5			Feet l	MSL			Fee	et MS	L		2.0	inches
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			-1.5							SP									
*																			
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	20		E <sup>4.5</sup>											-					н на 1911 г. – Сталания 1911 г. – Сталания Прила
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This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

Rev. 7-98

Route To:	Watershed/Wastewater
	Remediation/Redevelopment $\Box$

Waste Management Other 🗌

							Pag	e 1	of	1
Facility/Project Name WisDOT STH 13	Lice	License/Permit/Monitoring Number Boring Number GP_6								
Boring Drilled By: Name of crew chief (first, last) and Firm	Date	e Drilling St	arted	Da	te Drilli	ng Cor	npleted		Drill	ing Method
Kitson Environmental - G. Kitson - STS Project No. 27811XV		2/23/2005				2/23/2005 dir			ect push	
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State Plane N, E S/0		Lat	<u> </u>	"	Local C					E E
Facility ID County	Count	ty Code 4	Civil Town/C	City/ or	Village	Teet				
Marathon	37		Abbotsfor	d						
Sample						Soil	Prope	rties		
Soil/Rock Descri	ption gin For			- 1	sive					ţs
Each Major U Blow Collection Allow Colle	nit	USCS	Graphic Log Well Diagram	PID/FID	Compres	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Commen
I     30     -       Fill:     Brown to dark brown fine silt	y sand (SM) - trace	e		<1	<u> </u>				.  <u></u>	
GP graver - clay - mozen to moist		SM								
2 CP 42 -3.0 Possible Fill: Brown fine silty same	d (SM) - trace grav	vel -		<1						
		SM								
3 24 - 6.0 Brown clayey silt (CL-ML) - little moist	sand - trace gravel	- CL MI		<1			-			
-7.5		-1VII								
End of Boring. Boring advanced from 0.0 feet to 8 Boring back filled with bentonite	.0 feet.									
bolling backing with bollonite.										
I hereby certify that the information on this form is true and co	orrect to the best o	of my know	ledge.			-				
Signature	Firm STS Cor 1035 Kepl	nsultants l ler Drive Gr	Ltd. een Bay, Wi	sconsir	n 54311				Tel: Fax:	920-468-1978 920-468-3312

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

SOIL BORING LOG INFORMATION Form 4400-122

Rev. 7-98

Route To:

Watershed/Wastewater Remediation/Redevelopment  $\Box$  Waste Management Other 🛛

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Wis	DOT	STH	13										GP-7				
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Kits STS	on Er Proje	nviron ect N	nment 0. 278	al - G. 11XV	Kitson -			2/23/2005					2/23/2	2005		dii	ect push
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Wisconsin Department of Transportation-Sebold Chevrolet Property STS Project No. 4-27811XV May 9, 2005

3.3 WDNR Well/Drillhole/Borehole Abandonment Forms

Notice: Please complete Form 3300-5 and return it to the appropriate DNR office and bureau. Completion of this report is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See the instructions for more information.

(1) GENERAL INFORMATION       (2) FACILITY / OWNER INFORMATION         Willinger Weil No.       DNR Weil ID No.       County         Marthon       GP-5       Gov/Lot (if applicable)         Streed Address of Weil       License/Permit/Monitoring No.         MV 14 of Sec.       j. T. 28. N. R. 2       Streed Address of Weil         202 South 4th Street       Gov/Lot (if applicable)       Streed Address of Weil         Call Grid Origin (       (stimated )) or Weil Location       Present Weil Owner       Original Owner         Stree Jakes or Route Anonoment       N. B. E       N. E       Streed Address of Route of Owner         Stree Jakes or Route Anonoment       Will Owner       Original Owner       WisDOT         Stree Jakes or Route Anonoment       (S) Weils, Context       Stree Address or Route of Owner         Original Context on No.       Abbotaford, Wisconsin       No.       No. Applicable         Original Context on No.       (J) PUTA Philos Removed?       Yes       No.       No. Applicable         Original Context on No.       Ditlibute? Jorrends       No.       No. Applicable         Original Context on No.       Ditlibute? Jorrends       No.       No. Applicable         Original Context on No.       Ditlibute? Jorrends       No.       No. Applicable	Route to: Drinking Water Watersh	ed/Wastewater 🔲 Waste Manage	ment Ren	ediation/Redev	elopment Other				
WI Dingue Well No.       Dispute Well No.       Dispute Well No.       Pacuary yrame         WisDOT STH 13       Facility JD       License/Permid/Monitoring No.         NW, I/4 or NW       14 or Sec.       6;       7.       28, N, R.       202       South 4th Streed         clinitation       in or signification       n.       N.       Street Address of Well       202 South 4th Streed         clinitation       in or signification       n.       N.       N.       N.       N.         lat	(1) GENERAL INFORMATION		(2) FACILI	TY /OWNER	INFORMATION	· · · · · · · · · · · · · · · · · · ·			
Image:	WI Unique Well No. DNK Well ID NO	), County	Facility Nan						
Common Well Name <u>CP-5</u> Gov Lat (f applicable)         NW       1/4 of NW       1/4 of Sec.	<u> </u>	Marathon	Facility ID	SIH 15	License/Permit/Moni	toring No.			
NW       U.4 of NW       14 of Sec       6       ; T       28       []       []       202 Sorth 4b Street         Orid Location	Common Well Name <u>GP-5</u>	Gov't Lot (if applicable)							
Grid Location	NW 1/4 of NW 1/4 of Sec 6	. т. 28 <sub>N·R</sub> 2 🛛 Е	Street Addre	ess of Well	1				
	Grid Location	, 1 W	202 Sout	h 4th Street					
Local Grid Origin       (estimated: ) or Well Location       Abbotsford         Lat	ft. 🛛 N. 🗌 S.,	ft. E. W.	City, Village	e, or Town		-			
Lat	Local Grid Origin (estimated:	) or Well Location	Abbotsfo	ord	Original Out				
Lat			Present Wei	l Owner		ner			
State Plane       R. N.       Reson For Abandomment       WI Unique Well No.         City, State, Zip Code       City, State, Zip Code         Completed sampling       Original Construction Date       2/23/2005         Water Vell       If a Vell Construction Report         Water Vell       If a Vell Construction Report         Water Vell       If a Vell Construction Report         Drillhole / Borehole       Screen Removed?         Construction Type:       Drillon Driven (Sandpoint)       Dug         Original Construction Type:       Driven (Sandpoint)       Dug         Other (Specify)       direct push       Required Method of Planing Sealing Material         Formation Type:       Casing Deth(fi.)       Screened & Poured       Ves No         Water Vell       Screened & Poured       Other (Explain) Gravity         Water Vell Well Specify       Casing Deth(fi.)       Screened & Poured       Other (Explain) Gravity         Water (freet)       Casing Deth(fi.)       Screened & Poured       Other (Explain) Gravity         Uwer Drillhole Diameter (in.)       Casing Material Well Sealing Material       For monitoring wells and	Lat Long Long	or	WISDU I Street Addre	es or Route of C	WISDUI	· ·			
Reason For Abandomment       WI Unique Well No.       City, State, Zip Code         completed sampling       of Replacement Well       Abbotsford, Wisconsin         (3) WELL/DRUE INFORMATION       (4) FUMP, LINCE, SCREEN, CASING, & SEALING MATERIAL         Original Construction Date       2/23/2005         Monitoring Well       If a Well Construction Report         Drilled       If a Well Construction Report         Drilled Doriven (Sandpoint)       Dug         Water Well       Driven (Sandpoint)         Dutier (Specify)       direct push         Formation Type:       Driven (Sandpoint)       Dug         Montoring well well well of the construction Type:       Driven (Sandpoint)       Dug         Multer (Specify)       direct push       Required Method of Placing Sealing Material         Formation Type:       Casing Datenter (in.)       Casing Material Settle Arte: 24 Hours?       Yes       No         Lower Drillole Diameter (in.)       Casing Material       Conductor Pipe - Pamped       Sand-Cement Grout       Bentonite Chips         Grow Well Annular Space Grouted?       Yes       No       Unknown       Sand Stary       Bentonite Chips         If we well Annular Space Grouted?       Yes       No       Mix Ratio       Grower Bentonite-Sand Slury       Bentonite Chips <t< td=""><td>State Plane ft. N</td><td>ft.E.</td><td>Oliveria</td><td>33 01 ICOULO 01 C</td><td>When</td><td></td></t<>	State Plane ft. N	ft.E.	Oliveria	33 01 ICOULO 01 C	When				
completed sampling     of Replacement Well     Abbotsford, Wisconsin       (3) WELL/DRILLIOLE/BOREHOLE INFORMATION     (4) PUMP_LINER SCREEN, CASING, & SEALING MATERIAL       Original Construction Date     2/23/2005       Monitoring Well     If a Well Construction Report       Drillhole/ Borehole     Screen Removed?       Construction Type:     Use Structure       Drillhole/ Borehole     Screen Removed?       Construction Type:     Use Structure       Drillhole/ Borehole     Driven (Sandpoint)       Dug     Monitoring Well       Monitoring Vell     Driven (Sandpoint)       Dug     Other (Specify)       direct push     Pression       Formation Type:     Conductor Piace, Sealing Material       Conductor Pipe - Gravity     Conductor Pipe - Pumped       Screend & Pourcd     Yes       No     Other (Explain)       Lower Drillhole Diameter (in.)	Reason For Abandonment WI	I Unique Well No.	City, State, 2	Zip Code					
(3) WELL/DRILLHOLE/BOREHOLE INFORMATION       (4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL         Original Construction Date       2/23/2005         Monitoring Well       If a Well Construction Report         Water Well       If a Well Construction Report         Drillolo / Borehole       Construction Type:         Drillod       Driven (Sandpoint)       Dug         Waterial Rise to Surface?       Yes       No         Waterial Rise to Surface?       Yes       No         Other (Specify)       direct push       Was Casing Cut Off Beiow Surface?       Yes       No         Formation Type:       Did Material Rise to Surface?       Yes       No       No         Munconsidated Formation       Bedrock       Total Well Depth (ft)       8.0       Conductor Pipe - Fumped         Lower Drillole Diameter (in.)       Casing Depth (ft.)       Sealing Materials       For monitoring wells and monitoring w	completed sampling of	Replacement Well	Abbotsfo	ord, Wisconsin	· · · ·				
Original Construction Date       2/23/2005         Monitoring Well       If a Well Construction Report is available, please attach.         Drilled       Drilled       No         Onter (Specify)       direct push         Formation Type:       Ves       No         Other (Specify)       direct push       Yes       No         Formation Type:       Conductor Pipe - Ves       No       No         Monitoring Well       Bedrock       Required Method of Placing Sealing Material         Formation Type:       Casing Diameter (in.)       Required Method of Placing Sealing Material         Conductor Pipe - Pumpdel       Screen Renoved?       Yes       No         Monitoring well       Bedrock       Required Method of Placing Sealing Material       Por monitoring wells and monitoring wells and mo	(3) WELL/DRILLHOLE/BOREHO	LE INFORMATION	(4) <b>PUMP</b> , 1	LINER, SCR	EEN, CASING, & SE	ALING MATERIAL			
Original Construction Quel	Original Construction Data 2/23	/2005	Pump 8	2 Piping Remove	ed? Yes	No 🛛 Not Applicable			
Monitoring Well       If a Well Construction Report is available, please attach.         Drillhole / Borehole       Screen Removed?       Yes       No       Not Applicable         Construction Type:       Driven (Sandpoint)       Dug       Wate Casing Cut Off Below Surface?       Yes       No         Monitoring Well       Diriven (Sandpoint)       Dug       Wate Casing Cut Off Below Surface?       Yes       No         Monitoring Well       Diriven (Sandpoint)       Dug       Wate Casing Cut Off Below Surface?       Yes       No         Monitoring Well       direct push       Formation Type:       Ves       No       No       No         Pormation Type:       Guther (Specify)       direct push       Yes       No       No       No         Total Well Depth (ft)       8.0       Casing Diameter (in.)       Casing Diameter (in.)       Casing Diameter (in.)       For monitoring wells and monitoring wells and monitoring wells and monitoring wells and monitoric Chips         Section Brancine Chips       Sectionent (Concrete) Grout       Bentonite Chips       Granular Bentonite         Was Well Annular Space Grouted?       Yes       No       Mix Ratio       Mix Ratio         (5)       Sealing Material Used       For (Ft.)       To (Ft.)       Sacks Sealant       Mix Ratio <td< td=""><td></td><td>2000</td><td>Liner(s)</td><td>) Removed?</td><td>🗌 Yes 🔲</td><td>No 🛛 Not Applicable</td></td<>		2000	Liner(s)	) Removed?	🗌 Yes 🔲	No 🛛 Not Applicable			
Water Well       is available, please attach.         Drillhole/ Borehole       Construction Type:         Drillhole/ Borehole       Driven (Sandpoint)         Other (Specify)       direct push         Formation Type:       Discontrace?         Vulconsolidated Formation       Bedrock         Total Well Depth (ft)       8.0         Casing Depth (ft)       Casing Diameter (in.)         Wase Well Annular Space Grouted?       Yes         Wase Well Annular Space Grouted?       Yes         Yes       No         Wase Well Annular Space Grouted?       Yes         Yes       No         Bentonite       Chips         Form for the Water (Feet)       Feet         Depth to Water (Feet)       Feet         Bentonite       Surface         Stack Sealant       Mix Ratio or Mud Weight         Go Comments       Consultants Ltd.         (6) Comments       Telephone Number         Street or Route       Telephone Number         920-468-1978       Telephone Number         Otto       Telephone Number         920-468-1978       Custop         City, State, Zip Code       Telephone Number         Stepler Drive       920-468-1978	Monitoring Well	f a Well Construction Report	Screen	Removed?	🗌 Yes 📙	No 🛛 Not Applicable			
□ Drillole/ Borohale         Construction Type:         □ Drilled       □ Driven (Sandpoint)         □ Other (Specify)       direct push         Formation Type:       □         □ Unconsolidated Formation       □ Bedrock         Total Well Depth (ft)       .8.0         Casing Depth (ft)	Water Well	s available, please attach.	Casing	Left in Place?	📙 Yes 🖵	No			
Construction Type:       Drilled       Driven (Sandpoint)       Dug         Did Sealing Material Rise to Surface?       Yes       No         Gother (Specify)       direct push       If Yes, Was Hole Recoped?       Yes       No         Formation Type:       Conductor Pipe - Gravity       Conductor Pipe - Pumped       Screend & Pourad       Other (Explain) Gravity         Total Well Depth (ft)       8.0       Casing Depth (ft)       Cosing Depth (ft)       Conductor Pipe - Formonitoring wells and monitoring wells and Stury         Bentonite (fip)       Yes       No       Unknown         If Yes, To What Depth?       Feet       Sealing Material       Mix Ratio or Mid Weight         Bentonite       Saud Stury       Bentonite Chips       Mix Ratio or Mid Weight         (s)       Sealing Material Used       From (Ft.)       To (Ft.)			Was Ca	sing Cut Off Be	low Surface?	Yes 🖾 No			
□ Drilled       □ Driven (Sandpoint)       □ Dug       □ Did Material Stette After 24 Hours?       □ Yes ⊠ No         □ Other (Specify)	Construction Type:	_	Did Sea	aling Material Ri	se to Surface?	Yes 🔲 No			
Ø Other (Specify)       direct push       If Yes, Was Hole Retopped?       Yes       No         Formation Type:       Bedrock       Required Method of Placing Sealing Material       Conductor Pipe - Pumped         Total Well Depth (ft)       8.0       Casing Diameter (in.)       Conductor Pipe - Gravity       Conductor Pipe - Pumped         Lower Drillhole Diameter (in.)       Casing Depth (ft.)       Secting Material       For monitoring wells and monitoring wells and monitoring wells and Surry         Was Well Annular Space Grouted?       Yes       No       Unknown         If Yes, To What Depth?       Feet       Bentonite Choret       Bentonite Choret         Depth to Water (Feet)       Feet       Bentonite       Bentonite Choret       Bentonite Choret         (5)       Sealing Material Used       From (Ft.)       To (Ft.)       Sacks Sealant       Mix Ratio or Mud Weight         Bentonite       Surface       8.0       0.25       Strate       Mix Ratio         (f)       Name of Person or Firm Doing Sealing Work       Date of Abandonment       2/23/05       Street or Route       Port DNR OR COUNTY USE ONLY         Street or Route       Telephone Number       920-468-1978       Street or Route       Noted By         (ity, state, Zip Code       Green Bay, Wisconsin 54311       Street or Route	Drilled Driven	(Sandpoint) 📙 Dug	Did Ma	terial Settle Afte	er 24 Hours?	Yes 🖾 No			
Formation Type:       Required Method of Placing Sealing Material         Outconsolidated Formation       Bedrock         Total Well Depth (ft)       8.0       Casing Diameter (in.)         (From ground surface)       Casing Diameter (in.)       (Bentonite Chips)         Lower Drillhole Diameter (in.)       Screened & Poured       Other (Explain) Gravity         Was Well Annular Space Grouted?       Yes       No       Unknown         If Yes, To What Depth?       Feet       Bentonite-Sand Slurry       Bentonite Chips         Granular Bentonite       Clay-Sand Slurry       Bentonite Chips       Granular Bentonite         (5)       Sealing Material Used       From (Ft.)       To (Ft.)       Sacks Sealant       Mix Ratio or Mud Weight         Bentonite       Surface       8.0       0.25       Screet or Rout       Street or Rout         (6)       Comments       Yizz/os       Street or Rout       Telephone Number       Street or Rout       Noted By         1035 Kepler Drive       920-468-1978       920-468-1978       Comments       Comments	Other (Specify) direct push		If Yes	s, Was Hole Ret	opped?	Yes 📙 No			
Image: Second Stated Formation       Bedrock       Conductor Pipe - Gravity       Conductor Pipe - Pumped         Total Well Depth (h)       8.0       Casing Diameter (in.)       (Bentonite Chips)       Second & Poured       Other (Explain) Gravity         (From ground surface)       Casing Depth (ft.)       (Bentonite Chips)       Second & Poured       Other (Explain) Gravity         (Bentonite Chips)       Second & Comments       Second & Poured       Other (Explain) Gravity         (Bentonite Chips)       Second & Comments       For monitoring wells and monitoring wells and monitoring wells and monitoring well boreholes only         Was Well Annular Space Grouted?       Yes       No       Unknown       Bentonite Chips         (S)       Sealing Material Used       For (Ft.)       To (Ft.)       Sacks Sealant       Mix Rails         (S)       Sealing Material Used       From (Ft.)       To (Ft.)       Sacks Sealant       Mix Rails         (G)       Comments	Formation Type:		Require	d Method of Pla	cing Sealing Material				
Carlo Onton Sorhalader Pormation       Carlo Screened & Poured       Carlo Screened & Poured       Carlo Screened & Poured         Total Well Depth (ft)       8.0       Casing Diameter (in.)       Sealing Materials       For monitoring wells and monitoring wells and monitoring well boreholes only         Lower Drillhole Diameter (in.)	Inconsolidated Formation	Redrock	∐ ℃	nductor Pipe - C	ravity 📙 Conduct	tor Pipe - Pumped			
Total Well Depth (ft)       8.0       Casing Diameter (in.)       (Bentonite Chips)         Sealing Materials       For monitoring wells and monitoring wells and monitoring wells only         Lower Drillhole Diameter (in.)       Sand Startals       For monitoring wells and monitoric charead start wells and monitoring wells and monit				reened & Poured	I Other (E	Explain) Gravity			
(From ground surface)       Casing Depth (ft.)       For monitoring wells and cement Grout         Was Well Annular Space Grouted?       Yes       No       Unknown         If Yes, To What Depth?       Feet       Eating Materials       For monitoring wells and monitoring wells and monitoring wells and monitoring wells and cement (Concrete) Grout         Depth to Water (Feet)       Feet       Eating Material Sturry       Eating Material Sturry         (5)       Sealing Material Used       From (Ft.)       To (Ft.)       Sacks Sealant       Mix Ratio or Mud Weight         Bentonite       Surface       8.0       0.25       Or Mud Weight         (6) Comments       To Person Doing Sealing Work       Date of Abandonment 2/23/05       FOR DNR OR COUNTY USE ONLY         Signature of Person Doing Work       Pate of Signadure of Person Doing Work       Pate Signad       Noted By         (iy, State, Zip Code       Telephone Number       920-468-1978       Comments       Comments	Total Well Depth (ft) 8.0	Casing Diameter (in.)	( <u>+</u>	Bentonite Chips)					
Lower Drillhole Diameter (in.)       Meat Cement (Grout       monitoring well borcholes only         Was Well Annular Space Grouted?       Yes       No       Unknown         If Yes, To What Depth?       Feet       Bentonite-Sand Slurry       Bentonite-Cament Grout         Depth to Water (Feet)       Granular Bentonite       Mix Ratio         (5)       Sealing Material Used       From (Ft.)       To (Ft.)       Sacks Sealant       Mix Ratio         (6)       Comments       Surface       8.0       0.25       0.25         (7)       Name of Person or Firm Doing Sealing Work       Date of Abandonment       2/23/05       Yor DNR OR COUNTY USE ONLY         Signature of Person Doing Work       Date of Abandonment       2/23/05       Yor DNR OR COUNTY USE ONLY       Yor Date Signaty         Street or Route       Telephone Number       920-468-1978       Yor Order       Noted By       Comments         City, State, Zip Code       Green Bay, Wisconsin 54311       Yor Order       Comments       Comments	(From ground surface)	Casing Depth (ft.)	- Sealing	Materials	For m	nonitoring wells and			
Was Well Annular Space Grouted?       Yes       No       Unknown       Sand-Cerreter (Concrete) Grout       Bentonite Chips         If Yes, To What Depth?       Feet       Bentonite-Sand Slurry       Bentonite Chips         Depth to Water (Feet)       Feet       Bentonite-Sand Slurry       Bentonite Chips         (5)       Sealing Material Used       From (Ft.)       To (Ft.)       Sacks Sealant       Mix Ratio or Mud Weight         Bentonite       Surface       8.0       0.25       Image: Concrete Chips       Mix Ratio or Mud Weight         (6) Comments       Stree or Firm Doing Sealing Work       Date of Abandonment 2/23/05       Image: Concrete Chips       Image: Concrete Chips         Signature of Person or Firm Doing Sealing Work       Date Signed       Image: Concrete Chips       Image: Concrete Chips         Signature of Person Doing Work       Date Signed       Image: Concrete Chips       Image: Concrete Chips         Signature of Person Doing Work       Date Signed       Image: Concrete Chips       Image: Concrete Chips         Street or Route       Telephone Number       920-468-1978       Image: Concrete Chips       Image: Concrete Chips         City, State, Zip Code       Green Bay, Wisconsin 54311       Image: Concrete Chips       Image: Concrete Chips       Image: Concrete Chips	Lower Drillhole Diameter (in.)		Sand-Cement (Concrete) Grout monitoring well boreholes only						
Was Well Annular Space Grouted?       Yes       Yes       Interface Grouted?       Interface Groute Groute       Interface Groute Grout       Interface Groute Grout       Interface Groute Grout       Interface Groute Grout       Interface Grout       Interface Grout Grout       Interface Grout <td></td> <td></td> <td colspan="6">Concrete</td>			Concrete						
If Yes, To What Depth?       Feet       Bentonite-Sand Slurry       Bentonite-Cement Grout         Depth to Water (Feet)       Chipped Bentonite       Bentonite       Bentonite       Bentonite         (5)       Sealing Material Used       From (Ft.)       To (Ft.)       Sacks Sealant       Mix Ratio or Mud Weight         Bentonite       Surface       8.0       0.25         (6) Comments       Image: Surface       Surface       Surface         (7) Name of Person or Firm Doing Sealing Work       Date of Abandonment       2/23/05         Signature of Person or Firm Doing Sealing Work       Date Signed       Viz 2/26S         Street or Route       Telephone Number       920-468-1978       Noted By         City, State, Zip Code       Green Bay, Wisconsin 54311       Comments	Was Well Annular Space Grouted?	」Yes ⊠ No ∟ Unknown		v-Sand Slurry	! 🖾	Granular Bentonite			
Depth to Water (Feet)       Image: Chipped Bentonite       Image: Bentonite       Image: Bentonite       Image: Bentonite       Sacks Sealant       Mix Ratio or Mud Weight         (5)       Sealing Material Used       From (Ft.)       To (Ft.)       Sacks Sealant       Mix Ratio or Mud Weight         Bentonite       Surface       8.0       0.25       Image: Bentonite       Image: Bentonite         (6) Comments       Image: Bentonite       Image: Bentonite       Image: Bentonite       Image: Bentonite       Image: Bentonite         (7) Name of Person or Firm Doing Sealing Work       Date of Abandonment       2/23/05       Image: Bentonite       Image: Bentonite         (7) Name of Person or Firm Doing Sealing Work       Date of Abandonment       2/23/05       Image: Bentonite	If Yes, To What Depth?	Feet	Bentonite-Sand Slurry						
(5)     Sealing Material Used     From (Ft.)     To (Ft.)     Sacks Sealant     Mix Ratio or Mud Weight       Bentonite     Surface     8.0     0.25       Bentonite     Surface     8.0     0.25       (6) Comments     Image: Street of Person or Firm Doing Sealing Work     Date of Abandonment       2/23/05     2/23/05     FOR DNR OR COUNTY USE ONLY       Signature of Person Doing Work     Date Signed     Mix Ratio or Mud Weight       1035 Kepler Drive     920-468-1978     Comments       City, State, Zip Code     Green Bay, Wisconsin 54311     Comments	Depth to Water (Feet)		Ch	ipped Bentonite	i 🗆	Bentonite - Sand Slurry			
(b)     Sealing Material Osed     Four (r, r)     Socks Scalant     or Mud Weight       Bentonite     Surface     8.0     0.25       (6) Comments     Image: Surface     1     Image: Surface     0.25       (6) Comments     Image: Surface     1     Image: Surface     0.25       (7) Name of Person or Firm Doing Sealing Work     Date of Abandonment     2/23/05     Image: Surface     Image: Surface       (7) Name of Person or Firm Doing Sealing Work     Date of Abandonment     2/23/05     Image: Surface     Image: Surface       (7) Name of Person Doing Work     Image: Date Signed     1     1     Image: Surface     Image: Surface       (7) Name of Person Doing Work     Image: Date Signed     1     1     Image: Surface     Image: Surface       Street or Route     Telephone Number     920-468-1978     Image: Surface     Image: Surface     Image: Surface       (City, State, Zip Code     Green Bay, Wisconsin 54311     Image: Surface     Image: Surface     Image: Surface	(5) Sealing Mater	iol Used	From (Ft.)	To (Ft)	Sacks Sealant	Mix Ratio			
Bentonite     Surface     8.0     0.25       (6) Comments     (6) Comments     (6) Comments       (7) Name of Person or Firm Doing Sealing Work     Date of Abandonment 2/23/05       (7) Name of Person or Firm Doing Sealing Work     Date of Abandonment 2/23/05       Street or Person Doing Work     Date Signed       Understand     Understand       Street or Route     Telephone Number       1035 Kepler Drive     920-468-1978       City, State, Zip Code Green Bay, Wisconsin 54311     Comments	(3) Scaling Match		rion (ru)	10(11.)	Sacks Scalant	or Mud Weight			
Bentonite       Surface       8.0       0.25         Governments       Image: Surface       Image: Surface       Image: Surface       Image: Surface         (6) Comments       Image: Surface       Image: Surface       Image: Surface       Image: Surface       Image: Surface         (7) Name of Person or Firm Doing Sealing Work       Date of Abandonment       2/23/05       Image: Surface       Image: Surface         (7) Name of Person or Firm Doing Sealing Work       Date of Abandonment       2/23/05       Image: Surface       Image: Surface         Signature of Person Doing Work       Date Signed       Image: Surface       Image: Surface       Image: Surface         Street or Route       Telephone Number       920-468-1978       Image: Surface       Image: Surface       Image: Surface         (City, State, Zip Code       Green Bay, Wisconsin 54311       Image: Surface       Image: Surface <t< td=""><td></td><td></td><td></td><td></td><td>^ <b>~ ~</b></td><td></td></t<>					^ <b>~ ~</b>				
(6) Comments       (7) Name of Person or Firm Doing Sealing Work       Street or Route       1035 Kepler Drive       1035 Kepler Drive       920-468-1978	Bentonite		Surface	8.0	0.25				
(6) Comments       (7) Name of Person or Firm Doing Sealing Work       Date of Abandonment       STS Consultants Ltd.       2/23/05       Signature of Person Doing Work       Date Signed       4/22/05       Street or Route       Telephone Number       1035 Kepler Drive       920-468-1978   Commeats									
(6) Comments         (7) Name of Person or Firm Doing Sealing Work       Date of Abandonment         STS Consultants Ltd.       2/23/05         Signature of Person Doing Work       Date Signed         4/22/65       Noted By         Street or Route       Telephone Number         1035 Kepler Drive       920-468-1978         City, State, Zip Code       Green Bay, Wisconsin 54311									
(6) Comments			-						
(6) Comments         (7) Name of Person or Firm Doing Sealing Work       Date of Abandonment         STS Consultants Ltd.       2/23/05         Signature of Person Doing Work       Date Signed         4/22/65       Moted By         Street or Route       Telephone Number         1035 Kepler Drive       920-468-1978         City, State, Zip Code       Green Bay, Wisconsin 54311									
(7) Name of Person or Firm Doing Sealing Work     Date of Abandonment       STS Consultants Ltd.     2/23/05       Signature of Person Doing Work     Date Signed       4/22/05       Street or Route     Telephone Number       1035 Kepler Drive     920-468-1978       City, State, Zip Code     920-468-1978	(6) Comments								
(7) Name of Person or Firm Doing Sealing Work     Date of Abandonment       STS Consultants Ltd.     2/23/05       Signature of Person Doing Work     Date Signed       Understand     4/22/05       Street or Route     Telephone Number       1035 Kepler Drive     920-468-1978       City, State, Zip Code     Green Bay, Wisconsin 54311									
STS Consultants Ltd.     2/23/05       Signature of Person Doing Work     Date Signed       Line     4/22/05       Street or Route     Telephone Number       1035 Kepler Drive     920-468-1978       City, State, Zip Code     Green Bay, Wisconsin 54311	(7) Name of Person or Firm Doing Sealing V	Work Date of Abandor	nment						
Signature of Person Doing Work     Date Signed       Line     Line       Street or Route     Telephone Number       1035 Kepler Drive     920-468-1978       City, State, Zip Code     Green Bay, Wisconsin 54311	STS Consultants Ltd.	2/23/05			R DNR OR COUNTY U	SEONLY			
Image: Construction     1/22/05       Street or Route     Telephone Number       1035 Kepler Drive     920-468-1978       City, State, Zip Code     Green Bay, Wisconsin 54311	Signature of Person Doing Work	Date Signed	Dau	e Receivea	Noted By				
IO35 Kepler Drive     920-468-1978       City, State, Zip Code     Green Bay, Wisconsin 54311	Street or Route	Telephone Number		Iments					
City, State, Zip Code Green Bay, Wisconsin 54311	1035 Kenler Drive	920-468-1978		11111113	g per paga na per segui de la como				
Green Bay, Wisconsin 54311	City, State, Zip Code	/ /20-+00-1/76				<u>en de la principa de la companya de la principa de la companya de la companya de la companya de la companya de</u> La companya de la comp			
	Green Bay, Wisconsin 54311								

