voice 414-359-3030 414-359-0822 fax web www.stsconsultants.com

BRRTS 02-68-378488

FID # 268026220 Aka one hour martinizing

December 17, 2002

Ms. Michelle Williams Remediation and Redevelopment Program Wisconsin Department of Natural Resources 2300 North Martin Luther King Drive Milwaukee, WI 53212

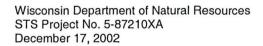
RE: Subsurface Site Assessment Property Located at N89 W16744-46 Appleton Avenue, Menomonee Falls, Wisconsin STS Project No. 5-87210XA

Dear Ms. Williams:

On behalf of Bence Family Limited Partnership (Bence), STS Consultants Ltd. (STS) has prepared this report to document the methodology and results of a recently completed Subsurface Site Assessment of the referenced property located in Menomonee Falls, Wisconsin (Figure 1). The purpose of the Subsurface Site Assessment is to gain an understanding of soil quality, groundwater quality, and groundwater flow conditions at the site pursuant to STS' Wisconsin Administrative Code (WAC) Chapter NR 716 Work Plan dated October 4, 2002, and to request authorization from the Wisconsin Department of Natural Resources (WDNR) to complete additional subsurface site assessment tasks under the Dry Cleaner Environmental Response Program ("DERP"). The following sections provide information concerning project history, field investigation methodology, subsurface materials encountered at the site, analytical laboratory results associated with collected soil and groundwater samples, our interpretation of the investigation results, and recommendations for additional investigative activities.

#### **Project History**

A two-story commercial building at the subject property operated as a dry cleaning facility from approximately 1975 to June 2000. Maxim Technologies, Inc. (Maxim) was retained by Bence in 2001 to evaluate potential impacts associated with the former dry cleaning operations. As part of their investigation, Maxim advanced three hydraulic probes (identified as GP-1, GP-2 and GP-3) on the property. The hydraulic probes encountered dolomite bedrock at a depth of 1.5 to 7.5 feet below ground surface (bgs) at the site. A soil sample collected from Maxim hydraulic probe GP-1 (located on a loading dock ramp on the east side of the facility building) in December 2001 revealed 71,000 micrograms per kilogram (µg/kg) of tetrachloroethene (PCE), and lesser concentrations of other chlorinated and aromatic volatile organic compounds (VOCs). samples collected from GP-2 (located in the northern portion of the property) and GP-3 (located in the eastern portion of the property) did not reveal detectable VOC concentrations. The WDNR was notified by Bence on December 19, 2001 that a release of hazardous substances on the property had occurred.





Approximately 7 cubic yards of impacted soil near GP-1 were excavated by Maxim in February 2002. Two soil samples collected from the base of the excavation revealed 99,000 and 11,000  $\mu$ g/kg of PCE; however, additional excavation beyond 2 feet below grade was precluded by the bedrock surface. Soil samples collected from the walls of the excavation revealed 240 to 500  $\mu$ g/kg of PCE. The excavated soil was removed from the property and disposed off-site by Onyx Environmental Services in March 2002.

Monitoring well MW-1 was installed in the northern portion of the property (at the location shown on Figure 1) by Maxim in March 2002; this well was screened from 15 to 35 feet bgs (this 20 foot screen length exceeds the maximum 15 feet screen length for water-table monitoring wells as specified in WAC Chapter NR141). The measured depth to groundwater in MW-1 was approximately 13 feet bgs. Groundwater samples were collected from MW-1 on two occasions in April 2002. These groundwater samples revealed a maximum PCE concentration of 780 micrograms per liter ( $\mu$ g/L), a maximum trichloroethene (TCE) concentration of 24  $\mu$ g/L, a maximum cis-1,2-dichloroethene (cis-1,2-DCE) concentration of 12  $\mu$ g/L, and a maximum vinyl chloride concentration of 0.27 $\mu$ g/L.



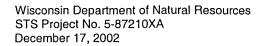
The major potential receptors to affected groundwater quality at the site are the Niagaran dolomite aquifer and the Menomonee River. The Maxim investigation revealed that dolomite bedrock was encountered at a depth of 1.5 feet to 7.5 feet bgs. The Menomonee River is located approximately 700 feet to the east of the subject site.

#### **Investigation Methodology**

This section describes the data collection activities completed as part of the STS Subsurface Site Assessment of the subject property. Data collection activities conducted as part of the investigation consisted of the following:

- Installation of two monitoring wells (identified as MW-2 and MW-3 on Figure 2), including collection of one soil sample from each monitoring well installation boring for laboratory analysis (October 7, 2002).
- Collection of groundwater samples from existing monitoring well MW-1 and new monitoring wells MW-2 and MW-3 for laboratory analysis (October 11, 2002);
- Location and elevation survey of new and existing monitoring wells MW-1, MW-2 and MW-3 (October 23, 2002).

The monitoring well installation services were provided by Boart Longyear Company of Schofield, Wisconsin. Quantitative chemical analyses of collected soil and groundwater samples were conducted by Great Lakes Analytical of Oak Creek, Wisconsin. Monitoring wells MW-2 and MW-3 were installed using 6.25-inch diameter hollow-stem augers (ASTM Method D1586) to the bedrock surface, followed by air rotary drilling. The wells were constructed with 2-inch diameter, flush-thread, schedule 40 polyvinyl chloride (PVC) riser pipe with 10-slot (0.010 inch) screen. Monitoring well MW-2 is screened from 5 to 15 feet bgs, and MW-3 is screened from 9.5 to 19.5 feet bgs. Coarse silica filter sand packs were placed to depths of 1 to 2 feet above the top of the monitoring well screens. Following placement of the coarse sand pack, a 1 foot fine sand pack was placed, followed by granular bentonite to 1.0 foot bgs and a concrete surface seal. The monitoring wells were completed with a locking, flush-mount protective casing. Monitoring well construction details (WDNR Form 4400-113A) are provided in Attachment A.





Soil samples were collected at 2.5 foot intervals to the bedrock surface from both new monitoring well installation borings using a two-inch diameter, two-foot long split-spoon sampler (ASTM Method D1587) and visually classified in the field by STS. The soil samples collected from the monitoring well installation borings were described in the field with respect to the soil types (Unified Soil Classification System code), grain size distribution, and color (or discoloration), odor, moisture content, consistency and photoionizable constituent content, as appropriate. The observations were recorded on soil boring logs (WDNR Form 4400-122) provided in Attachment A.

Duplicate soil samples collected from each sampling interval were field screened using a photoionization detector (PID). The PID yields a semi-quantitative headspace analysis of the concentration of the VOCs in the samples that have ionization potentials that are equal to or less than 10.6 electron volts (eV). The PID was calibrated in the field according to manufacturer's instructions, using 100 parts per million (ppm) isobutylene span gas and air (zero gas), and checked between each screening event for proper response. The peak instrument readings were recorded on the soil boring logs. PID readings from the duplicate samples were assumed to be similar to the primary samples. As such, the primary samples were not screened. This procedure reduces the potential escape of VOCs from the sample submitted for laboratory analysis. The duplicate soil samples were loosely placed in glass sample jars to allow sufficient headspace to optimize PID screening results. It is important to note that the PID does not allow for a differentiation of individual VOCs, and has a useful detection limit of approximately 0.1 ppm for select VOCs.

The soil and groundwater samples submitted to Great Lakes Analytical were at all times accompanied by a chain-of-custody form. When transferring samples, the individuals relinquishing and receiving the samples signed and dated the forms. The original chain-of-custody form accompanied the shipment. A copy was retained by the field sampler and filed immediately upon return to the office. The forms include the following information: sample identification, date collected, source of sample (including type of sample and site identification), and name of sampler. The forms were completed in a legible matter using waterproof ink and signed by the sampler. Similar information was provided on the sample labels, which were securely attached to the sample containers. The soil and groundwater samples submitted to Great Lakes Analytical were analyzed for VOCs, using USEPA Method 8021.

Upon completion of monitoring well installation, new monitoring wells MW-2 and MW-3 were developed in accordance with WAC NR141, as documented by the completed well development forms (WDNR Form 4400-113B) provided in Attachment A. Three 55-gallon drums of soil cuttings and one 55-gallon drum of well development water associated with installation of monitoring wells MW-2 and MW-3 are currently staged onsite.



#### **Encountered Subsurface Materials**

Data collection activities conducted as part of this Subsurface Site Assessment have provided information to characterize subsurface conditions at the subject property. The locations of monitoring wells installed as part of this investigation are shown on Figure 2, and their total depths, depths of soil samples retained for laboratory analysis and depth to Niagaran dolomite bedrock surface (in feet bgs) are summarized as follows:

Monitoring Wel	<u>  Total Depth</u>	Sample Depth	Depth to Bedrock
MW-2	15.5	0 to 1	1
MW-3	20	2.5 to 4.5	5

With respect to soils encountered, monitoring well installation boring MW-2 revealed the presence of approximately 1 foot of fill material that consists of gray gravel underlain by light brown dolomite bedrock, and MW-3 revealed the presence of approximately 5 feet of brown to dark brown silt and clayey silt (also underlain by light brown dolomite bedrock).