Notice: Please complete Form 3300-5 and return it to the appropriate DNR office and bureau. Completion of this report is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See the instructions for more information.

Route to Drinking Water Watershed/Wastewater Waste Managem	Int Remediation/Redevelopment Other
(1) GENERAL INFORMATION	(2) FACILITY /OWNER INFORMATION
wi Unique well No. DNR well ID No. County	NU-DOT STU12
	WISDUI SIH IS Facility ID I icense/Permit/Monitoring No
Common Well Name GP-6 Gov't Lot (if applicable)	
<u>NW</u> 1/4 of <u>NW</u> 1/4 of Sec. <u>6</u> ; T. <u>28</u> N; R <u>2</u> $\boxtimes$ E	Street Address of Well
Grid Location W	202 South 4th Street
ft. 🛛 N. 🗌 S.,ft. 🗋 E. 🗌 W.	City, Village, or Town
Local Grid Origin (estimated: ) or Well Location	Abbotsford Present Well Owner Original Owner
_ 0 1 11 _ 0 1 11	WisDOT WisDOT
Lat Or Or Or	Street Address or Route of Owner
State Planeft. N.         ft. E.         I         Zone	·
Reason For Abandonment WI Unique Well No.	City, State, Zip Code
completed sampling of Replacement Well	Abbotsford, Wisconsin
(3) WELL/DRILLHOLE/BOREHOLE INFORMATION	1(4) PUMP, LINER, SCREEN, CASING, & SEALING MATERIAL
Original Construction Date 2/23/2005	Pump & Piping Removed? Yes No X Not Applicabl
	Liner(s) Removed? Yes Vo No Applicable
Water Well If a Well Construction Report	Casing Left in Place?
Drillhole / Borehole	
Construction Type:	Was Casing Cut Off Below Surface?
	Did Sealing Material Rise to Surface? Yes No
Drilled Driven (Sandpoint) Dug	Did Material Settle After 24 Hours? Yes No
Other (Specify) direct push	
Formation Type:	Required Method of Placing Sealing Material
Unconsolidated Formation 🛛 Bedrock	Conductor Pipe - Gravity Conductor Pipe - Pumped
80	(Bentonite Chins)
(From ground surface)	Sealing Materials
Casing Depth (ft.)	Next Cement Grout monitoring well boreholes only
Lower Drillhole Diameter (in.)	Sand-Cement (Concrete) Grout
Was Well Annular Space Grouted? Ves X No Unknown	Concrete Bentonite Chips
	Clay-Sand Slurry Granular Bentonite
If Yes, To What Depth? Feet	Bentonite-Sand Slurry Bentonite-Cement Grou
Depth to Water (Feet)	Chipped Bentonite I Bentonite - Sand Slurry
(5) Sealing Material Used	From (Ft.) To (Ft.) Sacks Sealant Mix Ratio or Mud Weight
Poptovite	Surface 8.0 0.25
Dentointe	
(6) Comments	
(7) Name of Person or Firm Doing Sealing Work Date of Abandonn	nent
STS Consultants Ltd. 2/23/05	FOR DNR OR COUNTY USE ONLY
Signature of Person Doing Work Date Signed	Date Received Noted By
Ein ( Salit 3/18/05	
Street or Route Telephone Number	Comments
1035 Kepler Drive 920-468-1978	
City, State, Zip Code	
Green Bay, Wisconsin 54311	

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Notice: Please complete Form 3300-5 and return it to the appropriate DNR office and bureau. Completion of this report is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See the instructions for more information.

Route to: Drinking Water Watershed/Wastewater Waste Manager	ient 🗌 Rem	rediation/Redev	elopment Other	······			
(1) GENERAL INFORMATION	(2) FACILI	<b>TY /OWNER</b>	<b>NINFORMATION</b>				
WI Unique Weil No. DNR Well ID No. County	Facility Nam	ie					
Marathon	WISDUI Facility ID	STH 13	License/Permit/Mon	itoring No.			
Common Well Name GP-7 Gov't Lot (if applicable)	Facility ID		LICCHSC/F CITHU MON	Itoring no.			
NW 1/4 of NW 1/4 of Sec. 6 T 28 N B 2	Street Addre	ss of Well		<u> </u>			
Grid Location	202 Sout	h 4th Street					
	City, Village	, or Town					
Local Grid Origin (estimated: ) or Well Location	Abbotsfo	ord .					
	Present Well	Owner	Original Ow	vner			
Lat Long or	WisDO'I	Pouto of (	WisDOT	<u> </u>			
State Plane ft N ft E $\square \square$ Zone	Street Addre	SS OF KOULE OF C	Jwner				
Reason For Abandonment  WI Unique Well No.	City, State, 2	Zip Code					
completed sampling of Replacement Well	Abbotsfo	ord. Wisconsin	n .				
(3) WELL/DRILLHOLE/BOREHOLE INFORMATION	(4) <b>PUMP</b> , J	LINER, SCR	EEN, CASING, & SF	EALING MATERIAL			
2/23/2005	Pump &	· Pining Remov	ved? Yes	No Not Applicable			
Original Construction Date	Liner(s)	Removed?		No Not Applicable			
Monitoring Well	Screen	Removed?	Yes 🗌	No Not Applicable			
Water Well is available, please attach.	Casing I	Left in Place?	🗌 Yes 🗌	No			
Drillhole / Borehole	Was Ca	using Cut Off Be	elow Surface?	Yes No			
Construction Type:	Did Sea	ling Material R	ise to Surface?	Yes No			
Drilled Driven (Sandpoint) Dug	Did Ma	terial Settle Aft	er 24 Hours?	Yes No			
Other (Specify)	If Yes	, Was Hole Ret	.opped?	Yes 🛛 No			
Formation Type:	Require	d Method of Pla	acing Sealing Material				
Inconsolidated Formation Bedrock		nductor Pipe - O	Gravity 📙 Conduc	tor Pipe - Pumped			
		eened & Poured	d 🖾 Other (I	Explain) Gravity			
Total Well Depth (ft) <u>8.0</u> Casing Diameter (in.)	(E	lentonite Chips	)	,			
(From ground surface) Casing Depth (ft.)	Sealing	Materials	For n	nonitoring wells and			
Lower Drillhole Diameter (in.)	Sand-Cement (Concrete) Growt						
	Concrete						
Was Well Annular Space Grouted? 📙 Yes 🖾 No 🗀 Unknown	Clay-Sand Slurry						
If Yes, To What Depth? Feet	Bentonite-Sand Slurry						
Depth to Water (Feet)	Chi	ipped Bentonite		Bentonite - Sand Slurry			
(5) Sealing Material Used	From (Ft.)	To (Ft.)	Sacks Sealant	Mix Ratio			
			-	or Mud weight			
Bentonite	Surface	8.0	0.25				
(6) Comments	<u> </u>						
	<u> </u>		•				
(7) Name of Person or Firm Doing Sealing Work	nent	FO	B DNB OB COUNTY H	SE ONI V			
SIS Consultants Ltd. 2/25/05 Signature of Person Doing Work Date Signed	Dati	• Paceived	Noted By	SEGILI			
G. C. S. I.I. Sholos		Accord	110100 07				
Street or Route Telephone Number	Соп	iments					
1035 Kepler Drive 920-468-1978			and a subsection of the subsec				
City, State, Zip Code							
Green Bay, Wisconsin 54311							



Wisconsin Department of Transportation-Sebold Chevrolet Property STS Project No. 4-27811XV May 9, 2005

#### 3.4 Laboratory Reports and Chain of Custody Forms



#### **Cover Page**

All analyses performed according to EPA Methods (EPA-600/4-79/020, March 1983 or SW-846, Third Edition). Sample chain-of-custody form(s) attached.

Client: STS Consultants - Green Bay

WWA Job #: 21615

Project: Date Received:	27811XV 2/25/2005	Sample Matrix: Date Reported:	Soil 3/17/2005	
Sample Number	Client Sample ID	Date Sampled		
21615-001	GP-1 (2-4)	02/23/05		
21615-002	GP-1 (5-8)	02/23/05		
21615-003	GP-2 (0-3.5)	02/23/05		
21615-00 <u>4</u> _	GP-2 (5.5-8)	02/23/05		
21615-00 <u>5</u>	GP-3 (3-6.5)	02/23/05		
21615-00 <u>6</u>	GP-3 (6.5-8)	02/23/05		
21615-007_	GP-4 (3-5)	02/23/05		
21615-008	GP-4 (5-8)	02/23/05	X	
21615-009	GP-5 (3-5)	02/23/05		
21615-0 <u>10</u>	GP-5 (5-8)	02/23/05		
21615-0 <u>11</u>	GP-6 (2.5-6)	02/23/05		
21615-012	GP-6 (6-8)	02/23/05		
21615-0 <u>13</u>	GP-7 (0.3-2.5)	02/23/05		
21615-0 <u>14</u>	GP-7 (2.5-8)	02/23/05		
21615-015	GP-8 (4-8)	02/23/05		
21615-0 <u>16</u>	GP-9 (4-8)	02/23/05		
21615-0 <u>17</u>	GP-10 (3.5-8)	02/23/05		
21615-0 <u>18</u>	GP-11 (0-4.5)	02/23/05		
21615-019	GP-11 (4.5-8)	02/23/05		
21615-0 <u>20</u>	GP-12 (0-4.5)	02/23/05		
21615-0 <u>21</u>	GP-12 (4.5-8)	02/23/05		
21615-0 <u>22</u>	GP-13 (0-4)	02/23/05		
21615-023	GP-13 (4-8)	02/23/05		
21615-024	GP-14 (0-4)	02/23/05	·	
21615-025- /	GP-14 (4-8)	02/23/05		
21615-026	GP-15 (0-1)	02/23/05		

• Amasa, Michigan 49903

Phone (906) 822-7373



Comments (if any):

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Key to Laboratory Flags:

B: The analyte was found in the associated blank as well as in the sample.

J: The analyte was positively identified, the quantitation is an estimation.

M: A matrix effect was present.

Q: Batch QC data associated with samples does not meet stated objectives.

U: The analyte was analyzed for, but not detected. The associated numerical value is at or below the MDL.

I certify that the data contained in this Final Report has been generated and reviewed in accordance with approved methods and White Water Associates Standard Operating Procedures. Exceptions, if any, are discussed in the accompanying sample narrative. Release of this Final Report is authorized by White Water Associates management, as is verified by the following signature.

**Approved By:** DAM



Client: STS Consultants - Green Bay

WWA Job #: 21615

27811XV **Project:** Sample Matrix: Soil **Date Received: Date Reported:** 3/17/2005 2/25/2005 **Trace Metals in Solids** Method MDL Sample / Client Sample ID Result Units Date MQL 21615-005 / GP-3 (3-6.5) 60'10B 1 3 Lead (s) 120 mg/kg 3/1/2005 21615-008 / GP-4 (5-8) 130 6010B 3 Lead (s) mg/kg 3/1/2005 1 21615-009 / GP-5 (3-5) 6010B 1 4 Lead (s) 140 mg/kg 3/1/2005 21615-012 / GP-6 (6-8) Lead (s) 130 mg/kg 3/1/2005 6010B 1 3 21615-014 / GP-7 (2.5-8) 3 130 3/1/2005 6010B 1 Lead (s) mg/kg 21615-019 / GP-11 (4.5-8) 130 3/1/2005 6010B 1 3 Lead(s) mg/kg 21615-021 / GP-12 (4.5-8) 3/1/2005 6010B 3 Lead(s) 140 mg/kg 1 21615-023 / GP-13 (4-8) 3 Lead (s) 130 mg/kg 3/1/2005 6010B 1

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 1 of 2



ECOLOGICAL CONSULTING AND ENVIRONMENTAL LABORATORY SERVICES

# WHITE WATER ASSOCIATES, INC.

Client: STS Consultants - Green Bay

WWA Job #: 21615

**Project:** 27811XV Sample Matrix: Soil **Date Received: Date Reported:** 3/17/2005 2/25/2005 TCLP - Metals - EPA 1311/7000 Sample / Client Sample ID Result Units Date Method **MDL** MQL 21615-005 / GP-3 (3-6.5) Lead (TCLP) 0.006 J 3/11/2005 6010B 0.003 0.009 mg/L 21615-014 / GP-7 (2.5-8) Lead (TCLP) 0.015 6010B 0.003 0.009 mg/L 3/11/2005 21615-017 / GP-10 (3.5-8) Lead (TCLP) 0.009 J mg/L 3/11/2005 6010B 0.003 0.009 21615-021 / GP-12 (4.5-8) 0.012 3/11/2005 6010B 0.003 0.009 Lead (TCLP) mg/L 21615-026 / GP-15 (0-1) 3/11/2005 6010B 0.001 Nickel (TCLP) 0.014 mg/L 0.003 Arsenic (TCLP) ND mg/L 3/11/2005 6010B 0.006 0.020 Barium (TCLP) 0.412 mg/L 3/11/2005 6010B 0.0003 0.001 3/11/2005 0.001 Cadmium (TCLP) ND mg/L 6010B 0.003 mg/L 3/11/2005 6010B 0.001 Chromium (TCLP) 0.006 0.003 mg/L 3/11/2005 6010B 0.001 0.003 Copper (TCLP) 0.010 Lead (TCLP) 0.024 mg/L 3/11/2005 6010B 0.003 0.009 Mercury (TCLP) ND mg/L 3/11/2005 7470A 0.0001 0.0004 3/11/2005 6010B 0.006 0.020 Selenium (TCLP) ND mg/L Silver (TCLP) 3/11/2005 6010B 0.0003 0.001 ND mg/L Zinc (TCLP) 0.113 mg/L 3/11/2005 6010B 0.003 0.010

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 1 of 2



Client: STS Consultants - Green Bay

WWA Job #: 21615

 Project:
 27811XV

 Date Received:
 2/25/2005

Sample Matrix:SoilDate Reported:3/8/2005

#### **Volatile Organics**

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
21615-009 / GP-5 (3-5)						
Dichlorodifluoromethane	ND	ug/kg	2/28/2005	8260B	81	160
Chloromethane	ND	ug/kg	2/28/2005	8260B	81	160
Vinyl Chloride	ND	ug/kg	2/28/2005	8260B	16	32
Chloroethane	ND	ug/kg	2/28/2005	8260B	81	160
Bromomethane	ND	ug/kg	2/28/2005	8260B	81	160
Trichlorofluoromethane	ND	ug/kg	2/28/2005	8260B	16	32
Diethyl Ether	ND	ug/kg	2/28/2005	8260B	81	160
1,1-Dichloroethene	ND	ug/kg	2/28/2005	8260B	16	32
Carbon Disulfide	ND	ug/kg	2/28/2005	8260B	16	32
Methyl Iodide	ND	ug/kg	2/28/2005	8260B	16	32
Methylene Chloride	ND	ug/kg	2/28/2005	8260B	81	160
Acetone	ND	ug/kg	2/28/2005	8260B	320	640
trans-1,2-Dichloroethene	ND	ug/kg	2/28/2005	8260B	16	32
MtBE	ND	ug/kg	2/28/2005	8260B	16	32
1,1-Dichloroethane	ND	ug/kg	2/28/2005	8260B	16	32
Acrylonitrile	ND	ug/kg	. 2/28/2005	8260B	81	160
Vinyl Acetate	ND	ug/kg	2/28/2005	8260B	16	32
cis-1,2-Dichloroethene	ND	ug/kg	2/28/2005	8260B	16	32
2,2-Dichloropropane	ND	ug/kg	2/28/2005	8260B	16	32
Bromochloromethane	ND	ug/kg	2/28/2005	8260B	16	32
Chloroform	ND	ug/kg	2/28/2005	8260B	16	32
Carbon Tetrachloride	ND	ug/kg	2/28/2005	8260B	16	32
1,1,1-Trichloroethane	ND	ug/kg	2/28/2005	8260B	16	32
MEK	310 J	ug/kg	2/28/2005	8260B	81	640
1,1-Dichloropropene	ND	ug/kg	2/28/2005	8260B	16	32

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 19 of 48



Client: STS Consultants - Green Bay

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WWA Job #: 21615

 Project:
 27811XV
 Sample Matrix:
 Soil

 Date Received:
 2/25/2005
 Date Reported:
 3/8/2005

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Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
21615-009 / GP-5 (3-5)						
Benzene	ND	ug/kg	2/28/2005	8260B	16	32
1,2-Dichloroethane	ND	ug/kg	2/28/2005	8260B	16	32
Trichloroethene	ND	ug/kg	2/28/2005	8260B	16	32
Dibromomethane	ND	ug/kg	2/28/2005	8260B	16	32
1,2-Dichloropropane	ND	ug/kg	2/28/2005	8260B	16	32
Bromodichloromethane	ND	ug/kg	2/28/2005	8260B	16	32
cis-1,3-Dichloropropene	ND	ug/kg	2/28/2005	8260B	16	32
Toluene	ND	ug/kg	2/28/2005	8260B	16	32
MIBK	ND	ug/kg	2/28/2005	8260B	81	160
Tetrachloroethene	ND	ug/kg	2/28/2005	8260B	16	32
trans-1,3-Dichloropropene	ND	ug/kg	2/28/2005	8260B	16	32
1,1,2-Trichloroethane	ND	ug/kg	2/28/2005	8260B	16	32
Dibromochloromethane	ND	ug/kg	2/28/2005	8260B	16	32
1,3-Dichloropropane	ND	ug/kg	2/28/2005	8260B	16	32
1,2-Dibromoethane	ND	ug/kg	2/28/2005	8260B	16	32
2-Hexanone	ND	ug/kg	. 2/28/2005	8260B	81	160
Chlorobenzene	ND	ug/kg	2/28/2005	8260B	16	32
1,1,1,2-Tetrachloroethane	ND	ug/kg	2/28/2005	8260B	16	32
Ethylbenzene	ND	ug/kg	2/28/2005	8260B	16	32
m/p-Xylene	ND	ug/kg	2/28/2005	8260B	32	64
o-Xylene	ND	ug/kg	2/28/2005	8260B	16	32
Styrene	ND	ug/kg	2/28/2005	8260B	16	32
Bromoform	ND	ug/kg	2/28/2005	8260B	16	32
Isopropylbenzene	ND	ug/kg	2/28/2005	8260B	16	32
n-Propylbenzene	ND	ug/kg	2/28/2005	8260B	16	32

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit,

ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 20 of 48



Client: STS Consultants - Green Bay

WWA Job #: 21615

 Project:
 27811XV

 Date Received:
 2/25/2005

Sample Matrix:SoilDate Reported:3/8/2005

Volatile Organics

Result	Units	Date	Method	MDL	MQL
				ala Alaine Alaine	
ND	ug/kg	2/28/2005	8260B	16	32
ND	ug/kg	2/28/2005	8260B	16	32
ND	ug/kg	2/28/2005	8260B	16	32
ND	ug/kg	2/28/2005	8260B	16	32
ND	ug/kg	2/28/2005	8260B	16	32
ND	ug/kg	2/28/2005	8260B	16	32
ND	ug/kg	2/28/2005	8260B	16	32
ND	ug/kg	2/28/2005	8260B	16	32
ND	ug/kg	2/28/2005	8260B	16	64
ND	ug/kg	2/28/2005	8260B	16	32
ND	ug/kg	2/28/2005	8260B	16	32
ND	ug/kg	2/28/2005	8260B	16	32
ND	ug/kg	2/28/2005	8260B	16	32
ND	ug/kg	2/28/2005	8260B	16	32
ND	ug/kg	2/28/2005	8260B	81	160
ND	ug/kg	2/28/2005	8260B	16	32
ND	ug/kg	2/28/2005	8260B	81	160
ND	ug/kg	2/28/2005	8260B	16	32
ND	ug/kg	2/28/2005	8260B	81	160
ND	ug/kg	2/28/2005	8260B	81	160
ND	ug/kg	2/28/2005	8260B	81	160
ND	ug/kg	2/28/2005	8260B	81	160
	Result ND ND ND ND ND ND ND ND ND ND ND ND ND	ResultUnitsNDug/kg	ResultUnitsDateNDug/kg2/28/2005ND<	ResultUnitsDateMethodNDug/kg2/28/20058260B </td <td>ResultUnitsDateMethodMDLNDug/kg2/28/20058260B16NDug/kg2/28/20058260B16NDug/kg2/28/20058260B16NDug/kg2/28/20058260B16NDug/kg2/28/20058260B16NDug/kg2/28/20058260B16NDug/kg2/28/20058260B16NDug/kg2/28/20058260B16NDug/kg2/28/20058260B16NDug/kg2/28/20058260B16NDug/kg2/28/20058260B16NDug/kg2/28/20058260B16NDug/kg2/28/20058260B16NDug/kg2/28/20058260B16NDug/kg2/28/20058260B16NDug/kg2/28/20058260B16NDug/kg2/28/20058260B16NDug/kg2/28/20058260B16NDug/kg2/28/20058260B81NDug/kg2/28/20058260B81NDug/kg2/28/20058260B81NDug/kg2/28/20058260B81NDug/kg2/28/20058260B81NDug/kg2/28/20058260B81NDug/kg2/28/20058260B81NDug/kg2/</td>	ResultUnitsDateMethodMDLNDug/kg2/28/20058260B16NDug/kg2/28/20058260B16NDug/kg2/28/20058260B16NDug/kg2/28/20058260B16NDug/kg2/28/20058260B16NDug/kg2/28/20058260B16NDug/kg2/28/20058260B16NDug/kg2/28/20058260B16NDug/kg2/28/20058260B16NDug/kg2/28/20058260B16NDug/kg2/28/20058260B16NDug/kg2/28/20058260B16NDug/kg2/28/20058260B16NDug/kg2/28/20058260B16NDug/kg2/28/20058260B16NDug/kg2/28/20058260B16NDug/kg2/28/20058260B16NDug/kg2/28/20058260B16NDug/kg2/28/20058260B81NDug/kg2/28/20058260B81NDug/kg2/28/20058260B81NDug/kg2/28/20058260B81NDug/kg2/28/20058260B81NDug/kg2/28/20058260B81NDug/kg2/28/20058260B81NDug/kg2/

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 21 of 48

429 River Lane • P.O. Box 27 • Amasa, Michigan 49903 • Phone (906) 822-7373 • FAX (906) 822-7977



Client: STS Consultants - Green Bay

WWA Job #: 21615

 Project:
 27811XV
 Sample Matrix:
 Soil

 Date Received:
 2/25/2005
 Date Reported:
 3/8/2005

#### **Volatile Organics**

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
21615-012 / GP-6 (6-8)						
Dichlorodifluoromethane	ND	ug/kg	2/28/2005	8260B	73	140
Chloromethane	ND	ug/kg	2/28/2005	8260B	73	140
Vinyl Chloride	ND	ug/kg	2/28/2005	8260B	14	29
Chloroethane	ND	ug/kg	2/28/2005	8260B	73	140
Bromomethane	ND	ug/kg	2/28/2005	8260B	73	140
Trichlorofluoromethane	ND	ug/kg	2/28/2005	8260B	14	29
Diethyl Ether	ND	ug/kg	2/28/2005	8260B	73	140
1,1-Dichloroethene	ND	ug/kg	2/28/2005	8260B	14	29
Carbon Disulfide	ND	ug/kg	2/28/2005	8260B	14	29
Methyl Iodide	ND	ug/kg	2/28/2005	8260B	14	29
Methylene Chloride	ND	ug/kg	2/28/2005	8260B	73	140
Acetone	ND	ug/kg	2/28/2005	8260B	290	580
trans-1,2-Dichloroethene	ND	ug/kg	2/28/2005	8260B	14	29
MtBE	ND	ug/kg	2/28/2005	8260B	14	29
1,1-Dichloroethane	ND	ug/kg	2/28/2005	8260B	14	29
Acrylonitrile	ND	ug/kg	2/28/2005	8260B	73	140
Vinyl Acetate	ND	ug/kg	2/28/2005	8260B	14	29
cis-1,2-Dichloroethene	ND	ug/kg	2/28/2005	8260B	14	29
2,2-Dichloropropane	ND	ug/kg	2/28/2005	8260B	14	29
Bromochloromethane	ND	ug/kg	2/28/2005	8260B	14	29
Chloroform	ND	ug/kg	2/28/2005	8260B	14	29
Carbon Tetrachloride	ND	ug/kg	2/28/2005	8260B	14	29
1,1,1-Trichloroethane	ND	ug/kg	2/28/2005	8260B	14	29
MEK	260 J	ug/kg	2/28/2005	8260B	73	580
l, 1-Dichloropropene	ND	ug/kg	2/28/2005	8260B	14	29