#### Inferred Groundwater Flow Direction

The results of STS' location and elevation survey (in feet relative to mean sea level) of the three new and existing wells are provided as follows:

Monitoring Well	Top of PVC Casing	Ground Surface
MW-1	859.50	860.03
MW-2	856.15	856.50
MW-3	858.63	858.89

The measured depth to the water table ranges from approximately 7 feet bgs to 12 feet bgs, such that the water table surface is situated within the bedrock at the site. An inferred potentiometric surface map is provided as Figure 3, which shows an inferred local groundwater flow direction to the northeast. The estimated horizontal hydraulic gradient is 0.072.

#### **Laboratory Results of Collected Soil Samples**

Soil sample results are reported in units of micrograms per kilogram ( $\mu g/kg$ ), which is equivalent to parts per billion. Laboratory reports including chain-of-custody forms are provided in Attachment B. The only soil sample that revealed detectable concentrations of VOCs was the sample collected from monitoring well installation boring MW-2, at a depth of 0 to 1 foot bgs. The only VOC detected in this soil sample was 133  $\mu g/kg$  of PCE. This soil sample was collected in the immediate vicinity of the area of soil excavated by Maxim in February 2002.

#### **Laboratory Results of Collected Groundwater Samples**

Groundwater sample results are reported in units of micrograms per liter ( $\mu$ g/L), which is approximately equivalent to parts per billion. Laboratory reports including chain-of-custody forms are provided in Attachment B. A comparison of detected VOC concentrations in groundwater samples collected from the monitoring wells with WAC NR140 enforcement standards (ES) and preventive action limits (PAL) is provided in Table 1.





As indicated in Table 1, the detected PCE and TCE concentrations in groundwater samples collected from all three new and existing monitoring wells exceed their respective ES values. In addition, cis-1,2-DCE concentrations in groundwater samples collected from monitoring wells MW-2 and MW-3 exceed the PAL for cis-1,2-DCE. The PAL for 1,1-DCE was also exceeded in the groundwater sample collected from monitoring well MW-2.

#### **Conclusions**

The field and laboratory information obtained as part of this Subsurface Site Assessment has provided a useful understanding of subsurface conditions at the subject property in Menomonee Falls, Wisconsin. With respect to soils encountered during the investigation, monitoring well installation boring MW-2 revealed the presence of approximately 1 foot of fill material that consists of gray gravel underlain by light brown dolomite bedrock, and MW-3 revealed the presence of approximately 5 feet of brown to dark brown silt and clayey silt (also underlain by light brown dolomite bedrock). The measured depth to the water table ranges from approximately 7 feet bgs to 12 feet bgs, such that the water table surface is situated within the bedrock at the site. The inferred local groundwater flow direction is to the northeast, at an estimated horizontal hydraulic gradient of 0.072.

The only soil sample that revealed detectable concentrations of VOCs was the sample collected from monitoring well installation boring MW-2, at a depth of 0 to 1 foot bgs. The only VOC detected in this soil sample was 133  $\mu$ g/kg of PCE. This soil sample was collected in the immediate vicinity of the area of soil excavated by Maxim in February 2002. As indicated above, two soil samples collected from the base of the February 2002 excavation by Maxim revealed 99,000 and 11,000  $\mu$ g/kg of PCE; however, additional excavation by Maxim beyond 2 feet below grade was precluded by the bedrock surface. Similarly, the depth to bedrock at the location of MW-2 is 1 foot bgs, such that additional excavation at the location of MW-2 would also be precluded by the bedrock surface.

As indicated in Table 1, the detected PCE and TCE concentrations in groundwater samples collected from all three new and existing monitoring wells exceed their respective ES values. In addition, cis-1,2-DCE concentrations in groundwater samples collected from monitoring wells MW-2 and MW-3 exceed the PAL for cis-1,2-DCE. The PAL for 1,1-DCE was also exceeded in the groundwater sample collected from monitoring well MW-2. Based on this information, STS concludes the following:

- 1. The maximum detected PCE concentration in site groundwater (3,600  $\mu$ g/L) is greater than the previously identified maximum concentration (780  $\mu$ g/L) detected as part of the Maxim investigation.
- 2. The maximum detected VOC concentrations in site groundwater are present at MW-3, which is not directly hydraulically downgradient (northeast) of the former vadose zone source area near monitoring well MW-2. This observation may be a consequence of bedrock fracture flow that is not parallel to the inferred direction of groundwater flow based on the measured horizontal hydraulic gradient.
- 3. The <u>horizontal extent of affected groundwater quality has not been defined, such that migration of affected groundwater beyond the N89 W16744-46 Appleton Avenue property boundaries has likely occurred.</u>
- 4. The vertical extent of affected groundwater quality has not been defined.



Recommendations

STS' recommended approach to completing this investigation is to gain a better understanding of the horizontal and vertical distribution of VOCs at the site, prior to investigation of groundwater quality beyond the property boundaries. In order to better define the extent of affected groundwater quality at the N89 W16744-46 Appleton Avenue property, STS recommends the installation of monitoring wells MW-3A and MW-4 at the locations shown on Figure 5. Monitoring well MW-3A would be installed to a depth of 40 feet bgs and screened from 35 to 40 feet bgs, to evaluate the vertical extent of affected groundwater at the location of maximum detected VOC concentrations in shallow groundwater (based on data from MW-3, which is screened from 9.5 to 19.5 feet bgs). An off-site monitoring well will probably need to be subsequently installed downgradient (northeast) of MW-3/MW-3A within the public right-of-way on the east side of Church Street, to evaluate the downgradient extent of affected groundwater quality. The screened depth interval of this probable future monitoring well would be based on the laboratory results of groundwater samples collected from monitoring wells MW-3 and MW-3A. Monitoring well MW-4 would be installed as a water-table monitoring well to an approximate depth of 20 feet bgs and screened from approximately 10 to 20 feet bgs, to evaluate the southern extent affected shallow groundwater quality at the N89 W16744-46 Appleton Avenue property.

In-situ hydraulic conductivity testing will be conducted on all five new and existing monitoring wells, in order to obtain an understanding of groundwater flow velocities at the site. One soil sample would be collected from each of the two monitoring well installation borings and submitted for laboratory analysis of VOCs, and groundwater samples collected from all five new and existing monitoring wells would also be submitted for laboratory analysis of VOCs. Upon receipt of all laboratory results, the methodology and results of these additional investigative activities would be documented in a Phase II Subsurface Assessment Report for submittal to the WDNR.

The estimated costs to complete this recommended scope of work are summarized as follows:

<u>Task</u>	<u>STS</u>	Subcontractor	<u>Total</u>
Monitoring Well Installation	\$1,900	\$4,500	\$6,400
In-situ Hydraulic Conductivity Testing	\$1,600	\$0	\$1,600
Groundwater Sampling	\$600	\$0	\$600
Soil/Groundwater Sample Analysis	\$0	\$500	\$500
Well Location/Elevation Survey	\$300	\$0	\$300
Phase II Report	\$3,500	\$0	\$3,500
Project Totals	\$7,900	\$5,000	\$12,900

STS is prepared to initiate the recommended field investigation activities within approximately two weeks from authorization to proceed, dependent upon the timely availability of a qualified monitoring well installation subcontractor. The monitoring well installation and development activities can be completed within two working days, and the in-situ hydraulic conductivity testing and groundwater sampling activities can be conducted several days thereafter. Laboratory

Wisconsin Department of Natural Resources STS Project No. 5-87210XA December 17, 2002



results of the collected soil and groundwater samples will be available within two to three weeks of sample collection. Approximately two weeks will be required to complete the Phase II Subsurface Assessment Report, such that the report would be completed within approximately eight weeks from receipt of Dry Cleaner Environmental Response Program (DERP) approval to proceed with this investigation.

Based on the foregoing, STS requests DERP approval to conduct the investigative activities identified above. As indicated, the estimated total cost to complete these activities is \$12,900. If the terms of the request for approval contained herein are acceptable to you, please provide your signature in the space provided below and return one copy to the undersigned. If you have any questions, please do not hesitate to contact us. Thank you very much for your assistance with this project.

Thomas W. Kroeger A.H. Principal Hydrologist

STS CONSULTANTS, LTD.  Mas M. Mejae
Mark M. Mejac, P.G., CGWP Senior Hydrogeologist
Attachments
ACCEPTED AND APPROVED:
BY:
TITLE:
DATE:

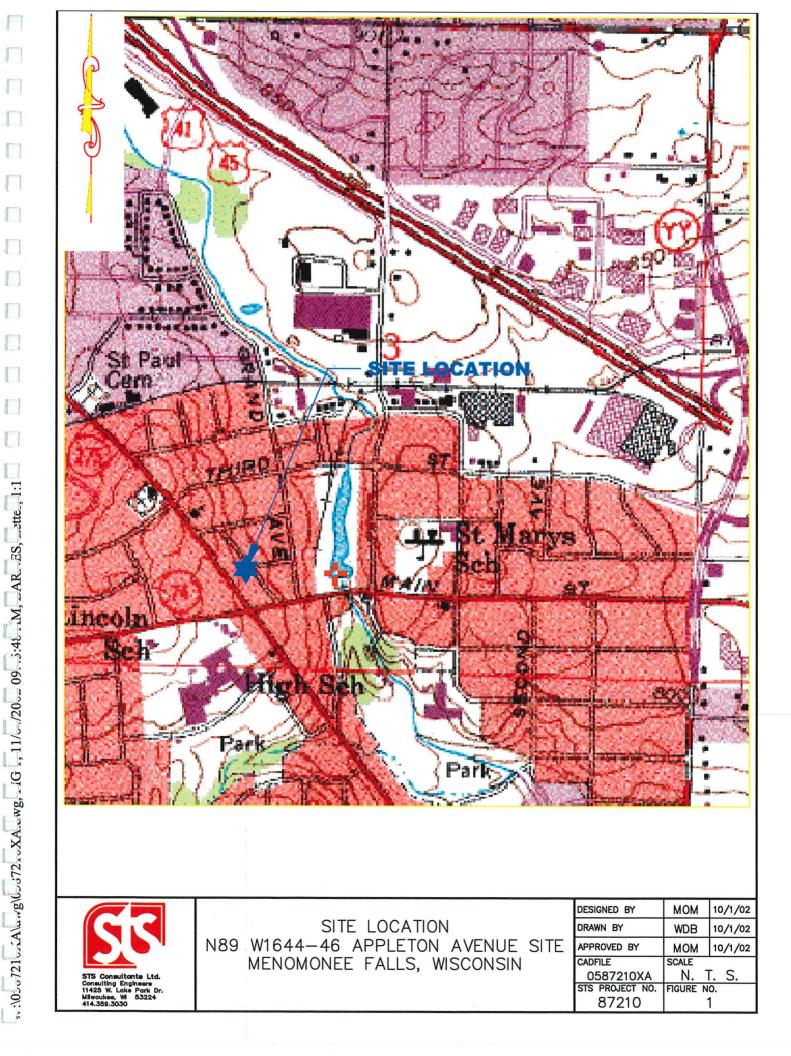
Respectfully,

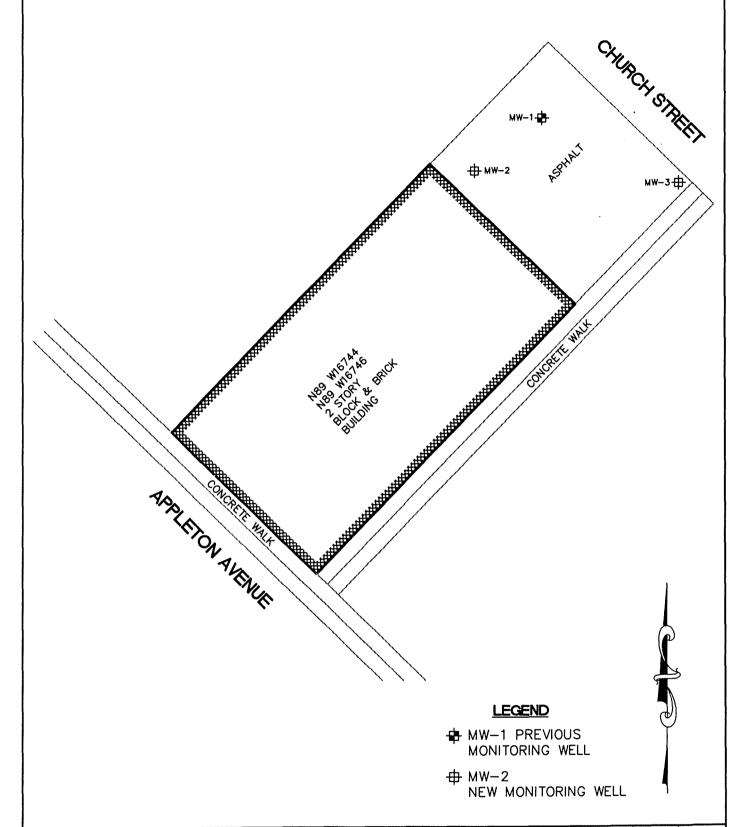
# Table 1 Detected VOC Concentrations (µg/L) in Collected Groundwater Samples N89 W1644-46 Appleton Avenue Site STS Project No. 87210XA

	ES	PAL	Monitoring Well Identifier						
Parameter	LS	PAL	MW-1	MW-2	MW-3				
VOCs (μg/l)					*				
1,1,1-Trichloroethane	200	40		0.728	1.04				
1,1-Dichloroethene	7	0.7		<u>1.22</u>					
Chloroform	6	0.6		0.208	0.295				
cis-1,2-Dichloroethene	70	7	1.16	<u>37.8</u>	<u>25.3</u>				
Methyl Tert Butyl Ether	60	12	<u> </u>	1.52	1.37				
Tetrachloroethene	5	0.5	<u>(124)</u>	(1,990)	( <u>3,600</u> )				
trans-1,2-Dichloroethene	100	20		1.08					
Trichloroethene	5	0.5	<u>8.01</u>	<u>132</u>	<u>(40.2</u> )				

# Notes:

VOCs = Volatile Organic Compounds
<a href="Italics">Italics</a> indicates NR140 Preventive Action Limit (PAL) exceedance
<a href="Bold">Bold</a> indicates NR140 Enforcement Standard (ES) exceedance