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit,

ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 22 of 48



Client: STS Consultants - Green Bay

WWA Job #: 21615

 Project:
 27811XV

 Date Received:
 2/25/2005

Sample Matrix:SoilDate Reported:3/8/2005

#### **Volatile Organics**

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL	
21615-012 / GP-6 (6-8)							
Benzene	ND	ug/kg	2/28/2005	8260B	14	29	
1,2-Dichloroethane	ND	ug/kg	2/28/2005	8260B	14	29	
Trichloroethene	ND	ug/kg	2/28/2005	8260B	14	29	
Dibromomethane	ND	ug/kg	2/28/2005	8260B	14	29	
1,2-Dichloropropane	ND	ug/kg	2/28/2005	8260B	14	29	
Bromodichloromethane	ND	ug/kg	2/28/2005	8260B	14	29	
cis-1,3-Dichloropropene	ND	ug/kg	2/28/2005	8260B	14	29	
Toluene	ND	ug/kg	2/28/2005	8260B	14	29	
MIBK	ND	ug/kg	2/28/2005	8260B	73	140	
Tetrachloroethene	ND	ug/kg	2/28/2005	8260B	14	29	
trans-1,3-Dichloropropene	ND	ug/kg	2/28/2005	8260B	14	29	
1,1,2-Trichloroethane	ND	ug/kg	2/28/2005	8260B	14	29	
Dibromochloromethane	ND	ug/kg	2/28/2005	8260B	14	29	
1,3-Dichloropropane	ND	ug/kg	2/28/2005	8260B	14	29	
1,2-Dibromoethane	ND	ug/kg	2/28/2005	8260B	14	29	
2-Hexanone	ND	ug/kg	2/28/2005	8260B	73	140	
Chlorobenzene	ND	ug/kg	2/28/2005	8260B	14	29	
1,1,1,2-Tetrachloroethane	ND	ug/kg	2/28/2005	8260B	14	29	
Ethylbenzene	ND	ug/kg	2/28/2005	8260B	14	29	
m/p-Xylene	ND	ug/kg	2/28/2005	8260B	29	58	
o-Xylene	ND	ug/kg	2/28/2005	8260B ·	14	29	
Styrene	ND	ug/kg	2/28/2005	8260B	14	29	
Bromoform	ND	ug/kg	2/28/2005	8260B	14	29	
Isopropylbenzene	ND	ug/kg	2/28/2005	8260B	14	29	
n-Propylbenzene	ND	ug/kg	2/28/2005	8260B	14	29	

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 23 of 48



Client: STS Consultants - Green Bay

WWA Job #: 21615

 Project:
 27811XV

 Date Received:
 2/25/2005

Sample Matrix:SoilDate Reported:3/8/2005

#### Volatile Organics

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
21615-012 / GP-6 (6-8)						
Bromobenzene	ND	ug/kg	2/28/2005	8260B	14	29
1,1,2,2-Tetrachloroethane	ND	ug/kg	2/28/2005	8260B	14	29
2-Chlorotoluene	ND	ug/kg	2/28/2005	8260B	14	29
1,3,5-Trimethylbenzene	ND	ug/kg	2/28/2005	8260B	14	29
1,2,3-Trichloropropane	ND	ug/kg	2/28/2005	8260B	14	29
Trans-1,4-Dichloro-2-butene	ND	ug/kg	2/28/2005	8260B	14	29
4-Chlorotoluene	ND .	ug/kg	2/28/2005	8260B	14	29
t-Butylbenzene	ND	ug/kg	2/28/2005	8260B	14	29
1,2,4-Trimethylbenzene	ND	ug/kg	2/28/2005	8260B	14	58
s-Butylbenzene	ND	ug/kg	2/28/2005	8260B	14	29
p-Isopropyltoluene	ND	ug/kg	2/28/2005	8260B	14	29
1,3-Dichlorobenzene	ND	ug/kg	2/28/2005	8260B	14	29
1,4-Dichlorobenzene	ND	ug/kg	2/28/2005	8260B	14	29
n-Butylbenzene	ND	ug/kg	2/28/2005	8260B	14	29
Hexachloroethane	ND	ug/kg	2/28/2005	8260B	73	140
1,2-Dichlorobenzene	ND	ug/kg	2/28/2005	8260B	14	29
1,2-Dibromo-3-chloropropane	ND	ug/kg	2/28/2005	8260B	73	140
Hexachlorobutadiene	ND	ug/kg	2/28/2005	8260B	14	29
1,2,4-Trichlorobenzene	ND	ug/kg	2/28/2005	8260B	73	140
Naphthalene	ND	ug/kg	2/28/2005	8260B	73	140
1,2,3-Trichlorobenzene	ND	ug/kg	2/28/2005	8260B	73	140
2-Methylnaphthalene	ND	ug/kg	2/28/2005	8260B	73	140

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 24 of 48

429 River Lane • P.O. Box 27 • Amasa, Michigan 49903 • Phone (906) 822-7373 • FAX (906) 822-7977



Client: STS Consultants - Green Bay

WWA Job #: 21615

 Project:
 27811XV

 Date Received:
 2/25/2005

Sample Matrix:SoilDate Reported:3/8/2005

#### **Volatile Organics**

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL	
21615-014 / GP-7 (2.5-8)							
Dichlorodifluoromethane	ND	ug/kg	2/28/2005	8260B	77	150	
Chloromethane	ND	ug/kg	2/28/2005	8260B	77	150	
Vinyl Chloride	ND	ug/kg	2/28/2005	8260B	15	31	
Chloroethane	ND	ug/kg	2/28/2005	8260B	77	150	
Bromomethane	ND	ug/kg	2/28/2005	8260B	77	150	
Trichlorofluoromethane	ND	ug/kg	2/28/2005	8260B	15	31	
Diethyl Ether	ND	ug/kg	2/28/2005	8260B	77	150	
1, 1-Dichloroethene	ND	ug/kg	2/28/2005	8260B	15	31	
Carbon Disulfide	ND	ug/kg	2/28/2005	8260B	15	31	
Methyl Iodide	ND	ug/kg	2/28/2005	8260B	15	31	
Methylene Chloride	ND	ug/kg	2/28/2005	8260B	77	150	
Acetone	ND	ug/kg	2/28/2005	8260B	310	620	
trans-1,2-Dichloroethene	ND	ug/kg	2/28/2005	8260B	15	31	
MtBE	ND	ug/kg	2/28/2005	8260B	15	31	
1,1-Dichloroethane	ND	ug/kg	2/28/2005	8260B	15	31	
Acrylonitrile	ND	ug/kg	2/28/2005	8260B	77	150	
Vinyl Acetate	ND	ug/kg	2/28/2005	8260B	15	31	
cis-1,2-Dichloroethene	ND	ug/kg	2/28/2005	8260B	15	31	
2,2-Dichloropropane	ND	ug/kg	2/28/2005	8260B	15	31	
Bromochloromethane	ND	ug/kg	2/28/2005	8260B	15	31	
Chloroform	ND	ug/kg	2/28/2005	8260B ·	15	31	
Carbon Tetrachloride	ND	ug/kg	2/28/2005	8260B	15	31	
1,1,1-Trichloroethane	ND	ug/kg	2/28/2005	8260B	15	31	
MEK	408 J	ug/kg	2/28/2005	8260B	77	620	
1, 1-Dichloropropene	ND	ug/kg	2/28/2005	8260B	15	31	

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit,

ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 25 of 48



Client: STS Consultants - Green Bay

WWA Job #: 21615

 Project:
 27811XV

 Date Received:
 2/25/2005

Sample Matrix:SoilDate Reported:3/8/2005

	Volat	ile Organics				
Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
21615-014 / GP-7 (2.5-8)						
Benzene	ND	ug/kg	2/28/2005	8260B	15	31
1,2-Dichloroethane	ND	ug/kg	2/28/2005	8260B	15	31
Trichloroethene	ND	ug/kg	2/28/2005	8260B	15	31
Dibromomethane	ND	ug/kg	2/28/2005	8260B	15	31
1,2-Dichloropropane	ND	ug/kg	2/28/2005	8260B	15	31
Bromodichloromethane	ND	ug/kg	2/28/2005	8260B	15	31
cis-1,3-Dichloropropene	ND	ug/kg	2/28/2005	8260B	15	31
Toluene	ND	ug/kg	2/28/2005	8260B	15	31
MIBK	ND	ug/kg	2/28/2005	8260B	77	150
Tetrachloroethene	ND	ug/kg	2/28/2005	8260B	15	31
trans-1,3-Dichloropropene	ND	ug/kg	2/28/2005	8260B	15	31
1,1,2-Trichloroethane	ND	ug/kg	2/28/2005	8260B	15	31
Dibromochloromethane	ND	ug/kg	2/28/2005	8260B	15	31
1,3-Dichloropropane	ND	ug/kg	2/28/2005	8260B	15	31
1,2-Dibromoethane	ND	ug/kg	2/28/2005	8260B	15	31
2-Hexanone	ND	ug/kg	2/28/2005	8260B	77	150
Chlorobenzene	ND	ug/kg	2/28/2005	8260B	15	31
1,1,1,2-Tetrachloroethane	ND	ug/kg	2/28/2005	8260B	15	31
Ethylbenzene	ND	ug/kg	2/28/2005	8260B	15	31
m/p-Xylene	ND	ug/kg	2/28/2005	8260B	31	62
o-Xylene	ND	ug/kg	2/28/2005	8260B	15	31
Styrene	ND	ug/kg	2/28/2005	8260B	15	31
Bromoform	ND	ug/kg	2/28/2005	8260B	15	31
Isopropylbenzene	ND	ug/kg	2/28/2005	8260B	15	31
n-Propylbenzene	ND	ug/kg	2/28/2005	8260B	15	31

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 26 of 48



Client: STS Consultants - Green Bay

WWA Job #: 21615

Project: 27811XV **Date Received:** 

2/25/2005

**Date Reported:** 3/8/2005

Soil

Sample Matrix:

	Volat	ile Organics				
Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
21615-014 / GP-7 (2.5-8)						
Bromobenzene	ND	ug/kg	2/28/2005	8260B	15	31
1,1,2,2-Tetrachloroethane	ND	ug/kg	2/28/2005	8260B	15	31
2-Chlorotoluene	ND	ug/kg	2/28/2005	8260B	15	31
1,3,5-Trimethylbenzene	ND	ug/kg	2/28/2005	8260B	15	31
1,2,3-Trichloropropane	ND	ug/kg	2/28/2005	8260B	15	31
Trans-1,4-Dichloro-2-butene	ND	ug/kg	2/28/2005	8260B	15	31
4-Chlorotoluene	ND	ug/kg	2/28/2005	8260B	15	31
t-Butylbenzene	ND	ug/kg	2/28/2005	8260B	15	31
1,2,4-Trimethylbenzene	ND	ug/kg	2/28/2005	8260B	15	62
s-Butylbenzene	ND	ug/kg	2/28/2005	8260B	15	31
p-Isopropyltoluene	ND	ug/kg	2/28/2005	8260B	15	31
1,3-Dichlorobenzene	ND	ug/kg	2/28/2005	8260B	15	31
1,4-Dichlorobenzene	ND	ug/kg	2/28/2005	8260B	15	31
n-Butylbenzene	ND	ug/kg	2/28/2005	8260B	15	31
Hexachloroethane	ND	ug/kg	2/28/2005	8260B	77	150
1,2-Dichlorobenzene	ND	ug/kg	2/28/2005	8260B	15	31
1,2-Dibromo-3-chloropropane	ND	ug/kg	2/28/2005	8260B	77	150
Hexachlorobutadiene	ND	ug/kg	2/28/2005	8260B	15	31
1,2,4-Trichlorobenzene	ND	ug/kg	2/28/2005	8260B	77	150
Naphthalene	ND	ug/kg	2/28/2005	8260B	77	150
1,2,3-Trichlorobenzene	ND	ug/kg	2/28/2005	8260B	77	150
2-Methylnaphthalene	ND	ug/kg	2/28/2005	8260B	77	150

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 27 of 48

# Laboratories

1

WHITE WATER ASSOCIATES

Project Name: Project #:

Contract #: 581

Folder #: 45,653 Page 4 of 15

r										
CTI LAB#: 30	1829	Sample Description:	21615-6					Sampled:	2/23	8/2005
Analyte	-	Result Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Results										
Solids, Percent		84.2 %	N/A	N/A	1.0			3/1/2005	GCE	EPA 5030A
Organic Results										
Gasoline Range Organics	6	<1.5 mg/kg	1.5	5.1	1.0		3/3/2005	3/7/2005	APG	WDNR GRO
Benzene		<0.025 mg/kg	0.0090	0.029	1.0		3/3/2005	3/7/2005	APG	EPA 8020A
Ethylbenzene		<0.025 mg/kg	0.0090	0.029	1.0		3/3/2005	3/7/2005	APG	EPA 8020A
Methyl tert-butyl ether		<0.025 mg/kg	0.016	0.052	1.0		3/3/2005	3/7/2005	APG	EPA 8020A
Toluene		<0.025 mg/kg	0.010	0.034	1.0		3/3/2005	3/7/2005	APG	EPA 8020A
1,2,4-Trimethylbenzene		<0.025 mg/kg	0.0090	0.031	1.0		3/3/2005	3/7/2005	APG	EPA 8020A
1,3,5-Trimethylbenzene		<0.025 mg/kg	0.011	0.037	1.0		3/3/2005	3/7/2005	APG	EPA 8020A
n & p-Xylene		<0.025 mg/kg	0.017	0.056	1.0		3/3/2005	3/7/2005	APG	EPA 8020A
o-Xylene		<0.025 mg/kg	0.010	0.032	1.0		3/3/2005	3/7/2005	APG	EPA 8020A
CTI LAB#: 30	1831	Sample Description:	21615-7				<u> </u>	Sampled:	2/23	/2005
Analyte		Result Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Solids, Percent		86.6 %	N/A	N/A	1.0			3/1/2005	GCE	EPA 5030A
Organic Results										
<b>Sasoline Range Organics</b>		<1.5 mg/kg	1.5	5.0	1.0		3/3/2005	3/7/2005	APG	WDNR GRO
Benzene		<0.025 mg/kg	0.0090	0.029	1.0		3/3/2005	3/7/2005	APG	EPA 8020A
Ethylbenzene		<0.025 mg/kg	0.0090	0.029	1.0		3/3/2005	3/7/2005	APG	EPA 8020A
Aethyl tert-butyl ether		<0.025 mg/kg	0.016	0.052	1.0		3/3/2005	3/7/2005	APG	EPA 8020A
Foluene		<0.025 mg/kg	0.010	0.034	1.0		3/3/2005	3/7/2005	APG	EPA 8020A
1,2,4-Trimethylbenzene		<0.025 mg/kg	0.0090	0.031	1.0		3/3/2005	3/7/2005	APG	EPA 8020A

m & p-Xylene <0.025 mg/kg 0.017 0.056 1.0 3/3/2005 3/7/2005 APG EPA 8020A o-Xylene <0.025 mg/kg 0.010 0.032 1.0 3/3/2005 3/7/2005 APG EPA 8020A CTI LAB#: 301832 Sample Description: 21615-10 Sampled: 2/23/2005 Prep Analysis Date Date Analyst Analyte Result Units LOD LOQ **Dilution Qualifier** Method

0.037

1.0

3/7/2005

3/3/2005

APG

0.011

WI DNR Lab Certification Number: 157066030 DATCP Certification Number: 105-000289 LA NELAP Certification Number: 04091



EPA 8020A

1,3,5-Trimethylbenzene

1

<0.025 mg/kg

<0.025 mg/kg

# CTLaboratories

#### WHITE WATER ASSOCIATES Project Name:

Project #:

Contract #: 581 Folder #: 45,653 Page 5 of 15

CTILAB#:	301832	Sample Description:	21615-10					Sampled:	2/23	/2005
nalyte		Result Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
norganic Results	5									
olids, Percent		87.8 %	N/A	N/A	1.0			3/1/2005	GCE	EPA 5030A
organic Results										
asoline Range Organ	ics	<1.5 mg/kg	1.5	4.9	1.0		3/3/2005	3/7/2005	APG	WDNR GRO
enzene		<0.025 mg/kg	0.0090	0.029	1.0		3/3/2005	3/7/2005	APG	EPA 8020A
thylbenzene		<0.025 mg/kg	0.0090	0.029	1.0		3/3/2005	3/7/2005	APG	EPA 8020A
lethyl tert-butyl ether		<0.025 mg/kg	0.016	0.052	1.0		3/3/2005	3/7/2005	APG	EPA 8020A
oluene		<0.025 mg/kg	0.010	0.034	1.0		3/3/2005	3/7/2005	APG	EPA 8020A
,2,4-Trimethylbenzene	e	<0.025 mg/kg	0.0090	0.031	1.0		3/3/2005	3/7/2005	APG	EPA 8020A
,3,5-Trimethylbenzene	e	<0.025 mg/kg	0.011	0.037	1.0		3/3/2005	3/7/2005	APG	EPA 8020A
& p-Xylene		<0.025 mg/kg	0.017	0.056	1.0		3/3/2005	3/7/2005	APG	EPA 8020A
-Xylene		<0.025 mg/kg	0.010	0.032	1.0		3/3/2005	3/7/2005	APG	EPA 8020A

CTILAB#: 30	)1833	Sample Description:	21615-11					Sampled	: 2/23	/2005
Analyte		Result Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
							• • • • • • •			
Inorganic Results										
Solids, Percent		86.7 %	N/A	N/A	1.0			3/1/2005	GCE	EPA 5030A
Organic Results										1. 1
Gasoline Range Organics	S	<1.5 mg/kg	1.5	5.0	1.0		3/3/2005	3/4/2005	APG	WDNR GRO
Benzene		<0.025 mg/kg	0.0090	0.029	1.0		3/3/2005	3/4/2005	APG	EPA 8020A
Ethylbenzene		<0.025 mg/kg	0.0090	0.029	1.0		3/3/2005	3/4/2005	APG	EPA 8020A
Methyl tert-butyl ether		<0.025 mg/kg	0.016	0.052	1.0		3/3/2005	3/4/2005	APG	EPA 8020A
Toluene		<0.025 mg/kg	0.010	0.034	1.0		3/3/2005	3/4/2005	APG	EPA 8020A
1,2,4-Trimethylbenzene		<0.025 mg/kg	0.0090	0.031	1.0		3/3/2005	3/4/2005	APG	EPA 8020A
1,3,5-Trimethylbenzene		<0.025 mg/kg	0.011	0.037	1.0		3/3/2005	3/4/2005	APG	EPA 8020A
m & p-Xylene		<0.025 mg/kg	0.017	0.056	1.0		3/3/2005	3/4/2005	APG	EPA 8020A
o-Xylene		<0.025 mg/kg	0.010	0.032	1.0		3/3/2005	3/4/2005	APG	EPA 8020A
•										
<u>г</u>										

CTI LAB#:	301834	Sample Description:	21615-13					Sampled:	2/23/2005	
Analyte		Posult Unite		1.00	Dilution	Qualifier	Prep Date	Analysis Date	Analyst Me	bod
		Result Units	200	LOQ	Bilution	Quaimer	-		Analyst me	

#### **Inorganic Results**

WI DNR Lab Certification Number: 157066030 DATCP Certification Number: 105-000289 LA NELAP Certification Number: 04091



# TLaboratories

WHITE WATER ASSOCIATES

Project Name:

Project #:

Contract #: 581 Folder #: 45,653

Page 6 of 15

						Prep	Analysis		
hnalyte	Result Units	LOD	LOQ	Dilution	Qualifier			Analyst	Method
Bolids, Percent	80.2 %	N/A	N/A	1.0			3/1/2005	GCE	EPA 5030A
Organic Results									
Gasoline Range Organics	<1.6 mg/kg	1.6	5.4	1.0		3/3/2005	3/4/2005	APG	WDNR GRO
Benzene	<0.025 mg/kg	0.0090	0.029	1.0		3/3/2005	3/4/2005	APG	EPA 8020A
Ethylbenzene	<0.025 mg/kg	0.0090	0.029	1.0		3/3/2005	3/4/2005	APG	EPA 8020A
Methyl tert-butyl ether	<0.025 mg/kg	0.016	0.052	1.0		3/3/2005	3/4/2005	APG	EPA 8020A
Toluene	<0.025 mg/kg	0.010	0.034	1.0		3/3/2005	3/4/2005	APG	EPA 8020A
1,2,4-Trimethylbenzene	<0.025 mg/kg	0.0090 *	0.031	1.0		3/3/2005	3/4/2005	APG	EPA 8020A
1,3,5-Trimethylbenzene	<0.025 mg/kg	0.011	0.037	1.0		3/3/2005	3/4/2005	APG	EPA 8020A
m & p-Xylene	<0.025 mg/kg	0.017	0.056	1.0		3/3/2005	3/4/2005	APG	EPA 8020A
o-Xvlene	<0.025 mg/kg	0.010	0.032	1.0		3/3/2005	3/4/2005	APG	EPA 8020A

Analyte	Result Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Results									·
Solids, Percent	85.2 %	N/A	N/A	1.0			3/1/2005	GCE	EPA 5030A
Organic Results Diesel Range Organics	<2.3 mg/kg	2.3	7.8	1.0	L	3/4/2005	3/8/2005	CLW	WDNR DRO

CTI LAB#:	301839	Sample Description:	21615-15					Sampled:	2/23	/2005
Analyte		Result Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Result	S									
Solids, Percent		86.3 %	N/A	N/A	1.0			3/1/2005	GCE	EPA 5030A
Organic Results										
Diesel Range Organic	S	<2.3 mg/kg	2.3	7.7	1.0	I	3/4/2005	3/8/2005	CLW	WDNR DRO
1-Methylnaphthalene		<0.0070 mg/kg	0.0070	0.023	1.0		3/8/2005	3/14/2005	SHU	EPA 8310
2-Methylnaphthalene		<0.0070 mg/kg	0.0070	0.024	1.0	1	3/8/2005	3/14/2005	SHU	EPA 8310
Acenaphthene		<0.0058 mg/kg	0.0058	0.020	1.0		3/8/2005	3/14/2005	SHU	EPA 8310
Acenaphthylene		<0.0058 mg/kg	0.0058	0.021	1.0	1	3/8/2005	3/14/2005	SHU	EPA 8310
Anthracene		<0.0012 mg/kg	0.0012	0.0035	1.0		3/8/2005	3/14/2005	SHU	EPA 8310

WI DNR Lab Certification Number: 157066030 DATCP Certification Number: 105-000289 LA NELAP Certification Number: 04091





#### WHITE WATER ASSOCIATES Project Name:

Project #:

Contract #: 581 Folder #: 45,653 Page 15 of 15

Submitted by:

#### Notes regarding entire Chain of Custody:

Notes: \* Indicates Value in between LOD and LOQ.

All samples were received intact and properly preserved unless otherwise noted. The results reported relate only to the samples tested. This report shall not be reproduced, except in full, without written approval of this laboratory. The Chain of Custody is attached.

This report satisfies the requirements of your project but has not been prepared to comply with NELAP reporting requirements.

QC Qualifiers

#### Code Description

- A Analyte averaged calibration criteria within acceptable limits.
- B Analyte detected in associated Method Blank.
- C Toxicity present in BOD sample.
- D Diluted Out.
- E Safe, No Total Coliform detected.
- F Unsafe, Total Coliform detected, no E. Coli detected.
- G Unsafe, Total Coliform detected and E. Coli detected.
- H Holding time exceeded.
- J Estimated value.
- L Significant peaks were detected outside the chromatographic window.
- M Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
- N Insufficient BOD oxygen depletion.
- O Complete BOD oxygen depletion.
- P Concentration of analyte differs more than 40% between primary and confirmation analysis.
- Q Laboratory Control Sample outside acceptance limits.
- R See Narrative at end of report.
- S Surrogate standard recovery outside acceptance limits due to apparent matrix effects.
- T Sample received with improper preservation or temperature.
- V Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference.
- W Sample amount received was below program minimum.
- X Analyte exceeded calibration range.
- Y Replicate/Duplicate precision outside acceptance limits.
- Z Calibration criteria exceeded.

WI DNR Lab Certification Number: 157066030 DATCP Certification Number: 105-000289 LA NELAP Certification Number: 04091





21615	-	CHAIN	OF-CUS	то	DY RE	COR	DA	ND	ANA	LYS	IS F	REC	QUE	ST			1-01	
J.O.# 27811XV SAMPLER'S SIGNATURE		NAME STS ( ATT SIO3S KET GREEN BAY	CONSULTA N: PAUL B KER DR. T. WI 543	ARVE	ANALYSIS TYPE REQ											ZOFS CONE		
Eich Solic	PHONE	# 9 <i>2</i> 0-468	3-1978			OF CON- TAIN-		/ ./	A LAND		/ /	/				bbott	stord	*
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	Login Checklist																			
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# of Coolers:	Courier:	$\frac{5}{5}$																		
Client: <u>STS</u>	Project Name: <u>278</u>	MXV																		

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If no to any, notify the project manager and project manager documents client response below.

	YES NO
1.	Were custody seals/original packing tape intact?
2.	Are the samples in good condition, i.e. not broken or leaking?
3.	Are samples within holding times?
4.	Were the samples received on ice (ice in direct contact with the samples)?
5.	Is the temperature of the samples between 2-6°C? Temp. $2127$
6.	Do the samples match the COC?
7.	Were the proper containers used?
8.	Were the samples collected in White Water lab containers?
9.	Is there adequate sample volume for requested analyses and QC?
10.	Do water VOC samples contain headspace less than the size of a pea? $\dots \dots
11.	Are samples preserved to the proper pH? <i>If no, identify sample bottle and</i>
12.	Is the chain of custody signed?
13.	Is sub-sampling required? (Note bottles created and preserved below.)
14.	For Dissolved Analysis, were samples filtered in the lab?
15.	Were encores received? (VOC analysis)
16.	Were soil VOCs preserved with methanol in the lab?
17.	Is client contact necessary? Provide documentation below.

#### COMMENTS/CORRECTIVE ACTION

CLIENT RESPONSE (Provide date/time of contact, client response and project manager initials)

.



Client: STS Consultants - Green Bay

WWA Job #: 21615

Soil **Project:** 27811XV Sample Matrix: Date Rec ived: 2/25/2005 **Date Reported:** 4/28/2005 **Trace Metals in Solids** Method MDL MOL Sample / Client Sample ID Result Units Date 21615-005 / GP-3 (3-6.5) 6010B 0.7 Lead (s) 4.0 mg/kg 4/27/2005 2.1 21615-008 / GP-4 (5-8) 2.1 Lead (s) 3.4 4/27/2005 6010B 0.7 mg/kg 21615-009 / GP-5 (3-5) 0.7 2.2 Lead (s) 5.2 mg/kg 4/27/2005 6010B 21615-012 / GP-6 (6-8) 6010B 0.7 2.1 4/27/2005 Lead (s) 3.0 mg/kg 21615-014 / GP-7 (2.5-8) 4/27/2005 6010B 0.7 2.1 Lead (s) 9.4 mg/kg 21615 019 / GP-11 (4.5-8) 2.1 4.3 4/27/2005 6010B 0.7 Lead (s) mg/kg 2161\$-021 / GP-12 (4.5-8) 0.7 Lead (s) 3.4 mg/kg 4/27/2005 6010B 2.1 2161\$-023 / GP-13 (4-8) 2.0 0.7 Lead (s) 3.5 mg/kg 4/27/2005 6010B

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 1 of 2

429 River Lane • P

P.O. Box 27 • Amasa, Michigan 49903

• Phone (906) 822-7373

FAX (906) 822-7977



# RECEIVE

MAY 2 6 2005



#### **Phase II Subsurface Investigation**

State Highway 13 Right-of-Way Adjacent to Hawkeye Dairy

-

State Highway 13 Reconstruction Pine Street to Linden Street City of Abbotsford Marathon and Clark County, Wisconsin

#### WisDOT Project ID 1620-01-04

Report Prepared By:

STS Consultants, Ltd. 1035 Kepler Drive Green Bay, Wisconsin 54311 Telephone: (920) 468-1978 Fax: (920) 468-3312 Email: garvey@stsconsultants.com STS Project No. 4-27811XV

May 2005



STS Consultants, Ltd. 1035 Kepler Drive Green Bay, Wisconsin 54311

May 9, 2005

Ms. Janet Smith, Environmental Coordinator Wisconsin Department of Transportation 1681 Second Avenue South Wisconsin Rapids, Wisconsin 54495

Re: Phase II Subsurface Assessment, Proposed State Highway 13 Upgrade Project, Right-of-Way Adjacent to Hawkeye Dairy, 118 South Fourth Street, Abbotsford, Marathon County, Wisconsin --WisDOT Project ID No. 1620-01-04 -- STS Project No. 4-27811XV

Dear Ms. Smith:

STS Consultants, Ltd. (STS) is pleased to submit this Phase II Subsurface Assessment (Phase II) for the State Highway 13 (STH 13) right-of-way (ROW) adjacent to the Hawkeye Dairy property located at 118 South Fourth Street in the City of Abbotsford, Marathon County, Wisconsin. The site was selected for a Phase II to assess environmental conditions associated with former fuel dispensing activities and underground storage tanks (USTs) at the Hawkeye Dairy property.

Phase II results indicate that soils in the STH ROW adjacent to Hawkeye Dairy are not impacted with volatile organic compound(s), gasoline range organics, diesel range organics, or lead above regulatory standards.

This report was completed in accordance with WisDOT Work Order No. 52 for Project ID No. 1620-01-04. If you have any questions regarding this report, please contact Mr. Paul Garvey at (920) 406-3149.

Sincerely,

STS CONSULTANTS, LTD.

Eric C. Schmidt Assistant Project Engineer

Paul M. Gárvey Senior Project Scientist

Thema

Michael J. Carney, HG Associate Geologist

Copy: Mr. John Lewis Bureau of Environment 4802 Sheboygan Avenue, Room 451 P.O. Box 7965 Madison, Wisconsin 53707-7965

> Ries and Voss Properties 118 South Fourth Street Abbotsford, Wisconsin 54405

Ms. Kitt Siegfried Wisconsin Department of Natural Resources West Central Region Office 1300 West Clairemont Avenue P.O. Box 4001 Eau Claire, Wisconsin 54701-4001

#### Table of Contents

1.0	EX	ECUTIVE SUMMARY	1
2.0	SIT	E INVESTIGATION	2
	2.1	Purpose and Scope	2
	2.2	Investigation Program	2
	2.3	Site Maps	3
	2.4	Geology	4
	2.5	Results	7
	2.6	Conclusions	10
	2.7	Recommendations	10
	2.8	General Qualifications	10
3.0	AP	PENDICES	11
	3.1	Photo Log	11
	3.2	WDNR Soil Boring Log Information Forms	12
	3.3	WDNR Well/Drillhole/Borehole Abandonment Forms	13
	3.4	Laboratory Reports and Chain of Custody Forms	14

#### **Figures**

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Figure 1 - Site Location Map	5
Figure 2 - Boring Location Map	6

## <u>Table</u>

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#### **1.0 EXECUTIVE SUMMARY**

As part of the State Highway 13 (STH 13) upgrade project in Abbotsford, Wisconsin, STS Consultants, Ltd. (STS) was retained by the Wisconsin Department of Transportation (WisDOT) (Client) to perform a Phase II Subsurface Assessment (Phase II) within the STH 13 right-of-way (ROW) adjacent to the Hawkeye Dairy (Hawkeye) property. The Hawkeye property is located at 118 South Fourth Street (STH 13) in the city of Abbotsford, Marathon County, Wisconsin. The site was selected for a Phase II to assess environmental conditions associated with former fuel dispensing activities and underground storage tanks (USTs).

According to laboratory analytical results provided by White Water Associates, Inc. (White Water), Amasa, Michigan, lead was detected in soil samples collected from the site at concentrations of 120 to 130 milligrams per kilogram (mg/kg), which exceed the Wisconsin Administrative Code NR 720 Residual Contaminant Level (RCL) protective of human health through direct contact at non-industrial sites (50 mg/kg). Lead was detected at similar concentrations (120 to 140 mg/kg) in soil samples collected by STS as part of Phase IIs from other sites within the STH 13 ROW in the City of Abbotsford. Due to the consistently high levels of lead detected in the soil samples collected as part of the STH 13 ROW Phase IIs, STS requested that the original soil samples be retested by White Water to confirm the initial analytical results. STS also submitted two of the soil samples to a second analytical laboratory (En Chem, Inc. [En Chem], Green Bay, Wisconsin) for lead analysis. The lead concentrations reported by En Chem and White Water's confirmatory testing ranged from 3.0 to 9.4 mg/kg, which are below WAC NR 720 RCLs for direct contact. Lead concentrations ranged from 3.4 to 4.0 mg/kg in White Water's confirmatory tests from soil samples collected within the ROW adjacent to the Hawkeye property. The concentrations of lead detected are considered indicative of natural occurring, background concentrations of lead in soil in the Abbotsford area.

Soil samples analyzed did not indicate concentrations of volatile organic compound(s) (VOC), petroleum volatile organic compounds (PVOCs), gasoline range organics (GRO), diesel range organics (DRO), or lead above regulatory standards within the ROW adjacent to the Hawkeye property. Based on laboratory analytical results and field observations, concentrations of VOCs, PVOCs, GRO, DRO, or lead above generic regulatory standards are not expected to be encountered during the reconstruction of STH 13 in the vicinity of the Hawkeye property.

1



#### 2.0 SITE INVESTIGATION

#### 2.1 Purpose and Scope

The purpose of the Phase II was to determine whether past land use practices impacted the subsurface at the Hawkeye property at 118 South Fourth Street in the area of the proposed STH 13 reconstruction in Abbotsford, Wisconsin.

A Phase I Hazardous Material Assessment (HMA) completed by Short Elliott Hendrickson, Inc. dated September 2003, indicated the Hawkeye property was formerly occupied by a retail petroleum service station. The locations and status of the tank(s) were reported as unknown in the Phase I HMA. The pump island was reported as being located between the existing building and STH 13.

According to the Phase I HMA, proposed construction requirements adjacent to the site include utility and storm sewer excavations to an approximate depth of 7 to 8 feet below ground surface (bgs). Excavation will also reportedly be completed within the current STH 13 ROW to an approximate depth of 3 feet bgs for new curb, gutter, and pavement installations. STS is not aware of planned WisDOT property acquisitions in the area of the Hawkeye property.

The Phase II included the advancement of two soil borings within the proposed project limits to sample and analyze soil that could be disturbed during construction activities. STS selected soil boring locations based on the following: proximity to areas of suspected environmental impact identified in the Phase I HMA, truck accessibility, and location of obstructions (e.g., underground utilities, existing structures).

Site and soil boring locations are presented on Figures 1 and 2 (Section 2.3).

#### 2.2 Investigation Program

STS personnel accessed the ROW adjacent to the Hawkeye property on February 23, 2005, to collect soil samples within the proposed project limits. STS retained a subcontract direct push firm (Kitson Environmental Services, Inc., Helenville, Wisconsin) to advance the borings. Two direct push borings (GP-3 and GP-4) were advanced at the site. Borings were sequentially numbered based on all borings conducted for multiple Phase IIs completed for WisDOT in the STH 13 ROW. Soil borings were advanced to the proposed utility installation depths and were terminated at a depth of approximately 8 feet bgs.



Soil samples were collected from borings using standard direct-push technology with a powerdriven sampling spoon. A single-use disposable acetate liner was placed in each spoon, and the spoon was advanced to the desired depth. The spoon was then retrieved from the boring, the acetate liner is extracted from the spoon, and the liner cut open, allowing removal of the sample. Soil samples were collected continuously from the ground surface to boring termination depths (8 feet). Soil samples recovered from the borings were field-screened with a photoionization detector (PID), which was equipped with a 10.6-electron volt lamp. Soil PID field screening results are indicated on the Soil Boring Log Information Forms (Section 3.2). Following completion of sampling, the borings were abandoned with bentonite and WDNR Well/Drillhole/Borehole Abandonment forms were prepared (Section 3.3).

Selected soil samples were prepared in the field and submitted to White Water Associates, Inc., Amasa, Michigan (White Water), for analysis of one or more of the following analytes:

- Volatile Organic Compounds (VOCs) Environmental Protection Agency (EPA) Method 8260B
- Petroleum Volatile Organic Compounds (PVOCs) EPA Method 8020A
- Gasoline Range Organics (GRO) Wisconsin Modified Method
- Diesel Range Organics (DRO) Wisconsin Modified Method
- ◆ Lead EPA Method 6010B
- Toxicity Characteristic Leaching Procedure (TCLP) Lead EPA Method 6010B

#### 2.3 Site Maps

Figure 1 shows the location of the site on a portion of the United States Geological Survey (USGS) 7.5-minute topographical quadrangle map of Abbotsford, Wisconsin. Also included on Figure 1 is a state and county map illustrating the location of Abbotsford. Figure 2 is a Site Diagram, which illustrates the locations of borings completed during the Phase II activities.



#### 2.4 Geology

Review of the Department of the Interior, USGS Publication *Water Resources of Wisconsin, Central Wisconsin River Basin, Hydrogeologic Investigations, Atlas HA-367*, Sheet 1 of 4, 1971, indicated that the subject property is located in an area of ground-moraine deposits (silty and clayey till) that overlie crystalline bedrock. The thickness of the glacial lake deposits over the bedrock varies.