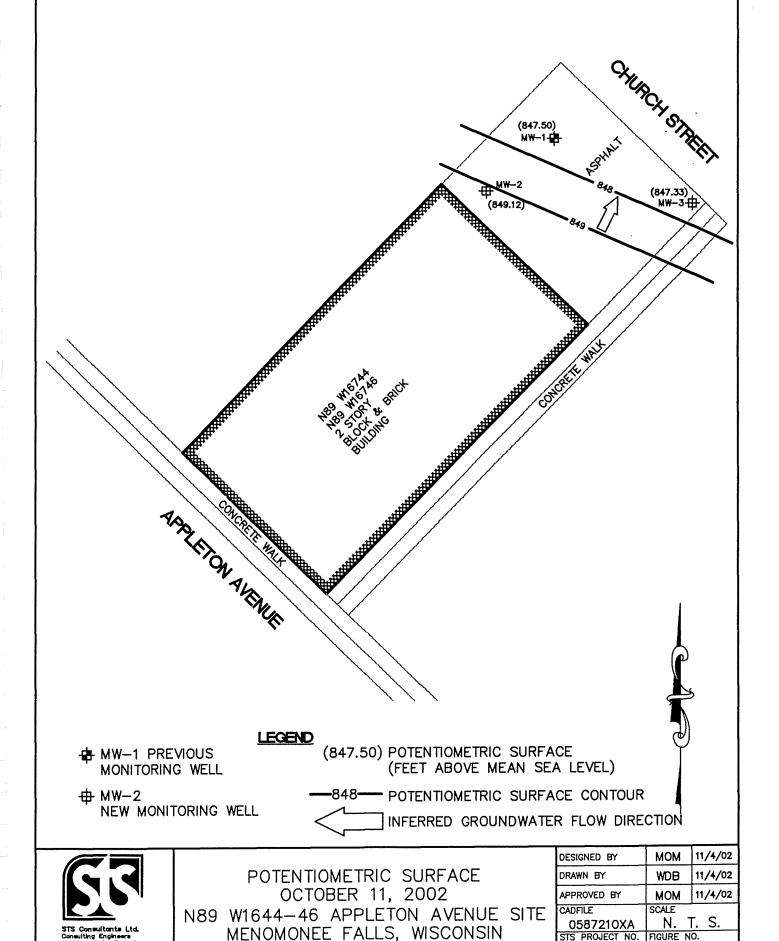




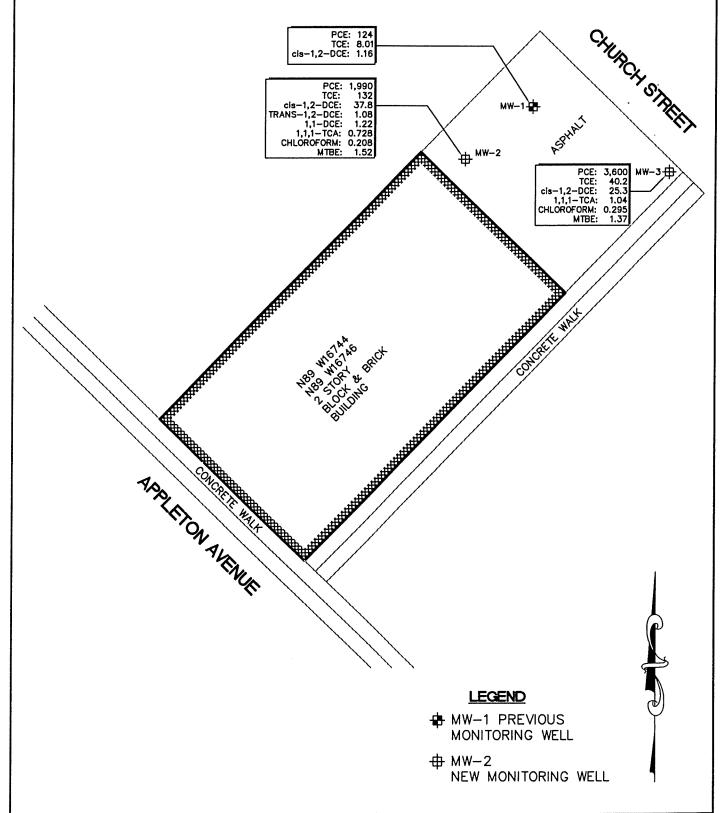


STS Consultants Ltd. Consulting Engineers 11425 W. Loke Pork Dr. Milwaukee, W. 53224 414.359,3030 MONITORING WELL LOCATIONS
N89 W1644-46 APPLETON AVENUE SITE
MENOMONEE FALLS, WISCONSIN

	DESIGNED BY	МОМ	10/1/02
	DRAWN BY	WDB	10/1/02
	APPROVED BY	мом	10/1/02
ļ	CADFILE	SCALE	
ı	0587210XA	1 ' ' ' ' '	Г. S.
	STS PROJECT NO.	FIGURE N	0.
I	87210	2	2



87210

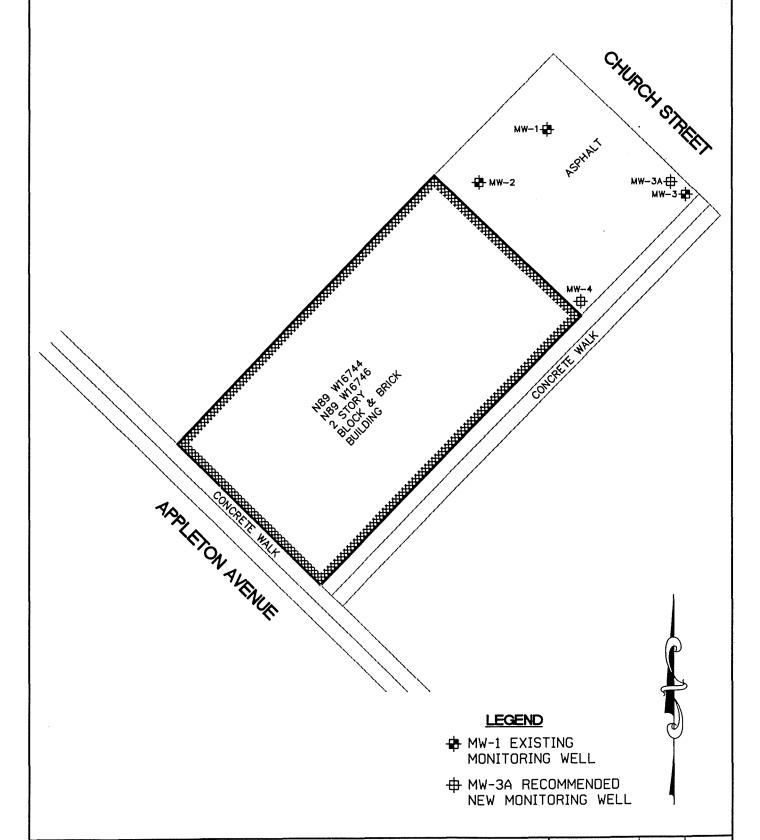




STS Consultants Ltd.
Consulting Engineers
11425 W. Loke Park Dr.
Milwaukee, W. 53224
414.359.3030

DETECTED VOC CONCENTRATIONS (µg/L) IN COLLECTED GROUNDWATER SAMPLES N89 W1644-46 APPLETON AVENUE SITE MENOMONEE FALLS, WISCONSIN

DESIGNED BY	МОМ	11/4/02
DRAWN BY	WDB	11/4/02
APPROVED BY	мом	11/4/02
CADFILE	SCALE	
0587210XA		ſ. S
STS PROJECT NO.	FIGURE N	0.
87210	4	1





RECOMMENDED NEW MONITORING
WELL LOCATIONS
N89 W1644-46 APPLETON AVENUE SITE
MENOMONEE FALLS, WISCONSIN

DESIGNED BY	МОМ	11/4/02
DRAWN BY	WDB	11/4/02
APPROVED BY	МОМ	11/4/02
CADFILE	SCALE	
0587210XA	N. 7	Г. <u>S.</u>
STS PROJECT NO.	FIGURE N	0.
87210		5

Wisconsin Department of Natural Resources STS Project No. 5-87210XA December 17, 2002



# ATTACHMENT A

Soil Boring Logs

Monitoring Well Construction Forms

Monitoring Well Development Forms

Department of Natural Reso	ources					I	Form 4	1400-12	.2		R	lev. 5-9	97
Rou	watershed/W Remediation/	∕astewater□ ⁄Redevelopmen□	Waste Other		gement								
										Pa	ge 1	of	1
Facility/Project Name			License	/Perm	it/Monit	oring N	lumbe	er	Boring	g Numl			
	210XA				<u> </u>		- 15	. 5 11				W-2	
Boring Drilled By (Firm nar	me and name of crew cl	niet)	Date Di	rilling	Started		Di	ate Dril	ling Co	mplete	d	Dril	lling Method
Boart Longyear - Pau					7/2002				10/7/	2002			ir Rotary
WI Unique Well No.	DNR Well ID No.	Common Well Name	Final St	tatic W	ater Le	vel	Surfac	ce Eleva			.  Bo		e Diameter
PK 658 Boring Location or Local G	rid Origin (Check)	MW-2 if estimated: □ )	<u> </u>						Feet	ocation	(If app		Inches
State Plane	ild Oligin (Check)	S/C/N	Lat.		0	<u>'</u>	11	Local	Ond E	1 🔲		nicaoic	″ □ E
	4 of Section 3,	т 8 N, R 20 E	Long	g	<u> </u>	1			Fee	t 🗆 S			Feet W
Facility ID	County		County C				-	Village					<del></del>
	Waukesha		68		Men	omon	ee Fa	ills					
Sample									Soil	Prop	erties	r	
Number and Type Length Att. & Recovered (in) Blow Counts Depth In Feet		ock Description						စု					
Pe Att.		ologic Origin For		S		g	Ω	essiv	5 T		₹		ents
Number and Type Length Att. & Recovered (in Blow Counts Depth In Feet	Each	n Major Unit		SCS	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	200	RQD/ Comments
Nu Sec				S O	Grap Log	Well Diag		Str	ဗို ပိ	Liquic Limit	Plastic Index	P 2	\\ \S \\ \o \o
SS 12 8 50/1"	Fill: Gravel - gray		····		X777A		0.8						
1 1 1	Dolomite Bedrock	c - light brown											
-2.5													
5.0						:目:1						1	}
						目1							
7.5													
10.0						:目:1							
						目							
12.5													
15.0													
	END OF BORING	3			7222							i !	
	Dance duilling wife												
	Began drilling wit	ii air rotary at 1 f	ι.			ł						! 	
	Boring advanced	to 15.5 ft. by Air	Rotary.										
	Groundwater mon	itoring well insta											
	15.0 feet on 10/7/0	JZ.											
					}   								
											i		

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: (414) 359-303
Bulen		11425 W. Lake Park Drive, Milwaukee, WI. 53224	Fax: (414) 359-082

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completions 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.