The USDA Soil Survey of Marathon County, Wisconsin, (1989) indicated that the native surficial soil in the area of the Hawkeye property is Withee silt loam. The Withee Series is described as nearly level and gently sloping, somewhat well drained soil in convex and concave areas on broad ground moraines. Permeability is moderate to moderately slow and surface runoff is slow or medium.

Regional groundwater flow direction is likely south and southeast toward the Wisconsin River (*Water Resources of Wisconsin, Central Wisconsin River Basin, Hydrogeologic Investigations, Atlas HA-367*, Sheet 1 of 4, 1971). Existing ditches, underground utilities (such as sanitary/storm sewer piping systems), and other natural and manmade features may influence local groundwater flow direction. Site-specific groundwater flow direction cannot be determined without installation of monitoring wells.

A review of the Abbotsford, Wisconsin, USGS 7.5-minute topographic map dated 1981 showed the Hawkeye property as being located in a generally flat area that slopes to the south and east and at an elevation of approximately +1,410 feet above mean sea level.







#### 2.5 Results

Soils encountered in Borings GP-3 and GP-4 consisted of approximately 3.0 to 6.5 feet of fill (sand to silty sand) overlying brown clayey silt. PID readings from soil collected and screened from Borings GP-3 and GP-4 were less than 1 PID unit. PID screening results for soil samples are summarized on the Soil Boring Log Information Forms in Section 3.2 of the Appendix.

Soil laboratory analytical results are summarized on Table 1, and the laboratory report is attached. Analytical results indicate that GRO and VOCs were not detected in soil samples, except for methyl ethyl ketone (MEK). MEK was detected at levels ranging from 338 to 354 micrograms per kilogram (µg/kg) According to a representative from the analytical laboratory (White Water), the detections of MEK are likely attributable to the methanol used as a sample preservative. The laboratory report indicated that MEK has been detected in laboratory methanol at 620 µg/kg. Based on this information, the MEK detected in the soil samples should be considered a laboratory artifact. DRO was detected in a soil sample collected from 3.0 to 6.5 feet bgs in GP-3 at a concentration of 5.3 mg/kg, which is below the Wisconsin Administrative Code NR 720 generic residual contaminant level (RCL) of 100 mg/kg. The laboratory report indicated that "significant peaks were detected outside the chromatographic window" in the DRO analysis. Natural organics within the soil can be detected in a DRO scan. Based on the low level of DRO detected, the absence of other contaminants, and no field evidence (staining or odors) of petroleum impacts in the soil sample, the soil is not expected to be impacted with diesel fuel constituents.

According to initial laboratory analytical results provided by White Water lead was detected in soil samples collected from the site at concentrations of 130 to 140 milligrams per kilogram (mg/kg), which exceeds the Wisconsin Administrative Code NR 720 RCL protective of human health through direct contact at non-industrial sites (50 mg/kg). Lead was detected at similar concentrations (120 to 140 mg/kg) in soil samples collected by STS as part of Phase IIs from other sites within the STH 13 ROW in the City of Abbotsford. Due to the consistently high levels of lead detected in the soil samples collected as part of the STH 13 ROW Phase IIs, STS requested that the original soil samples be retested by White Water to confirm the initial analytical results. STS also submitted two of the soil samples to a second analytical laboratory (En Chem, Inc. [En Chem] Green Bay, Wisconsin) for lead analysis. The lead concentrations reported by En Chem and White Water's confirmatory testing ranged from 3.0 to 9.4 mg/kg, which are below



WAC NR 720 RCLs for direct contact. Lead concentrations ranged from 3.4 to 4.0 mg/kg in White Water's confirmatory tests from soil samples collected within the ROW adjacent to the Hawkeye property. The concentrations of lead detected are considered indicative of natural occurring, background concentrations of lead in soil in the Abbotsford area.

# Table 1Soil Analytical ResultsSTH 13 ROW Adjacent to Hawkeye DairyAbbotsford, Wisconsin

Sample No.	GP-3		GF	P-4		<sup>1</sup> NR 720 RCL	<sup>2</sup> NR 746			
						Direct Co	ontact	Values		
Sample Date	2/23/05	2/23/05	2/23/05	2/23/05	Groundwater Pathway	Non-Industrial	Industrial	Table 1		
Sample Depth (ft)	3.0-6.5	6.5-8.0	3.0-5.0	5.0-8.0				SSLs		
				Concentration	n (mg/kg)					
Lead	4.0**	NA	NA	3.4**	NL	50	500	NL		
Gasoline Range Organics	NA	<1.5	<1.5	NA	100	NL	NL	NL		
Diesel Range Organics	5.3 (L)	NA	NÁ	NA	100	NL	NL	NL		
TCLP Lead (mg/L)	0.006 (J)	NA	NA	NA	NL NL	NL	NL	NL		
PVOCs (and detected VOCs)	Concentration (ug/kg)									
1,2,4-Trimethylbenzene	<17	<25	<25	<17	NL	NL	NĽ	83,000		
1,3,5-Trimethylbenzene	<17	<25	<25	<17	NL	NL	NL	11,000		
Benzene	<17	<25	<25	<17	5.5	NL	NL	8,500		
Ethylbenzene	<17	<25	<25	<17	2,900	NL	NL	4,600		
m/p-Xylene	<34	<25	<25	<34	4,100	NL	NL	42,000		
Methyl ethyl keytone (MEK)	338 (j)	<25	<25	354 (j)	NL	NL	NL	NL		
Methyl tert-butyl ether	<17	<25	<25	<17	NL	NL	NL.	NL		
Naphthalene	<84	<25	<25	<84	400	20,000	110,000	2,700		
o-Xylene	<17	<25	<25	<17	4,100	NL	NL	42,000		
Toluene	<17	<25	<25	<17	1,500	NL	NL	38,000		
o-Aylene Toluene	<17 <17	<25 <25	<25 <25	<1/ <17	4,100 1,500	NL NL	NL NL	42,000 38,000		

Notes:

(mg/kg) = milligrams per kilogram; (ug/kg) = micrograms per kilogram; <= not detected above method detection limit; NA = not analyzed RCL = Residual Contaminant Level; SSLs = Soil Screening Levels; NL = No regulatory limit listed for analyte;

720 RCL

\*\* - Lead result from a re-test run (test date 5/27/05) on original samples (initial test date 3/1/05) - Both tests performed by White Water Associates, Ir

(j) = The analyte was positively identified, the quantification is an estimation.

(L) = Significant peaks were detected outside the chromatographic window.

MEK has been found in methanol (used as preservative during sample preparation) at 620 ug/kg.

<sup>1</sup> NR 720 RCL = Wisconsin Administrative Code Chapter NR 720 Generic Residual Contaminant Level

<sup>2</sup> NR 746 Values = Wisconsin Administrative Code Chapter NR 746 Risk Screening and Closure Criteria

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		1916	51		Exceeds	Applica	ble NR
	THE REPORT OF A DESIGN AND A	 	a second of the second second				

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Exceeds NR 746 Soil Screening Levels



#### 2.6 Conclusions

Soils encountered in Borings GP-3 and GP-4 consisted of approximately 3.0 to 6.5 feet of fill (sand to silty sand) overlying brown clayey silt. Groundwater was not encountered in the borings. PID readings from soil collected and screened from Borings GP-3 and GP-4 were less than 1 PID unit. PID screening results for soil samples are summarized on the WDNR Soil Boring Log Information Forms in Section 3.2.

Laboratory analytical results and field observations do not indicate evidence of petroleum-related impacts at the Hawkeye property.

#### 2.7 Recommendations

Based on the results of the Phase II, STS does not recommend additional environmental activities within the STH 13 ROW adjacent to the Hawkeye property.

#### 2.8 General Qualifications

Conclusions presented in this report are based on field observations documented in the Phase I report and subsurface conditions as revealed in soil borings at locations identified on the figures. Stratification lines shown on the boring logs (Section 3.2) represent approximate boundaries between soil types. Variations may exist in both the horizontal and vertical directions between boring locations. In addition, seasonal and annual fluctuations of the groundwater table may influence the distribution of compounds in the subsurface environment causing variations in groundwater quality.

STS has prepared this report at the request of our Client. STS assumes responsibility for the accuracy of the contents of this report, subject to what is stated elsewhere in this section, but recommends this report be used only for the purposes intended by the Client and STS at the time this report was prepared. This report may be unsuitable for other uses, and reliance on its content by anyone other than the Client is done at the sole risk of the user. Our interpretations of results represent our scientific judgement based on available information. No other warranties, either expressed or implied, are made.



#### 3.0 APPENDICES

3.1 Photo Log



View to southeast of Hawkeye Dairy site. The two soil sample locations are identified with orange traffic cones.



View to southeast of Hawkeye Dairy site. The two soil sample locations are identified with orange traffic cones.



### 3.2 WDNR Soil Boring Log Information Forms

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State of Wisconsin Department of Natural Resources

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<b>SOIL BORING</b>	LOG	INFORMATIC	70
Form 4400-122		Rev. 7-98	

Rev. 7-98

<u>Route To:</u>
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Watershed/Wastewater Remediation/Redevelopment Waste Management 🛛 Other 🗌

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WISDOI SIM 15 Poring Drilled By: Name of crew chief (first last) and Firm					Data Drilling Started							-3 10-01	ing Method			
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STS	STS Project No. 27811XV					2/23	/2005				2/23/2	2005		di	ect push	
WI Ur	ique W	ell No	).	DNR Well ID No.	Common Well Name	Final Sta	itic Wa	ter Lev	'el	Surfac	e Eleva	tion		Bo	rehole	Diameter
					GP-3	1	Feet 1	MSL			Fee	t MS	L		2.0	inches
Local	Grid O	rigin	(es	timated: 🗌 ) or Bor	$\frac{1}{10000000000000000000000000000000000$	La	t	0	•	н	Local (	irid Lo	cation			— · · ·
NW		of N	W 1	IN,	T 28 N D 2 E	Lon	- <u></u>	0	,	. "		Feet		[	1	
Facilit	1/4 v ID	01 19	<b>vv</b> 1/	ICounty	1 20 N, K 2 E	County Co	5 <u></u>	Civil T	own/C	Lity/ or	Village					
				Marathon		37		Abbo	otsfor	d	Ū					
San	nple			k								Soil	Prop	erties		
	a (l			Soil/R	lock Description						0					
Ð	Ан. , ed (j	ounts	Fee	And Ge	eologic Origin For				_		ssive	0				nts
Typ	gth / over	ပိ	th In	Eac	ch Major Unit		C S	phic	1 tran	ED 1	ngth	sture	ii d	ticit.	9	
un N	Leng	Blov	Dep				U S	Grag	Vel Diag	Î	Stre	C Moi	E E	Plas	P 20	N LO LO
1	36		-	Fill: Brown fine to me	dium sand (SP) - some g	ravel -	<u> </u>			<1						
GP			E	frozen to moist					-					ļ		
			-1.5				SP		1		· · ·			1 .		
			Ē	·												· · · ·
2 -	42		-3.0	Possible Fill: Brown fi	ine silty sand (SM) - wet	to moist			}	<1			}	]		
GP					•											
			E-4.5				SM		1	1						
														ļ		
			-6.0	· · · · ·									ļ			
3	18		E	Brown clayey silt (CL-	ML) - little sand - trace	gravel -		TETETET	1	<1						
GP			-7.5	moist			CL-M			1			1			
I_								<u> </u>	4							
				End of Boring.	0.0 fact to 9.0 fact											
				Boring backfilled with	bentonite.				ł					1.		
				А.												
								1								1
									1	Ì		1	ļ			-
			:													
												1	[	[ ·		
	1															
											1		ļ			
<u></u>	l							<u> </u>		<u> </u>	<u> </u>	<u> </u>	<u> </u>			
I here	by certi	fy tha	t the inf	formation on this form is	s true and correct to the	best of m	y knov	vledge.								

Signature	Firm	STS Consultants Ltd.	Tel: 920-468-1978
Ein C. Schult		1035 Kepler Drive Green Bay, Wisconsin 54311	Fax: 920-468-3312

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

State of Wisconsin Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater

Remediation/Redevelopment

Waste Management

1 Page of 1 Facility/Project Name License/Permit/Monitoring Number Boring Number GP-4 WisDOT STH 13 Boring Drilled By: Name of crew chief (first, last) and Firm Date Drilling Started Date Drilling Completed Drilling Method Kitson Environmental - G. Kitson -STS Project No. 27811XV 2/23/2005 2/23/2005 direct push Common Well Name Final Static Water Level WI Unique Well No. DNR Well ID No. Surface Elevation **Borehole Diameter** GP-4 2.0 inches Feet MSL Feet MSL Local Grid Location Local Grid Origin (estimated: ) or Boring Location ٥ Lat S/C/N State Plane N. Ε D N ΩЕ 0 NW T 28 N, R 2 E 6, Feet 🛛 S Feet 🛛 W 1/4 of NW 1/4 of Section Long Civil Town/City/ or Village Facility ID County Code County 37 Abbotsford Marathon Sample Soil Properties Length Att. & Recovered (in) Soil/Rock Description Compressive Strength Depth In Feet Blow Counts Comments And Geologic Origin For Number and Type Diagram Moisture S PID/FID Content Plasticity Graphic Each Major Unit SCS Liquid P 200 RQD/ Index Well og 1 GP 36 Fill: Brown fine to medium sand (SP) - trace gravel -<1 frozen to moist -1.5 SP ·3.0 24 Possible Fill: Brown fine silty sand (SM) - trace gravel -<1 2 moist to wet GP SM 4.5 3 GP Brown clayey silt (CL-ML) - little sand - trace gravel -36 <1 moist 6.0 CL-M 7.5 End of Boring. Boring advanced from 0.0 feet to 8.0 feet. Boring back lled with bentonite. I hereby certify that the information on this form is true and correct to the best of my knowledge.

SignatureFirmSTS Consultants Ltd.<br/>1035 Kepler Drive Green Bay, Wisconsin 54311Tel: 920-468-1978<br/>Fax: 920-468-3312

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.



3.3 WDNR Well/Drillhole/Borehole Abandonment Forms

State of Wisconsin Department of Natural Resources

Notice: Please complete Form 3300-5 and return it to the appropriate DNR office and bureau. Completion of this report is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See the instructions for more information.

Route to Drinking Water Watersh	ed/Wastewater U Waste Managem	ent 🛄 Rem	ediation/Redev	elopment Other_				
(1) GENERAL INFORMATION		(2) FACILIT	ΓY /OWNER	<b>NINFORMATION</b>				
WI Unique Well No. DNR Well ID No.	). County	Facility Nam	ie					
	Marathon	WisDOT	STH 13					
Common Well Name GP-3	Gov't Lot (if applicable)	Facility ID		License/Permit/M	lonitoring No.			
<u>NW</u> 1/4 of <u>NW</u> 1/4 of Sec. <u>6</u>	; T. <u>28</u> N; R. <u>2</u> E	Street Addre	ss of Well					
Grid Location		118 South	h 4th Street					
ft. Ш N. Ш S.,	ft. LJ E. LJ W. J	Δ bbotsfo	, OF LOWN					
Local Grid Origin 🗌 (estimated: 🖵	) or Well Location	Present Well	Owner	Original	Owner			
Lat 0 1 "Long	o i "	WisDOT		WisD	OOT			
		Street Addre	ss or Route of C	Owner				
State Plane ft. N		City State 7	- Cada					
Reason For Abandonment		City, State, 2						
completed sampling 101	Replacement Well	ADDOUSIO	INFR SCR	n FFN CASING &	SEALING MATERIAL			
(3) WELL/DRILLHULE/BUKENU	LE INFORMATION	$\frac{(4) r_{UVIr, 1}}{2}$	INER, OUR		$\square \square $			
Original Construction Date2/23	/2005	Pump &	Piping Remov	/ed? ∐ Yes L	No Not Applicable			
Monitoring Well		Liner(s)	Removed?					
Water Well	a Well Construction Report	Casing I	feft in Place?					
Drillhole / Borehole	u vulluoto, proubo ucineti.	Wes Co	-ing Cut Off Ba	-1 Curfage?				
Construction Type:		Did Sea	ling Material R	low Surface?	$\square Yes \square N_0$			
	(Sandpoint) Dug	Did Material Settle After 24 Hours?						
$\square$ Other (Specific) direct push		If Yes	, Was Hole Ret	topped?				
		Require	d Method of Pla	acing Sealing Material				
Formation Type:			nductor Pipe - C	Gravity Con	ductor Pipe - Pumped			
Unconsolidated Formation	Bedrock		eened & Poure	d 🛛 Oth	er (Explain) Gravity			
Total Well Depth (ft) 8.0	Casing Diameter (in.)	(E	Bentonite Chips	)	· · ·			
(From ground surface)	Casing Denth (ft)	Sealing Materials For monitoring wells and						
		Neat Cement Grout monitoring well boreholes only						
Lower Drillhole Diameter (in.)			nd-Cement (Cor	ncrete) Grout	<b>—</b>			
Was Well Annular Space Grouted?	🗋 Yes 🖾 No 🗌 Unknown		ncrete	1	Bentonite Chips			
If Yes To What Depth?	Feet		y-Sand Slurry	· 1	Granular Bentonite			
Double to Water (Gent)		Bentonite-Sand Slurry   Bentonite-Cement Grou						
			ppeu Demonite	; <u> </u>	Bentonite - Sailu Slurry			
(5) Sealing Mater	ial Used	From (Ft.)	To (Ft.)	Sacks Sealant	or Mud Weight			
Bentonite		Surface	8.0	0.25				
		<u> </u>		<u> </u>				
(6) Comments		••••••••••••••••••••••••••••••••••••••						
(7) Name of Person or Firm Doing Sealing	Work Date of Abandonr	ment						
STS Consultants Ltd.	2/23/05		FO	R DNR OR COUNT	Y USE ONLY			
Signature of Person Doing Work	Date Signed	Date	e Received	Noted By				
Ene C. Salandt	3/18/05							
Street or Route	Telephone Number	Con	iments					
l035 Kepler Drive	920-468-1978							
Green Bay Wisconsin 54311								
Olechibay, wisconsin 54511		- FASHERS - FE						

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State of Wisconsin Department of Natural Resources

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Notice: Please complete Form 3300-5 and return it to the appropriate DNR office and bureau. Completion of this report is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See the instructions for more information.