Depa	rtment	of Nat	ural Res	ources						]	Form 4	1400-12	22		R	ev. 5-9	7
			Ro	ute To:	Watershed/W	/astewater□	Wast	e Mana	gement	: 🗆							
					Remediation	Redevelopmen□	Other	r 🗆									
														Pa	ige 1	of	1
	ity/Proj					Manager	Licens	e/Perm	it/Moni	toring ì	Vumbe	r	Borin	g Num	ber		
	nce P			210XA												W-3	
Borin	ig Drill	ed By	(Firm n	ime and	name of crew c	niet)	Date D	rilling	Started		D	ate Dril	ling Co	omplete	ed	Dril	lling Method
Во	art Lo	ngve	ar - Pa	ul				10/	7/2003	2			10/7/	2002		l A	ir Rotary
WIU	nique \	Well N	0.		Well ID No.	Common Well Nam	e Final S	tatic W	ater Le	vel	Surfa	ce Elev			. B	orehole	Diameter
		C 659				MW-3							Feet				Inches
	g Loca Plane	tion or	Local (	Grid Orig	gin (Check	if estimated: 🔲 ) S/C/N	Lat.		0	•	11	Local	Grid L		(If app	licable	
State		of S	W 1	/4 of Sec	ction 3,	T 8 N, R 20 E	Lon		<u> </u>	,	11		Foo	1 🔲 1:			☐ E Feet ☐ W
Facili		101 5	77 1		County	10 11,120 E	County C		Civil '	Fown/C	ity/ or	Villag		, L.,			Teet C VV
					Waukesha		68		Men	omon	ee Fa	ılls					
Saı	mple												Soi	l Prop	erties		
	8 (ii	S	et			ock Description						υ o					
. စ	Length Att. Recovered (	Blow Counts	Depth In Feet			ologic Origin For				ا د		ssiv	9		2:		nts
Tyr.	gth	S ×	th L		Eacl	n Major Unit		CS	Graphic Log	Well Diagram	PID/FID	npre	stur	nid ii	sticit	8	D/ nme
Number and Type	Length Att. & Recovered (in)	Blo	Dep					US	Grap Log	Well Diagr	PID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
ss	24 15	1 6	=	Asph	alt		/	1.67	ПП		0.8						
22 /	13	9	- 25			ark brown - mois	τ	ML				ł					
ss	24 12	7	2.5 	Claye	ey Silt - brov	/n - moist		247			1.0						
33 /	12	7 8	F .					ML									
cc \	24	8 7	<u></u> −5.0	Casin	ng set at 5', s	witched over to a	ir rotary				0.2						
ss	4 0	50/1"	-	Dolor	mita Radrocl	c - light brown											
			<b>一7.5</b>	וטוטע	inite Deditoei	C - fight blown											
			-													,	
			10.0														
			E					}		:目:				]	]		
			12.5														
		ļ	E					l									
			15.0														
			F							目							
			E 17.5											!			
			<b> -</b>							目							
			-20.0	END	OF BORING	7		<del> </del>	K//X								
	ĺ	ĺ		Borin	g advanced	to 20 ft. by Air R	otary.										

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

Groundwater monitoring well installed to 19.5 feet on 10/7/02.

Signature	Firm	STS Consultants, Ltd.		Tel: (414) 359-3030
Ban Burn		11425 W. Lake Park Drive, Milwaukee, WI.	53224	Fax: (414) 359-0822

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completions 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.