Route to: Drinking Water Watershed/Wastewater Waste Managem	ent 🛄 Rem	ediation/Redev	elopment Other	
(1) GENERAL INFORMATION	(2) FACILIT	<b>FY /OWNER</b>	<b>INFORMATION</b>	
WI Unique Well No. DNR Well ID No. County	Facility Nam	e		
Marathon	WisDOT	STH 13	· · · · · · · · · · · · · · · · · · ·	
Common Well Name GP-4 Gov't Lot (if applicable)	Facility ID		License/Permit/Moni	toring No.
$\frac{NW}{1/4 \text{ of } NW} \frac{1/4 \text{ of } Sec6}{1/4 \text{ of } Sec6}; T\frac{28}{28} \text{ N}; R\frac{2}{28} \text{ N}; R.$	Street Addre	ss of Well	3	
Grid Location	118 Sout	h 4th Street		
ft. ∐ N. ∐ S.,ft. ∐ E. ∐ W.	Abbotsfo	rd ·		
Local Grid Origin (estimated: ) or Well Location	Present Well	Owner	Original Ow	vner
Lat Ung O'''	WisDOT		WisDOT	
State Plane ft. N ft. E. $\Box \Box \Box$ Zone	Street Addre	ss or Route of C	Dwner	
Reason For Abandonment   WI Unique Well No	City, State, Z	Lip Code		
completed sampling of Replacement Well	Abbotsfo	rd Wisconsir	1	
(3) WELL/DRILLHOLE/BOREHOLE INFORMATION	(4) PUMP, 1	LINER, SCR	EEN. CASING. & SF	CALING MATERIAL
Original Construction Date 2/23/2005	Pump &	Piping Remov		No 🖾 Not Applicable
	Liner(s)	Removed?		No 🖾 Not Applicable
If a Well Construction Report	Screen I	Removed?		No 🖾 Not Applicable
is available, please attach.	Casing l	Left in Place?	Yes 📙	No
Drillhole / Borehole	Was Ca	sing Cut Off Be	elow Surface?	Yes No
Construction Type:	Did Sea	ling Material R	ise to Surface?	
Drilled Driven (Sendroint) Dug	Did Ma	tarial Sattle Aft		
		Wee Hele Det		
Other (Specify) direct push	II Yes	, was hole ket		Yes INO
Formation Type:	Require	d Method of Pla	acing Sealing Material	
		nductor Pipe - O	Gravity 🗌 Conduc	tor Pipe - Pumped
Unconsolidated Formation	Scr	eened & Poure	d 🛛 🖾 Other (I	Explain) Gravity
Total Well Depth (ft) 8.0 Casing Diameter (in)	(E	Bentonite Chips	)	
(From ground surface)	Sealing	Materials	Form	onitoring wells and
Casing Depth (ft.)		at Cement Grou	t moni	toring well boreholes only
Lower Drillhole Diameter (in.)		at Cement Glou	n moni	toring wen borenoies only
		narete		Bontonito China
Was Well Annular Space Grouted? 📙 Yes 🖄 No 📙 Unknown			i 🖂	Control Comps
If Yes, To What Depth? Feet		y-Sand Slurry		Granular Bentonite
X 000		ntonite-Sand Sl		Bentonite-Cement Grout
Depth to Water (Feet)		ipped Bentonite		Bentonite - Sand Slurry
(5) Sealing Material Used	From (Ft.)	To (Ft.)	Sacks Sealant	or Mud Weight
Bentonite	Surface	8.0	0.25	
			<b>I</b>	
(6) Comments	•			
(7) Name of Person or Firm Doing Sealing Work	nent			
STS Consultants I td		FO	R DNR OR COUNTY U	SEONLY
Signature of Person Doing Work Date Signed	n	Received	Noted Ry	
San Strain Dung Horn		. ARCOUTTLU	TINED DY	
Street or Boute	I,			
	Cou	шеціз		
1000 Kepler Drive         920-468-1978           City State Zip Code         920-468-1978				
Curren Den Wissensin £4211				
Green Bay, Wisconsin 54311				



3.4 Laboratory Reports and Chain of Custody Forms



# **Cover Page**

All analyses performed according to EPA Methods (EPA-600/4-79/020, March 1983 or SW-846, Third Edition). Sample chain-of-custody form(s) attached.

Client: STS Consultants - Green Bay

**WWA Job #:** 21615

Project: Date Received:	27811XV 2/25/2005	Sample Matrix: Date Reported:	Soil 3/17/2005
Sample Number	Client Sample ID	Date Sampled	
21615-001	GP-1 (2-4)	02/23/05	
21615-002	GP-1 (5-8)	02/23/05	
21615-003	GP-2 (0-3.5)	02/23/05	
21615-00 <u>4</u>	GP-2 (5.5-8)	02/23/05	
21615-00 <u>5</u>	GP-3 (3-6.5)	02/23/05	
21615-00 <u>6</u>	GP-3 (6.5-8)	02/23/05	
21615-007_	GP-4 (3-5)	02/23/05	
21615-008	GP-4 (5-8)	02/23/05	
21615-009	GP-5 (3-5)	02/23/05	
21615-0 <u>10</u>	GP-5 (5-8)	02/23/05	
21615-0 <u>11</u>	GP-6 (2.5-6)	02/23/05	
21615-012	GP-6 (6-8)	02/23/05	•
21615-0 <u>13</u>	GP-7 (0.3-2.5)	02/23/05	
21615-014	GP-7 (2.5-8)	02/23/05	
21615-015	GP-8 (4-8)	02/23/05	
21615-0 <u>16</u>	GP-9 (4-8)	02/23/05	
21615-0 <u>17</u>	GP-10 (3.5-8)	02/23/05	
21615-0 <u>18</u>	GP-11 (0-4.5)	02/23/05	
21615-019	GP-11 (4.5-8)	02/23/05	
21615-0 <u>20</u>	GP-12 (0-4.5)	02/23/05	
21615-0 <u>21</u>	GP-12 (4.5-8)	02/23/05	
21615-0 <u>22</u>	GP-13 (0-4)	02/23/05	
21615-023	GP-13 (4-8)	02/23/05	
21615-024	GP-14 (0-4)	02/23/05	•
21615-025- ƙ	GP-14 (4-8)	02/23/05	
21615-026	GP-15 (0-1)	02/23/05	

• Amasa, Michigan 49903



Comments (if any):

Key to Laboratory Flags:

B: The analyte was found in the associated blank as well as in the sample.

J: The analyte was positively identified, the quantitation is an estimation.

M: A matrix effect was present.

Q: Batch QC data associated with samples does not meet stated objectives.

U: The analyte was analyzed for, but not detected. The associated numerical value is at or below the MDL.

I certify that the data contained in this Final Report has been generated and reviewed in accordance with approved methods and White Water Associates Standard Operating Procedures. Exceptions, if any, are discussed in the accompanying sample narrative. Release of this Final Report is authorized by White Water Associates management, as is verified by the following signature.

**Approved By:** 



Client: STS Consultants - Green Bay

**WWA Job #: 21615** 

 Project:
 27811XV

 Date Received:
 2/25/2005

Sample Matrix:SoilDate Reported:3/17/2005

#### **Trace Metals in Solids**

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
21615-005 / GP-3 (3-6.5)						
Lead (s)	120	mg/kg	3/1/2005	6010B	1	3
21615-008 / GP-4 (5-8)						
Lead (s)	130	mg/kg	3/1/2005	6010B	- 1	3
21615-009 / GP-5 (3-5)						
Lead (s)	140	mg/kg	3/1/2005	6010B	1	4
21615-012 / GP-6 (6-8)						
Lead (s)	130	mg/kg	3/1/2005	6010B	1	3
21615-014 / GP-7 (2.5-8)						•
Lead (s)	130	mg/kg	3/1/2005	6010B	1	3
21615-019 / GP-11 (4.5-8)						
Lead (s)	130	mg/kg	3/1/2005	6010B	1	3
21615-021 / GP-12 (4.5-8)						
Lead (s)	140	mg/kg	3/1/2005	6010B	• 1	3
21615-023 / GP-13 (4-8)						
Lead (s)	130	mg/kg	3/1/2005	6010B	1	3

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 1 of 2



Client: STS Consultants - Green Bay

WWA Job #: 21615

**Project:** 27811XV Sample Matrix: Soil **Date Reported:** 3/17/2005 Date Received: 2/25/2005 TCLP - Metals - EPA 1311/7000 Sample / Client Sample ID Result Units Method MDL Date MQL 21615-005/GP-3 (3-6.5) 0.006 J mg/L 3/11/2005 6010B 0.003 0.009 Lead (TCLP) 21615-014 / GP-7 (2.5-8) 6010B 0.003 0.009 Lead (TCLP) 0.015 mg/L 3/11/2005 21615-017 / GP-10 (3.5-8) 0.003 Lead (TCLP) 0.009 J 3/11/2005 6010B 0.009 mg/L 21615-021 / GP-12 (4.5-8) 0.003 0.009 Lead (TCLP) 0.012 mg/L 3/11/2005 6010B 21615-026 / GP-15 (0-1) 6010B 0.001 Nickel (TCLP) 0.014 mg/L 3/11/2005 0.003 0.006 Arsenic (TCLP) ND mg/L 3/11/2005 6010B 0.020 Barium (TCLP) 6010B 0.001 0.412 mg/L ·3/11/2005 0.0003 Cadmium (TCLP) mg/L 3/11/2005 6010B 0.001 0.003 ND Chromium (TCLP) mg/L 3/11/2005 6010B 0.001 0.003 0.006 6010B 0.001 0.003 Copper (TCLP) 0.010 mg/L 3/11/2005 6010B Lead (TCLP) 0.024 mg/L 3/11/2005 0.003 0.009 0.0004 7470A 0.0001 Mercury (TCLP) ND mg/L 3/11/2005 3/11/2005 6010B 0.006 0.020 Selenium (TCLP) ND mg/L Silver (TCLP) mg/L 3/11/2005 6010B 0.0003 0.001 ND 6010B 0.003 0.010 Zinc (TCLP) 0.113 mg/L 3/11/2005

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 1 of 2



Client: STS Consultants - Green Bay

WWA Job #: 21615

Project:27811XVSample Matrix:SoilDate Received:2/25/2005Date Reported:3/8/2005

	Volat	ile Organics					
Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL	
21615-005 / GP-3 (3-6.5)							
Dichlorodifluoromethane	ND	ug/kg	2/28/2005	8260B	84	170	
Chloromethane	ND	ug/kg	2/28/2005	8260B ·	84	170	
Vinyl Chloride	ND	ug/kg	2/28/2005	8260B	17	34	
Chloroethane	ND	ug/kg	2/28/2005	8260B	84	170	
Bromomethane	ND	ug/kg	2/28/2005	8260B	84	170	
Trichlorofluoromethane	ND	ug/kg	2/28/2005	8260B	17	34	
Diethyl Ether	ND	ug/kg	2/28/2005	8260B	84	170	
1,1-Dichloroethene	ND	ug/kg	2/28/2005	8260B	17	34	
Carbon Disulfide	ND	ug/kg	2/28/2005	8260B	17	34	
Methyl Iodide	ND	ug/kg	2/28/2005	8260B	17	34	
Methylene Chloride	ND	ug/kg	2/28/2005	8260B	17	170	
Acetone -	ND	ug/kg	2/28/2005	8260B	340	670	
trans-1,2-Dichloroethene	ND	ug/kg	2/28/2005	8260B	17	34	
MtBE	ND	ug/kg	2/28/2005	8260B	17	34	
1,1-Dichloroethane	ND	ug/kg	2/28/2005	8260B	17	34	
Acrylonitrile	ND ·	ug/kg	. 2/28/2005	8260B	84	170	
Vinyl Acetate	ND	ug/kg	2/28/2005	8260B	17	34	
cis-1,2-Dichloroethene	ND	ug/kg	2/28/2005	8260B	17	34	
2,2-Dichloropropane	ND	ug/kg	2/28/2005	8260B	17	34	
Bromochloromethane	ND	ug/kg	2/28/2005	8260B	17	34	
Chloroform	ND	ug/kg	2/28/2005	8260B	17	· 34	
Carbon Tetrachloride	ND	ug/kg	2/28/2005	8260B	17	34	
1,1,1-Trichloroethane	ND	ug/kg	2/28/2005	8260B	17	34	
MEK	338 J	ug/kg	2/28/2005	8260B	84	670	
1,1-Dichloropropene	ND	ug/kg	2/28/2005	8260B	17	34	

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 13 of 48



Client: STS Consultants - Green Bay

WWA Job #: 21615

 Project:
 27811XV
 Sample Matrix:
 Soil

 Date Received:
 2/25/2005
 Date Reported:
 3/8/2005

## **Volatile Organics**

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
21615-005 / GP-3 (3-6.5)						
Benzene	ND	ug/kg	2/28/2005	8260B	17	34
1,2-Dichloroethane	ND	ug/kg	2/28/2005	8260B	17	34
Trichloroethene	ND	ug/kg	2/28/2005	8260B	17	34
Dibromomethane	ND	ug/kg	2/28/2005	8260B	17	34
1,2-Dichloropropane	ND	ug/kg	2/28/2005	8260B	17	34
Bromodichloromethane	ND	ug/kg	2/28/2005	8260B	17	34
cis-1,3-Dichloropropene	ND	ug/kg	2/28/2005	8260B	17	34
Toluene	ND	ug/kg	2/28/2005	8260B	17	34
MIBK	ND	ug/kg	2/28/2005	8260B	84	170
Tetrachloroethene	ND	ug/kg	2/28/2005	8260B	17	34
trans-1,3-Dichloropropene	ND	ug/kg	2/28/2005	8260B	17	34
1,1,2-Trichloroethane	ND	ug/kg	2/28/2005	8260B	17	34
Dibromochloromethane	ND	ug/kg	2/28/2005	8260B	17	34
1,3-Dichloropropane	ND	ug/kg	2/28/2005	8260B	17	34
1,2-Dibromoethane	ND	ug/kg	2/28/2005	8260B	17	34
2-Hexanone	ND	ug/kg	2/28/2005	8260B	84	170
Chlorobenzene	ND	ug/kg	2/28/2005	8260B	17	34
1,1,1,2-Tetrachloroethane	ND	ug/kg	2/28/2005	8260B	17	34
Ethylbenzene	ND	ug/kg	2/28/2005	8260B	17	34
m/p-Xylene	ND	ug/kg	2/28/2005	8260B	34	67
o-Xylene	ND	ug/kg	2/28/2005	8260B	17	34
Styrene	ND	ug/kg	2/28/2005	8260B	17	34
Bromoform	ND	ug/kg	2/28/2005	8260B	17	34
Isopropylbenzene	ND	ug/kg	2/28/2005	8260B	17	34
n-Propylbenzene	ND	ug/kg	2/28/2005	8260B	17	34

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit,

ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 14 of 48



Client: STS Consultants - Green Bay

WWA Job #: 21615

Project:27811XVSample Matrix:SoilDate Received:2/25/2005Date Reported:3/8/2005

# **Volatile Organics**

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
21615-005 / GP-3 (3-6.5)			·			
Bromobenzene	ND	ug/kg	2/28/2005	8260B	17	34
1,1,2,2-Tetrachloroethane	ND	ug/kg	2/28/2005	8260B	17	34
2-Chlorotoluene	ND	ug/kg	2/28/2005	8260B	17	34
1,3,5-Trimethylbenzene	ND	ug/kg	2/28/2005	8260B	17	34
1,2,3-Trichloropropane	ND	ug/kg	2/28/2005	8260B	17	34
Trans-1,4-Dichloro-2-butene	ND	ug/kg	2/28/2005	8260B	17	34
4-Chlorotoluene	ND	ug/kg	2/28/2005	8260B	17	34
t-Butylbenzene	ND	ug/kg	2/28/2005	8260B	17	34
1,2,4-Trimethylbenzene	ND	ug/kg	2/28/2005	8260B	17	67
s-Butylbenzene	ND	ug/kg	2/28/2005	8260B	17	34
p-Isopropyltoluene	ND	ug/kg	2/28/2005	8260B	17	34
1,3-Dichlorobenzene	ND	ug/kg	2/28/2005	8260B	17	34
1,4-Dichlorobenzene	ND	ug/kg	2/28/2005	8260B	17	34
n-Butylbenzene	ND	ug/kg	2/28/2005	8260B	17	34
Hexachloroethane	ND	ug/kg	2/28/2005	8260B	84	170
1,2-Dichlorobenzene	ND	ug/kg	2/28/2005	8260B	17	34
1,2-Dibromo-3-chloropropane	ND	ug/kg	2/28/2005	8260B	84	170
Hexachlorobutadiene	ND	ug/kg	2/28/2005	8260B	17	34
1,2,4-Trichlorobenzene	ND	ug/kg	2/28/2005	8260B	84	170
Naphthalene	ND	ug/kg	2/28/2005	8260B	84	170
1,2,3-Trichlorobenzene	ND	ug/kg	2/28/2005	8260B	84	170
2-Methylnaphthalene	ND	ug/kg	2/28/2005	8260B	84	170

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 15 of 48



ECOLOGICAL CONSULTING AND ENVIRONMENTAL LABORATORY SERVICES

# WHITE WATER ASSOCIATES, INC.

Client: STS Consultants - Green Bay

**WWA Job #:** 21615

**Project:** 27811XV **Date Received:** 2/25/2005

Sample Matrix: Soil 3/8/2005 **Date Reported:** 

### **Volatile Organics**

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
21615-008 / GP-4 (5-8)						
Dichlorodifluoromethane	ND	ug/kg	2/28/2005	8260B	84	170
Chloromethane	ND	ug/kg	2/28/2005	8260B	84	170
Vinyl Chloride	ND	ug/kg	2/28/2005	8260B	17	33
Chloroethane	ND	ug/kg	2/28/2005	8260B	84	170
Bromomethane	ND	ug/kg	2/28/2005	8260B	84	170
Trichlorofluoromethane	ND	ug/kg	2/28/2005	8260B	17	33
Diethyl Ether	ND	ug/kg	2/28/2005	8260B	84	170
1, 1-Dichloroethene	ND	ug/kg	2/28/2005	8260B	17	33
Carbon Disulfide	ND	ug/kg	2/28/2005	8260B	17	33
Methyl Iodide	ND	ug/kg	2/28/2005	8260B	17	. 33
Methylene Chloride	ND	ug/kg	2/28/2005	8260B	84	170
Acetone	ND	ug/kg	2/28/2005	8260B	330	670
trans 1,2-Dichloroethene	ND	ug/kg	2/28/2005	8260B	17	33
MtBE	ND	ug/kg	2/28/2005	8260B	17	33
1,1-Dichloroethane	ND	ug/kg	2/28/2005	8260B	17	33
Acrylonitrile	ND	ug/kg	2/28/2005	8260B	84	170
Vinyl Acetate	. ND	ug/kg	2/28/2005	8260B	17	33
cis-1,2-Dichloroethene	ND	ug/kg	2/28/2005	8260B	17	33
2,2-Dichloropropane	ND	ug/kg	2/28/2005	8260B	17	33
Bromochloromethane	ND	ug/kg	2/28/2005	8260B	17	33
Chloroform	ND	ug/kg	2/28/2005	8260B	17	33
Carbon Tetrachloride	ND	ug/kg	2/28/2005	8260B	17	33
1,1,1-Trichloroethane	ND	ug/kg	2/28/2005	8260B	17	33
MEK	354 J	ug/kg	2/28/2005	8260B	84	670
1,1-Dichloropropene	ND	ug/kg	2/28/2005	8260B	17	33