	Route To:	Watershed/Wastewater☐ Remediation/Redevelopmen☐	Waste Management ☐ Other ☐	Form 4400-113A Rev. 6-97
St. Plane	Facility/Project Name			
St. Plane	Bence Property 87210XA	ft. □ S	ft. 🗆 E.	MW-2
St. Plane	Facility License, Permit or Monitoring No.	Grid Origin Location	(Check if estimated: )	Wis. Unique Well NoDNR Well Number
Type of Well		Lat Lo	ong or	PK 658
Type   Well   Code   11/mw   Distance Well 15 Front Waste/Source   Coccurrence Vell 16 Front Waste/Source Vell 17 Front   Coccurrence Vell 16 Front Waste/Source   Coccurrence Vell 16 Front Waste/Source Vell 17 Front   Coccurrence Vell 16 Front Waste/Source Vell 17 Front   Coccurrence Vell 16 Front Waste/Source Vell 17 Front   Coccurrence Vell 17 Front   C	Facility ID	St. Plane ft. N, _	ft. E. S/C/N	4.0 /0 7/2 0.0 0
Distance Well is Front Waste/Source   R   d   Upgradient   S   Sidegradient	Type of Well	Section Location of Waste/Sour	ce MR F	Well Installed By: (Person's Name and Fire
Distance Well is Front Waste/Source   R   d   Upgradient   S   Sidegradient		1/4 of <u>SW</u> 1/4 of Sec	$\frac{3}{1}$ , T. $\frac{8}{1}$ N, R. $\frac{20}{1}$ W	Well histatica by. (Terson's traine and Fil
Boundary   R.       Dovergradient     Not Known   Boart Longyear				Paul, Dave, Corey
A. Protective pipe, top elevation	Boundary ft.	d □ Downgradient n □ ì	Not Known	Boart Longyear
C. Land surface elevation	A. Protective pipe, top elevation	ft. MSL	1. Cap and lock?	
C. Land surface elevation	B Well casing ton elevation	ft MSL	2. Protective cover	pipe:
D. Surface seal, bottom		<b>,</b>	a. Hiside diamete	er:
D. Surface seal, bottom				
12. USC classification of soil near screen:   GP   GM   GC   GW   SW   SP     SN   SC   ML   MiH   CL   CH     Bedrock   SN   SSC   ML   MiH   CL   CH     13. Sieve analysis attached?   Yes   SN     14. Drilling method used: Rotary   S	D. Surface seal, bottom ft. MSL	or <u>1.0</u> ft.	्रिक्टियाँ १८९४८९४	No. 1
If yes, describe:	12. USC classification of soil near screen:		d. Additional pro	otection? □ Yes ☑ No
Section   Sect	GP GM GC GW SV	Wo SPO \	If yes, describ	e:
F. Fine sand, top  ft. MSL or 3.0 ft.  G. Filter pack, top  ft. MSL or 4.0 ft.  H. Screen joint, top  ft. MSL or 5.0 ft.  J. Filter pack, bottom  ft. MSL or 15.0 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack material: Manufacturer, product name and mesh and mesh Red Flint #40  J. Filter pack material: Manufacturer, product name and mesh and red ft.  J. Following alded  ft. MSL or 15.0 ft.  J. Filter pack material: Manufacturer, product name and mesh and mesh red ft.  J. Following alded  g. Filtsh threaded PVC schedule 40 ≥ 23  Flush threaded PVC schedule 40 ≥ 23  Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Fl		CHO W	2 Surface souls	Bentonite □ 30
F. Fine sand, top  ft. MSL or 3.0 ft.  G. Filter pack, top  ft. MSL or 4.0 ft.  H. Screen joint, top  ft. MSL or 5.0 ft.  J. Filter pack, bottom  ft. MSL or 15.0 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack material: Manufacturer, product name and mesh and mesh Red Flint #40  J. Filter pack material: Manufacturer, product name and mesh and red ft.  J. Following alded  ft. MSL or 15.0 ft.  J. Filter pack material: Manufacturer, product name and mesh and mesh red ft.  J. Following alded  g. Filtsh threaded PVC schedule 40 ≥ 23  Flush threaded PVC schedule 40 ≥ 23  Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Fl			3. Surface sear.	
F. Fine sand, top  ft. MSL or 3.0 ft.  G. Filter pack, top  ft. MSL or 4.0 ft.  H. Screen joint, top  ft. MSL or 5.0 ft.  J. Filter pack, bottom  ft. MSL or 15.0 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack material: Manufacturer, product name and mesh and mesh Red Flint #40  J. Filter pack material: Manufacturer, product name and mesh and red ft.  J. Following alded  ft. MSL or 15.0 ft.  J. Filter pack material: Manufacturer, product name and mesh and mesh red ft.  J. Following alded  g. Filtsh threaded PVC schedule 40 ≥ 23  Flush threaded PVC schedule 40 ≥ 23  Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Fl	,	⊠ No	₩ \	
F. Fine sand, top  ft. MSL or 3.0 ft.  G. Filter pack, top  ft. MSL or 4.0 ft.  H. Screen joint, top  ft. MSL or 5.0 ft.  J. Filter pack, bottom  ft. MSL or 15.0 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack material: Manufacturer, product name and mesh and mesh Red Flint #40  J. Filter pack material: Manufacturer, product name and mesh and red ft.  J. Following alded  ft. MSL or 15.0 ft.  J. Filter pack material: Manufacturer, product name and mesh and mesh red ft.  J. Following alded  g. Filtsh threaded PVC schedule 40 ≥ 23  Flush threaded PVC schedule 40 ≥ 23  Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Fl		y ⊠ 50	`4. Material betweer	
F. Fine sand, top  ft. MSL or 3.0 ft.  G. Filter pack, top  ft. MSL or 4.0 ft.  H. Screen joint, top  ft. MSL or 5.0 ft.  J. Filter pack, bottom  ft. MSL or 15.0 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack material: Manufacturer, product name and mesh and mesh Red Flint #40  J. Filter pack material: Manufacturer, product name and mesh and red ft.  J. Following alded  ft. MSL or 15.0 ft.  J. Filter pack material: Manufacturer, product name and mesh and mesh red ft.  J. Following alded  g. Filtsh threaded PVC schedule 40 ≥ 23  Flush threaded PVC schedule 40 ≥ 23  Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Fl		er 🗀 4 1		
F. Fine sand, top  ft. MSL or 3.0 ft.  G. Filter pack, top  ft. MSL or 4.0 ft.  H. Screen joint, top  ft. MSL or 5.0 ft.  J. Filter pack, bottom  ft. MSL or 15.0 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack material: Manufacturer, product name and mesh and mesh Red Flint #40  J. Filter pack material: Manufacturer, product name and mesh and red ft.  J. Following alded  ft. MSL or 15.0 ft.  J. Filter pack material: Manufacturer, product name and mesh and mesh red ft.  J. Following alded  g. Filtsh threaded PVC schedule 40 ≥ 23  Flush threaded PVC schedule 40 ≥ 23  Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Fl	Othe	r U≟-   <b>\</b>	<b>──</b>	
F. Fine sand, top  ft. MSL or 3.0 ft.  G. Filter pack, top  ft. MSL or 4.0 ft.  H. Screen joint, top  ft. MSL or 5.0 ft.  J. Filter pack, bottom  ft. MSL or 15.0 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack material: Manufacturer, product name and mesh and mesh Red Flint #40  J. Filter pack material: Manufacturer, product name and mesh and red ft.  J. Following alded  ft. MSL or 15.0 ft.  J. Filter pack material: Manufacturer, product name and mesh and mesh red ft.  J. Following alded  g. Filtsh threaded PVC schedule 40 ≥ 23  Flush threaded PVC schedule 40 ≥ 23  Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Fl	15 Duilling fluid used Water 502 Ai	- MOI	5. Annular space se	
F. Fine sand, top  ft. MSL or 3.0 ft.  G. Filter pack, top  ft. MSL or 4.0 ft.  H. Screen joint, top  ft. MSL or 5.0 ft.  J. Filter pack, bottom  ft. MSL or 15.0 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack material: Manufacturer, product name and mesh and mesh Red Flint #40  J. Filter pack material: Manufacturer, product name and mesh and red ft.  J. Following alded  ft. MSL or 15.0 ft.  J. Filter pack material: Manufacturer, product name and mesh and mesh red ft.  J. Following alded  g. Filtsh threaded PVC schedule 40 ≥ 23  Flush threaded PVC schedule 40 ≥ 23  Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Fl			bLbs/gal n	nud weight. Bentonite-sand slurry   35
F. Fine sand, top  ft. MSL or 3.0 ft.  G. Filter pack, top  ft. MSL or 4.0 ft.  H. Screen joint, top  ft. MSL or 5.0 ft.  J. Filter pack, bottom  ft. MSL or 15.0 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack material: Manufacturer, product name and mesh and mesh Red Flint #40  J. Filter pack material: Manufacturer, product name and mesh and red ft.  J. Following alded  ft. MSL or 15.0 ft.  J. Filter pack material: Manufacturer, product name and mesh and mesh red ft.  J. Following alded  g. Filtsh threaded PVC schedule 40 ≥ 23  Flush threaded PVC schedule 40 ≥ 23  Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Fl	Dinning wind (2003) Non		cLbs/gal n	nud weight Bentonite slurry [ 3 ]
F. Fine sand, top  ft. MSL or 3.0 ft.  G. Filter pack, top  ft. MSL or 4.0 ft.  H. Screen joint, top  ft. MSL or 5.0 ft.  J. Filter pack, bottom  ft. MSL or 15.0 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack material: Manufacturer, product name and mesh and mesh Red Flint #40  J. Filter pack material: Manufacturer, product name and mesh and red ft.  J. Following alded  ft. MSL or 15.0 ft.  J. Filter pack material: Manufacturer, product name and mesh and mesh red ft.  J. Following alded  g. Filtsh threaded PVC schedule 40 ≥ 23  Flush threaded PVC schedule 40 ≥ 23  Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Fl	16. Drilling additives used? ☐ Yes	⊠ No	©% Benton	
F. Fine sand, top  ft. MSL or 3.0 ft.  G. Filter pack, top  ft. MSL or 4.0 ft.  H. Screen joint, top  ft. MSL or 5.0 ft.  J. Filter pack, bottom  ft. MSL or 15.0 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack material: Manufacturer, product name and mesh and mesh Red Flint #40  J. Filter pack material: Manufacturer, product name and mesh and red ft.  J. Following alded  ft. MSL or 15.0 ft.  J. Filter pack material: Manufacturer, product name and mesh and mesh red ft.  J. Following alded  g. Filtsh threaded PVC schedule 40 ≥ 23  Flush threaded PVC schedule 40 ≥ 23  Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Fl	_		f How installed	
F. Fine sand, top  ft. MSL or 3.0 ft.  G. Filter pack, top  ft. MSL or 4.0 ft.  H. Screen joint, top  ft. MSL or 5.0 ft.  J. Filter pack, bottom  ft. MSL or 15.0 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack material: Manufacturer, product name and mesh and mesh Red Flint #40  J. Filter pack material: Manufacturer, product name and mesh and red ft.  J. Following alded  ft. MSL or 15.0 ft.  J. Filter pack material: Manufacturer, product name and mesh and mesh red ft.  J. Following alded  g. Filtsh threaded PVC schedule 40 ≥ 23  Flush threaded PVC schedule 40 ≥ 23  Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Fl			× 110 // 1110 // 1110 // 1110 //	
F. Fine sand, top  ft. MSL or 3.0 ft.  G. Filter pack, top  ft. MSL or 4.0 ft.  H. Screen joint, top  ft. MSL or 5.0 ft.  J. Filter pack, bottom  ft. MSL or 15.0 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack material: Manufacturer, product name and mesh and mesh Red Flint #40  J. Filter pack material: Manufacturer, product name and mesh and red ft.  J. Following alded  ft. MSL or 15.0 ft.  J. Filter pack material: Manufacturer, product name and mesh and mesh red ft.  J. Following alded  g. Filtsh threaded PVC schedule 40 ≥ 23  Flush threaded PVC schedule 40 ≥ 23  Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Fl	17. Source of water (attach analysis):			