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 16 of 48



Client: STS Consultants - Green Bay

WWA Job #: 21615

Project:278Date Received:2/25

27811XV 2/25/2005 Sample Matrix:SoilDate Reported:3/8/2005

# Volatile Organics

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
21615-008 / GP-4 (5-8)						
Benzene	ND	ug/kg	2/28/2005	8260B	17	33
1,2-Dichloroethane	ND	ug/kg	2/28/2005	8260B	17	33
Trichloroethene	ND	ug/kg	2/28/2005	8260B	17	33
Dibromomethane	ND	ug/kg	2/28/2005	8260B	17	33
1,2-Dichloropropane	ND	ug/kg	2/28/2005	8260B	17	33
Bromodichloromethane	ND	ug/kg	2/28/2005	8260B	17	33
cis-1,3-Dichloropropene	ND	ug/kg	2/28/2005	8260B	17	33
Toluene	ND	ug/kg	2/28/2005	8260B	17	33
MIBK	ND	ug/kg	2/28/2005	8260B	84	170
Tetrachloroethene	ND	ug/kg	2/28/2005	8260B	17	33
trans-1,3-Dichloropropene	ND	ug/kg	2/28/2005	8260B	17	33
1,1,2-Trichloroethane	ND	ug/kg	2/28/2005	8260B	17	33
Dibromechloromethane	ND	ug/kg	2/28/2005	8260B	17	33
1,3-Dichloropropane	ND	ug/kg	2/28/2005	8260B	17	33
1,2-Dibromoethane	ND	ug/kg	2/28/2005	8260B	17	33
2-Hexanone	ND	ug/kg	. 2/28/2005	8260B	84	170
Chlorobenzene	ND	ug/kg	2/28/2005	8260B	17	33
1, 1, 1, 2-Tetrachloroethane	ND	ug/kg	2/28/2005	8260B	17	33
Ethylbenzene	ND	ug/kg	2/28/2005	8260B	17	33
m/p-Xylene	ND	ug/kg	2/28/2005	8260B	33	67
o-Xylene	ND	ug/kg	2/28/2005	8260B ·	17	33
Styrene	ND	ug/kg	2/28/2005	8260B	17	33
Bromoform	ND	ug/kg	2/28/2005	8260B	17	33
Isopropylbenzene	ND	ug/kg	2/28/2005	8260B	17	33
n-Propylbenzene	ND	ug/kg	2/28/2005	8260B	17	33

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 17 of 48



T-L #. 21615

Client: SIS Consultants - Green Bay			•••	WAJOD #: 4	21013			
Project: Date Received:	27811XV 2/25/2005		Sample M Date Repo	atrix: Soil orted: 3/8/	2005			
	· · · · · · · · · · · · · · · · · · ·	Volat	tile Organics					_
Sample / Client San	ple ID	Result	Units	Date	Method	MDL	MQL	
21615-008/GP-4 (5	5-8)							
Bromobenzene		ND	ug/kg	2/28/2005	8260B	17	33	
1,1,2,2-Tetrachlor	oethane	ND	ug/kg	2/28/2005	8260B	17	33	
2-Chlorotoluene		ND	ug/kg	2/28/2005	8260B	17	33	
1,3,5-Trimethylbe	nzene	ND	ug/kg	2/28/2005	8260B	17	33	
1,2,3-Trichloropro	opane	ND	ug/kg	2/28/2005	8260B	17	33	
Trans-1,4-Dichlor	o-2-butene	ND	ug/kg	2/28/2005	8260B	17	33	
4-Chlorotoluene		ND	ug/kg	2/28/2005	8260B	17	33	
t-Butylbenzene		ND	ug/kg	2/28/2005	8260B	17	33	
1,2,4-Trimethylbe	nzene	ND	ug/kg	2/28/2005	8260B	17	67	:
s-Butylbenzene		ND	ug/kg	2/28/2005	8260B	17	33	
p-Isopropyltoluen	e	ND	ug/kg	2/28/2005	8260B	17	33	
1,3-Dichlorobenze	ene	ND	ug/kg	2/28/2005	8260B	17	33	
1,4-Dichlorobenze	ene	ND	ug/kg	2/28/2005	8260B	17	33	
n-Butylbenzene		ND	ug/kg	2/28/2005	8260B	17	33	
Hexachloroethane		ND	ug/kg	2/28/2005	8260B	84	170	
1,2-Dichlorobenze	ene	ND	ug/kg	2/28/2005	8260B	17	33	
1,2-Dibromo-3-ch	loropropane	ND	ug/kg	2/28/2005	8260B	84	170	
Hexachlorobutadie	ene	ND	ug/kg	2/28/2005	8260B	17	33	
1,2,4-Trichlorober	nzene	ND	ug/kg	2/28/2005	8260B	84	170	
Naphthalene		ND	ug/kg	2/28/2005	8260B	84	170	
1,2,3-Trichlorober	nzene	ND	ug/kg	2/28/2005	8260B	84	170	
2-Methylnaphthale	ene	ND	u <b>g/</b> kg	2/28/2005	8260B	84	170	

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 18 of 48

# CTLaboratories

WHITE WATER ASSOCIATES

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Project Name: Project #: Contract #: 581 Folder #: 45,653

Page 3 of 15

CTI LAB#: 3018	327 Sample Descript	lion:	21615-4				Sampled:	2/23	/2005
Analyte	Result	Units	LOD	LOQ	Dilution Qua	Prep Ilifier Date	Analysis Date	Analyst	Method
Chrysene	<0.031	mg/kg	0.031	0.10	1.0	3/2/2005	3/11/2005	JJA	EPA 8270C
Di-n-butylphthalate	<0.046	6 mg/kg	0.046	0.15	1.0	3/2/2005	3/11/2005	JJA	EPA 8270C
Di-n-octylphthalate	<0.041	mg/kg	0.041	0.14	1.0	3/2/2005	3/11/2005	JJA	EPA 8270C
Dibenzo(a,h)anthracene	<0.043	3 mg/kg	0.043	0.14	1.0	3/2/2005	3/11/2005	JJA	EPA 8270C
Dibenzofuran	<0.059	) mg/kg	0.059	0.20	1.0	3/2/2005	3/11/2005	JJA	EPA 8270C
Diethylphthalate	<0.087	′ mg/kg	0.087	0.29	1.0	3/2/2005	3/11/2005	JJV	EPA 8270C
Dimethylphthalate	<0.087	' mg/kg	0.087	0.29	1.0	3/2/2005	3/11/2005	JJA	EPA 8270C
Fluoranthene	<0.036	mg/kg	0.036	0.12	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
Fluorene	<0.072	mg/kg	0.072	0.24	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
Hexachlorobenzene	<0.023	8 mg/kg	0.023	0.079	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
Hexachlorobutadiene	<0.059	) mg/kg	0.059	0.20	1.0	3/2/2005	3/11/2005	JJA	EPA 8270C
Hexachlorocyclopentadiene	e <0.036	mg/kg	0.036	0.12	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
Hexachloroethane	<0.040	mg/kg	0.040	0.13	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
Hexachloropropene	<0.076	i mg/kg	0.076	0.25	1.0	3/2/2005	3/11/2005	JJA	EPA 8270C
Indeno(1,2,3-cd)pyrene	<0.044	mg/kg	0.044	0.15	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
Isophorone	<0.018	mg/kg	0.018	0.060	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
N-Nitroso-di-n-propylamine	<0.039	mg/kg	0.039	0.13	1.0	3/2/2005	3/11/2005	JJA	EPA 8270C
N-Nitrosodimethylamine	<0.053	mg/kg	0.053	0.18	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
N-Nitrosodiphenylamine & Diphn	<0.060	mg/kg	0.060	0.20	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
N-Nitrosopyrrolidine	<0.040	mg/kg	0.040	0.13	1.0	3/2/2005	3/11/2005	JJA	EPA 8270C
Naphthalene	<0.043	mg/kg	0.043	0.15	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
Nitrobenzene	<0.029	mg/kg	0.029	0.094	, . <b>1.0</b>	3/2/2005	3/11/2005	JJY	EPA 8270C
Pentachlorophenol	<0.028	mg/kg	0.028	0.091	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
Phenanthrene	<0.019	mg/kg	0.019	0.064	1.0	3/2/2005	3/11/2005	JJA	EPA 8270C
Phenol	<0.070	mg/kg	0.070	0.23	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
Pyrene	<0.031	mg/kg	0.031	0.11	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C
Pyridine	<0:037	mg/kg	0:037	0.12	1.0	3/2/2005	3/11/2005	JJY	EPA 8270C

CTI LAB#:	301828	Sample Description:	21615-5					Sampled	l: 2/2:	3/2005
Analyte		Result Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Results	5	•								
Solids, Percent		86.0 %	N/A	N/A	1.0			3/1/2005	GCE	EPA 5030A
Organic Results		1997 - 1997 -								
Diesel Range Organics	5	5.3 mg/kg	2.3 *	7.8	1.0	L	3/4/2005	3/8/2005	CLW	WDNR DRO
		v	VI DNR Lab Certif	cation Nu	umber: 15	7066030				10 ACEN

DATCP Certification Number: 105-000289 LA NELAP Certification Number: 04091

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# CTLaboratories

#### WHITE WATER ASSOCIATES

Project Name: Project #: Contract #: 581

Folder #: 45,653 Page 4 of 15

CTI LAB#:	301829	Sample Description:	21615-6					Sampled	: 2/23	/2005
Analyte		Result Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Results										
Solids, Percent		84.2 %	N/A	N/A	1.0			3/1/2005	GCE	EPA 5030A
Organic Results										•
Gasoline Range Organi	ics	<1.5 mg/kg	1.5	5.1	1.0		3/3/2005	3/7/2005	APG <sup>.</sup>	WDNR GRO
Benzene		<0.025 mg/kg	0.0090	0.029	1.0		3/3/2005	3/7/2005	APG	EPA 8020A
Ethylbenzene		<0.025 mg/kg	0.0090	0.029	1.0		3/3/2005	3/7/2005	APG	EPA 8020A
Methyl tert-butyl ether		<0.025 mg/kg	0.016	0.052	1.0		3/3/2005	3/7/2005	APG	EPA 8020A
Toluene		<0.025 mg/kg	0.010	0.034	1.0		3/3/2005	3/7/2005	APG	EPA 8020A
1,2,4-Trimethylbenzene	•	<0.025 mg/kg	0.0090	0.031	1.0	• :	3/3/2005	3/7/2005	APG	EPA 8020A
1,3,5-Trimethylbenzene	•	<0.025 mg/kg	0.011	0.037	1.0		3/3/2005	3/7/2005	APG	EPA 8020A
m & p-Xylene		<0.025 mg/kg	0.017	0.056	1.0		3/3/2005	3/7/2005	APG	EPA 8020A
o-Xylene		<0.025 mg/kg	0.010	0.032	1.0		3/3/2005	3/7/2005	APG	EPA 8020A

nalyte	Result Units	LOD	LOQ	Dilution Qualifie	Prep r Date	Analysis Date	Analyst	Method
norganic Results								
Solids, Percent	86.6 %	N/A	N/A	1.0		3/1/2005	GCE	EPA 5030A
Organic Results								
Basoline Range Organics	<1.5 mg/kg	1.5	5.0	1.0	3/3/2005	3/7/2005	APG	WDNR GRO
lenzene	<0.025 mg/kg	0.0090	0.029	1.0	3/3/2005	3/7/2005	APG	EPA 8020A
thylbenzene	<0.025 mg/kg	0.0090	0.029	1.0	3/3/2005	3/7/2005	APG	EPA 8020A
lethyl tert-butyl ether	<0.025 mg/kg	0.016	0.052	1.0	3/3/2005	3/7/2005	APG	EPA 8020A
oluene	<0.025 mg/kg	0.010	0.034	1.0	3/3/2005	3/7/2005	APG	EPA 8020A
,2,4-Trimethylbenzene	<0.025 mg/kg	0.0090	0.031	1.0	3/3/2005	3/7/2005	APG	EPA 8020A
,3,5-Trimethylbenzene	<0.025 mg/kg	0.011	0.037	1.0	3/3/2005	3/7/2005	APG	EPA 8020A
n & p-Xylene	<0.025 mg/kg	0.017	0.056	1.0	3/3/2005	3/7/2005	APG	EPA 8020A
-Xylene	<0.025 ma/ka	0.010	0.032	1.0	3/3/2005	3/7/2005	APG	EPA 8020A

CTI LAB#:	301832	Sample Descripti	on:	21615-10					Sampled:	Sampled: 2/23/20		
Analyte		Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method	

WI DNR Lab Certification Number: 157066030 DATCP Certification Number: 105-000289 LA NELAP Certification Number: 04091


CTLaboratories

WHITE WATER ASSOCIATES Project Name: Project #: Contract #: 581 Folder #: 45,653 Page 15 of 15

## Notes regarding entire Chain of Custody:

Notes: \* Indicates Value in between LOD and LOQ.

All samples were received intact and properly preserved unless otherwise noted. The results reported relate only to the samples tested. This report shall not be reproduced, except in full, without written approval of this laboratory. The Chain of Custody is attached.

This report satisfies the requirements of your project but has not been prepared to comply with NELAP reporting requirements.

	5
Submitted by:	$\bigcirc$

## **QC Qualifiers**

## Code Description

- A Analyte averaged calibration criteria within acceptable limits.
- B Analyte detected in associated Method Blank.
- C Toxicity present in BOD sample.
- D Diluted Out.
- E Safe, No Total Coliform detected.
- F Unsafe, Total Coliform detected, no E. Coli detected.
- G Unsafe, Total Coliform detected and E. Coli detected.
- H Holding time exceeded.
- J Estimated value.
- L Significant peaks were detected outside the chromatographic window.
- M Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
- N Insufficient BOD oxygen depletion.
- O Complete BOD oxygen depletion.
- P Concentration of analyte differs more than 40% between primary and confirmation analysis.
- Q Laboratory Control Sample outside acceptance limits.
- R See Narrative at end of report.
- S Surrogate standard recovery outside acceptance limits due to apparent matrix effects.
- T Sample received with improper preservation or temperature.
- V Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference.
- W Sample amount received was below program minimum.
- X Analyte exceeded calibration range.
- Y Replicate/Duplicate precision outside acceptance limits.
- Z Calibration criteria exceeded.

WI DNR Lab Certification Number: 157066030 DATCP Certification Number: 105-000289 LA NELAP Certification Number: 04091



	On ite													·			· <u>-</u>	-r	
୯୨	2.1°C - 15 3/1/05 - New	I	CHAIN	-0F-	CUS	TO	DY	RE	COR	D AI	ND	ANA	LYS	IS F	REQ	UES	т (	OMMONUU	APh tech
	J.O.#	CLIENT	NAMEJOhi	fol	UAt	en	Vk	R				5		NALYS	IS TYPE	REQU	STED *****	e ale ale ale ale ale ale ale ale ale al	*******
	SAMPLER'S SIGNATURE	ADDRES	\$ 429	R	vel	el	An	$\mathcal{I}$	NO		/	X.	/			N.	Folde	<sup>#</sup> : 45653	
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Customer retain pink; send white and yellow with samples. Original (white) will be returned with report.

21615	J	CHAIN	-OF-CUS	stoi	DY R	ECO	RD A	ND	ANA	LYS	IS F	REC	UE	ST				-
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	Page: of
	Attach to the COC and include with the final report.
	WHITE WATER ASSOCIATES, INC.
	Login Checklist
Proj	ect Number: <u>21615</u> Date Logged in: <u>2125105</u> Login Person Initials: <u>BM</u>
# of	Coolers: Courier:
Clie	nt: <u>378/1X/</u> Project Name: <u>378/1X/</u>
lf no	to any, notify the project manager and project manager documents client response below.
	YES NO
1.	Were custody seals/original packing tape intact?
2.	Are the samples in good condition, i.e. not broken or leaking?
3.	Are samples within holding times?
4.	Were the samples received on ice (ice in direct contact with the samples)?
5.	Is the temperature of the samples between 2-6°C? Temp. $219$
6.	Do the samples match the COC?
7.	Were the proper containers used?
8.	Were the samples collected in White Water lab containers?
9.	Is there adequate sample volume for requested analyses and QC?
10.	Do water VOC samples contain headspace less than the size of a pea?
11.	Are samples preserved to the proper pH? If no, identify sample bottle and
12.	Is the chain of custody signed?
13.	Is sub-sampling required? (Note bottles created and preserved below.)
14.	For Dissolved Analysis, were samples filtered in the lab?
15.	Were encores received? (VOC analysis)
16.	Were soil VOCs preserved with methanol in the lab?

## COMMENTS/CORRECTIVE ACTION

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CLIENT RESPONSE (Provide date/time of contact, client response and project manager initials)

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17. Is client contact necessary? Provide documentation below.



Client: STS Consultants - Green Bay

WWA Job #: 21615

Proj	ect:	27811XV		Sample Matrix:	Soil
Date	Received:	2/25/2005	•	Date Reported:	4/28/2005
					•

Sample / Client Sample ID	Result	Units	Date	Method	MDL	MQL
21615-005 / GP-3 (3-6.5)					•••	
Lead (s)	4.0	mg/kg	4/27/2005	6010B	0.7	2.1
21616-008 / GP-4 (5-8)			•		. •	
Lead (s)	3.4	mg/kg	4/27/2005	6010B	0.7	2.1
1615-009 / GP-5 (3-5)		•			;	
Lead (s)	5.2	mg/kg	4/27/2005	.6010B	0.7	2.2
1615-012/GP-6 (6-8)				•	•••	· ·
Lead (s)	3.0	mg/kg	4/27/2005	6010B	0.7	2.1
1615-014/GP-7 (2.5-8)		•	•	•		
Lead (s)	9.4	mg/kg	<b>4/27</b> /2005	6010B	0.7	2.1
1615-019/GP-11 (4.5-8)	·		•			
Lead (s)	4.3	mg/kg	4/27/2005	6010B	0.7	2.1
1615-021 / GP-12 (4.5-8)						
Lead (s)	3.4	mg/kg	4/27/2005	6010B	0.7	2.1
1615-023 / GP-13 (4-8)						
Lead (s)	3.5	mg/kg	4/27/2005	6010B	0.7	2.0

ND = Not Detected, MDL = Method Detection Limit, MQL = Method Quantitation Limit, ppm = mg/l (liquid) or mg/kg (solid), ppb = ug/l (liquid) or ug/kg (solid)

Page 1 of 2

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