F. Fine sand, top  ft. MSL or 3.0 ft.  G. Filter pack, top  ft. MSL or 4.0 ft.  H. Screen joint, top  ft. MSL or 5.0 ft.  J. Filter pack, bottom  ft. MSL or 15.0 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack material: Manufacturer, product name and mesh and mesh Red Flint #40  J. Filter pack material: Manufacturer, product name and mesh and red ft.  J. Following alded  ft. MSL or 15.0 ft.  J. Filter pack material: Manufacturer, product name and mesh and mesh red ft.  J. Following alded  g. Filtsh threaded PVC schedule 40 ≥ 23  Flush threaded PVC schedule 40 ≥ 23  Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Fl			6. Bentonite seal:	<u>-</u>
F. Fine sand, top  ft. MSL or 3.0 ft.  G. Filter pack, top  ft. MSL or 4.0 ft.  H. Screen joint, top  ft. MSL or 5.0 ft.  J. Filter pack, bottom  ft. MSL or 15.0 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack material: Manufacturer, product name and mesh and mesh Red Flint #40  J. Filter pack material: Manufacturer, product name and mesh and red ft.  J. Following alded  ft. MSL or 15.0 ft.  J. Filter pack material: Manufacturer, product name and mesh and mesh red ft.  J. Following alded  g. Filtsh threaded PVC schedule 40 ≥ 23  Flush threaded PVC schedule 40 ≥ 23  Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Fl			b. □ 1/4 in. ☑ 3	
F. Fine sand, top  ft. MSL or 3.0 ft.  G. Filter pack, top  ft. MSL or 4.0 ft.  H. Screen joint, top  ft. MSL or 5.0 ft.  J. Filter pack, bottom  ft. MSL or 15.0 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack, bottom  ft. MSL or 15.5 ft.  J. Filter pack material: Manufacturer, product name and mesh and mesh Red Flint #40  J. Filter pack material: Manufacturer, product name and mesh and red ft.  J. Following alded  ft. MSL or 15.0 ft.  J. Filter pack material: Manufacturer, product name and mesh and mesh red ft.  J. Following alded  g. Filtsh threaded PVC schedule 40 ≥ 23  Flush threaded PVC schedule 40 ≥ 23  Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Flush threaded PVC schedule 40 ≥ 13  I. Well casing: Fl	E. Bentonite seal, top ft. MSL	or1.0 ft. \	<b>⊗</b> / c	
H. Screen joint, top ft. MSL or 5.0 ft.    Screen joint, top ft. MSL or 5.0 ft.	•			· •
H. Screen joint, top ft. MSL or 5.0 ft.    Screen joint, top ft. MSL or 5.0 ft.	F. Fine sand, top ft. MSL	or3.0 ft.	<b>&amp;</b> / / a	
H. Screen joint, top ft. MSL or 5.0 ft.    Screen joint, top ft. MSL or 5.0 ft.			b. Volume added	***************************************
H. Screen joint, top ft. MSL or 5.0 ft. b. Volume added ft³  9. Well casing: Flush threaded PVC schedule 40 2 2 3 Flush threaded PVC schedule 80 2 4 Other    Other    J. Filter pack, bottom ft. MSL or 15.5 ft.    Borehole, bottom ft. MSL or 15.5 ft.    Well casing: Flush threaded PVC schedule 80 2 4 Other    Other    A. Screen Type: Factory cut 1 1 Continuous slot 0 1 1 Continuous slot 0 1 1 Other    D. Hand threaded PVC schedule 40    A. Screen Type: Factory cut 1 1 Continuous slot 0 1 1 Continuous slot 0 1 1 Other    D. Hand threaded PVC schedule 80 2 4 Other    D. Manufacturer Boart Longyear/Northernaire c. Slot size: 0.010 in.    D. Manufacturer Boart Longyear/Northernaire c. Slot size: 0.010 in.    D. M. J.D. well casing 2.38 in.    D. M. J.D. well casing 2.07 in.    Thereby certify that the information on this form is true and correct to the best of my knowledge.    Signature Firm STS Consultants Ltd.    Fax: Fax: Please complex both Forms 4400-113A and 4400-113B and return to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file the control of the server of	G. Filter pack, top ft. MSL	or4.0 ft.	8. Filter pack mater	· •
I. Well bottom ft. MSL or 15.0 ft. 9. Well casing: Flush threaded PVC schedule 40 ≥ 2 3    Flush threaded PVC schedule 80   2 4		50 3	:::1	
I. Well bottom ft. MSL or 15.0 ft. Other D. Flush threaded PVC schedule 80 D. 24  Other D. Filter pack, bottom ft. MSL or 15.5 ft. D. Screen material: PVC Schedule 40  a. Screen Type: Factory cut 11  Continuous slot D. Other D. D. Manufacturer Boart Longyear/Northernaire  c. Slot size: D. D. Other D. D. Well casing D. D. Well casing D. D. Other D. D. Well casing D. D. D. Well casing D. D. Well casing D. D. Well casing D. D. Well casing D. D. D. Well casing D. D. Well casing D. D. Well casing D. D. Well casing D. D. D. Well casing D. D. D. D. D. Well casing D.	H. Screen joint, top ft. MSL	or tt.	36A /	
Other D. Filter pack, bottom ft. MSL or 15.5 ft. 10. Screen material: PVC Schedule 40  a. Screen Type: Factory cut 11 Continuous slot 0 1 Other D. Description of the screen Type: Factory cut 11 Continuous slot 0 1 Other D. Description of the screen Type: Factory cut 11 Continuous slot 0 1 Other D. Description of the screen Type: Factory cut 11 Continuous slot 0 1 Other D. Description of the screen Type: Factory cut 11 Continuous slot 0 1 Other D. Description of the screen Type: Factory cut 11 Continuous slot 0 1 Other D. Description of the screen Type: Factory cut 11 Continuous slot 0 1 Other D. Description of the screen Type: Factory cut 11 Continuous slot 0 1 Other D. Description of the screen Type: Factory cut 11 Continuous slot 0 1 Other D. Description of the screen Type: Factory cut 11 Continuous slot 0 1 Other D. Description of the screen Type: Factory cut 11 Continuous slot 0 1 Other D. Description of the screen Type: Factory cut 11 Continuous slot 0 1 Other D. Description of the screen Type: Factory cut 11 Continuous slot 0 1 Other D. Description Other D. Description of the screen Type: Factory cut 11 Continuous slot 0 1 Other D. Description Other D. Descript	I W-111-44 & MCI	15.0 a	9. Well casing:	
D. Filter pack, bottom	1. Well bottom It. MSL	or		4 P 4
A. Screen Type:    Factory cut     1   1   1   1   1   1   1   1   1	I Filter pack bottom ft MSI	or 15.5 g 【冒	10 Screen material:	
K. Borehole, bottom ft. MSL or15.5 ft	J. Filler pack, bottom It. MSL	01 11.	T-11	
L. Borehole, diameter 8.3 in.  b. Manufacturer Boart Longyear/Northernaire c. Slot size: 0.010 in.  c. Slot size: 0.010 in.  d. Slotted length: 10.0 ft.  N. I.D. well casing 2.07 in.  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: Fax:  Please complete both Forms 4400-113A and 4400-113B and return to the appropriate DNR office and bureau. Completion of these reports 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 the	K Borehole bottom ft MSL	or 15.5 ft.	a. Screen Type.	
L. Borehole, diameter 8.3 in.  b. Manufacturer Boart Longyear/Northernaire c. Slot size: 0.010 in.  c. Slot size: 10.00 ft.  d. Slotted length: 11. Backfill material (below filter pack): None 14 of the pack of my knowledge.  I hereby certify that the information on this form is true and correct to the best of my knowledge.  Firm STS Consultants Ltd.  Tel: Fax:  Please complete both Forms 4400-113A and 4400-113B and return to the appropriate DNR office and bureau. Completion of these reports 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 the	ic. Botonoio, bottom	·· — ·· \		Other 🗆 💆
C. Slot size:  d. Slotted length:  11. Backfill material (below filter pack):  None ≥ 14  Other □  I hereby certify that the information on this form is true and correct to the best of my knowledge.  Firm STS Consultants Ltd.  Fax:  Please complete both Forms 4400-113A and 4400-113B and return to the appropriate DNR office and bureau. Completion of these reports 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 the	L. Borehole, diameter8.3 in.		b. Manufacturer	Boart Longyear/Northernaire
Note the state of the set of my knowledge.    The state of the set of my knowledge of the set of my knowledge of the set of my knowledge.    The state of the set of my knowledge of the set of my knowledge of the set of my knowledge.    The state of the set of my knowledge of the set of my knowledge.    Firm   STS Consultants Ltd.   Televalta of the set of my knowledge of the set of my knowledge.    Firm   STS Consultants Ltd.   Televalta of the set of my knowledge of the set of my knowledge.    Firm   STS Consultants Ltd.   Televalta of the set of my knowledge of the set of my knowledge.    Firm   STS Consultants Ltd.   State of the set of my knowledge of the set of my knowledge.    Firm   STS Consultants Ltd.   State of the set of my knowledge of the set of my knowledge.    Firm   STS Consultants Ltd.   State of the set of my knowledge of the set of my knowledge.    Firm   STS Consultants Ltd.   State of the set of my knowledge of the set of my knowl			c. Slot size:	
No. I.D. well casing 2.07 in.  I hereby certify that the information on this form is true and correct to the best of my knowledge.  Firm STS Consultants Ltd.  Fax:  Please complete both Forms 4400-113A and 4400-113B and return to the appropriate DNR office and bureau. Completion of these reports 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 the	M. O.D. well casing 2.38 in.			
I hereby certify that the information on this form is true and correct to the best of my knowledge.  Signature  Firm STS Consultants Ltd.  Fax:  Please complete both Forms 4400-113A and 4400-113B and return to the appropriate DNR office and bureau. Completion of these reports 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 the	<b>G</b>		11. Backfill material	
Firm STS Consultants Ltd.  Fax: Please complete both Forms 4400-113A and 4400-113B and return to the appropriate DNR office and bureau. Completion of these reports 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 the	N. I.D. well casing 2.07 in.			Other 🗆
Firm STS Consultants Ltd.  Fax: Please complete both Forms 4400-113A and 4400-113B and return to the appropriate DNR office and bureau. Completion of these reports 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 the				
Fax: Please complete both Forms 4400-113A and 4400-113B and return to the appropriate DNR office and bureau. Completion of these reports 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 the				
Please complete both Forms 4400-113A and 4400-113B and return to the appropriate DNR office and bureau. Completion of these reports 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 the	Signature	Fill STS Const	ıltants Ltd.	
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 the	Please complete both Forms 4400 113 A and 4400	-113B and return to the appropriate F	NR office and hureau Completion	
	289, 291, 292, 293, 295, and 299, Wis. Stats., and	ch. NR 141, Wis. Adm. Code. In ac	cordance with chs. 281, 289, 291, 29	92, 293, 295, and 299, Wis. Stats., failure to file the

forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and condut involved. Personnally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should b sent.

Department of Natural Resources.  Route To:	Watershed/Wastewater Remediation/Redevelopmen	Waste Management ☐ Other ☐	MONITORING WELL CONSTRUCTIO Form 4400-113A Rev. 6-97
Facility/Project Name	Local Grid Location of Well		Well Name
Bence Property 87210XA	ft. 🗆 S	ft. W.	MW-3 Wis. Unique Well NdDNR Well Number
Facility License, Permit or Monitoring No.	Grid Origin Location	ong or	PK 659
Facility ID			D . 177 11 7 . 11 1
	St. Plane ft. N, _ Section Location of Waste/Sour	ce	10/07/2002
Type of Well	1/4 of <u>SW</u> 1/4 of Sec	<u>3</u> , T8 N, R. <u>20 □</u> W	Well Installed By: (Person's Name and Fire Paul, Dave, Corey
Well Code 11/mw Distance Well Is From Waste/Source	Location of Well Relative to We	aste/Source Sidegradient	Paul, Dave, Corey
Boundary ft.	d □ Downgradient n □ 1	Not Known	Boart Longyear
A. Protective pipe, top elevation	ft. MSL	1. Cap and lock?	⊠ Yes □ No
B. Well casing, top elevation	ft. MSL	2. Protective cover a. Inside diamete	
C. Land surface elevation	ft. MSL <	b. Length:	1.0 ft.
D. Surface seal, bottom ft. MSI	<u> </u>	c. Material:	Steel ⊠ 0.4
12. USC classification of soil near screen:		d. Additional pro	Other ☐ 🔼  Distriction? ☐ Yes ⊠ No
	W O SP O	a. Haditional pro	otection?
SM□ SC□ ML□ MH□ Cl Bedrock⊠	ип сип Г УШ Г		D
13. Sieve analysis attached? ☐ Yes	⊠ No	J. Surface scar.	Bentonite ☐ 3 0  Concrete ⊠ 0 1  Other □
14. Drilling method used: Rotar	v ⊠50	XXI \	Other
Hollow Stem Aug	er 🗆 4 1	× 1. Material between	
Othe	er 🗆 🚨 📗 👹 🖠	<del></del>	Bentonite □ 3 0 Sand Other ⊠
15. Drilling fluid used: Water □ 0 2 A	57.01	OO4 ·	al: a. Granular Bentonite ⊠ 3 3
Drilling Mud 0 3 Non	e □99		nud weight . Bentonite-sand slurry □ 3 5 nud weight Bentonite slurry □ 3 1
_			nite Bentonite-cement grout   50
16. Drilling additives used? ☐ Yes	⊠ No		volume added for any of the above
Describe		f. How installed	
17. Source of water (attach analysis):			Tremie pumped □ 02 Gravity 図 08
			•
	⊠ No  y ⊠ 5 0  er □ 4 1  er □ □ □  ir ⊠ 0 1  e □ 9 9  ⊠ No  or <u>1.0</u> ft.	b. □1/4 in. ☑3	3/8 in. □ 1/2 in. Bentonite pellets ⊠ 3 2
E. Bentonite seal, top ft. MSL	or1.0 ft. \		Other 🗆
F. Fine sand, top ft. MSL	or 6.5 ft .	/. Fine sand materia	al: Manufacturer, product name and mesh siz Red Flint BB #7
1.1 me sand, top n. MSL	or 6.5 ft.	a b. Volume added	
G. Filter pack, top ft. MSL	or7.5 ft.	8. Filter pack mater	ial: Manufacturer, product name and mesh s
II G	05.6	a	Red Flint #40
H. Screen joint, top ft. MSL	or tt.	b. Volume added 9. Well casing:	Flush threaded PVC schedule $40 \boxtimes 23$
I. Well bottom ft. MSL	or 19.5 ft.	), Well casing.	Flush threaded PVC schedule 80 \( \sigma 24 \)
			Other 🗆
J. Filter pack, bottom ft. MSL	or20.0 ft.	10. Screen material:	
K. Borehole, bottom ft. MSL	or 20.0 ft >	a. Screen Type:	Factory cut ⊠ 1 1 Continuous slot □ 0 1
ii. Botoliole, bottom	vi ——		Other 🗆 💷
L. Borehole, diameter8.3 in.		`	Boart Longyear/Northernaire
M O D		c. Slot size: d. Slotted length	0.010 in. 10.0 ft.
M. O.D. well casing 2.38 in.		(	(below filter pack): None ⊠ 14
N. I.D. well casing 2.07 in.			Other 🗆
I hereby certify that the information on this Signature	Te.		
B. Bu	Firm STS Consu	mants Ltd.	Tel: Fax:
Please complete both Forms 4400-113A and 4400	-113B and return to the appropriate E	ONR office and bureau. Completion	of these reports is required by chs. 160, 281, 283,
20, 4, 4, 4, 4, 2, 4, 2, 4, and 477, 19 15. Stats., and	vii. 1710 1711, 1713. Autil. Couc. Ill act	cordanico wini 0113. 201, 207, 271, 29	2, 293, 295, and 299, Wis. Stats., failure to file the

Please Complete 360th Forms 4400-113A and 4400-113B and return to the appropriate DNR office and bureau. Completion of these reports is required by clis. 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 the forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and condut involved. Personnally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin Department of Natural Resources

# MONITORING WELL DEVELOPMENT Form 4400-113B Rev. 6-97

	I/Wastewater	Waste Management			
	on/Redevelopment	Other 🗌			
Facility/Project Name	County		Well Name		
Menomonee Falls Project		Waukesha		M	W-2
Facility License, Permit or Monitoring Number	County Code 68	Wis. Unique Well Nur	mber	DNR Wel	I Number
	1 00			1	
1. Can this well be purged dry?	⊠ Yes □ No	11. Depth to Water	Before Deve	elopment	After Development
2. Well development method:		(from top of	a.	6.50 ft.	Dry ft.
surged with bailer and bailed	□ 41	well casing)			•
surged with bailer and pumped	□ 61				
surged with block and bailed	□ 42	Date	b. 10/07/	2002	10/07/2002
surged with block and pumped	⊠ 62				
surged with block, bailed, and pumped	□ 70				
compressed air	□ 20	Time	c. 06:0	0 pm	07:00 pm
bailed only					
pumped only	□ 5 1	12. Sediment in well		inches	inches
pumped slowly	□ 50	bottom			
other	_	13. Water clarity	Turbid 🛛 1	0 5	Clear ☐ 20 Turbid ⊠ 25
3. Time spent developing well	60 min.		(Describe) Light Broy	vn	(Describe) Slightly Cloudy
4. Depth of well (from top of well casing)	15.0 ft.				
5. Inside diameter of well	2.06 in.				
6. Volume of water in filter pack and well					***************************************
casing	18.0 gal.				
		Fill in if drilling fluids	were used and w	ell is at soli	d waste facility:
7. Volume of water removed from well	gal.				
		14. Total suspended		mg/l	mg/l
8. Volume of water added (if any)	gal.	solids			,
9. Source of water added		15. COD		mg/l	mg/l
		16. Well developed by:	Person's Name a	nd Firm	
10. Analysis performed on water added?	☐ Yes ☐ No	D. Morr	is		
(If yes, attach results)		Boart Lo	ongyear		
17. Additional comments on development: Pumped dry 3 times.		•			
					10.000
Facility Address or Owner/Responsible Party Address Name:	ess	I hereby certify that the knowledge.			nd correct to the best of my
Firm:		Signature:	Ring	Tu	M
Street:		Print Name: FON	THALPO	KER	
City/State/Zip:		Firm: Boart I	Longyear Con	npany	

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin Department of Natural Resources

# MONITORING WELL DEVELOPMENT Form 4400-113B Rev. 6-97

	d/Wastewate ion/Redevelo		Waste Management L Other	J		
Facility/Project Name		County	Omer 🗀	Well N	ame	
Menomonee Falls Project	:		Waukesha	""		W-3
Facility License, Permit or Monitoring Number		County Code	Wis. Unique Well Nui	l mber	DNR Well	Number
		68				
1. Can this well be purged dry?	☐ Yes	⊠ No	11. Depth to Water	Before	Development	After Development
2.37.11.1			(from top of		0.50 "	10.50
2. Well development method:	_ ,		well casing)	a.	9.50 ft.	13.70 ft.
surged with bailer and bailed	4		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
surged with bailer and pumped	□ 6		Date	b. 1	0/07/2002	10/07/2002
surged with block and bailed	☐ 4:		Date	D. 1	0/0//2002	10/07/2002
surged with block and pumped	⊠ 63				•	
surged with block, bailed, and pumped	□ 70		Т:		05:00 pm	05:44 pm
compressed air			Time	c.	03.00 piii	03.44 pm
bailed only			12. Sediment in well		inches	inches
pumped only	□ 5 i		bottom		inches	inches
pumped slowly		)		Class	□ 10	Clear □ 20
other		_	13. Water clarity	Turbid	⊠ 15	Turbid ⊠ 25
3. Time spent developing well		44 min.		(Describ	•	(Describe)
				Light	Gray	Slightly Cloudy
4. Depth of well (from top of well casing)	20	).0 ft.		***************************************	······	
5. Inside diameter of well	2.	06 in.				
6. Volume of water in filter pack and well						
casing	35	5.0 gal.			· · · · · · · · · · · · · · · · · · ·	
		<b>3</b>	Fill in if drilling fluids	were used	and well is at soli	d waste facility:
7.1/1			t in in it drining halds	were used	and wen is at son	a waste facility.
7. Volume of water removed from well		gal.	14. Total suspended		mg/l	mg/l
9. Volume of water added (if any)		gal	solids		mg/i	mg/i
8. Volume of water added (if any)		gal.				
9. Source of water added			15. COD		mg/l	mg/l
			16. Well developed by:	Person's N	lame and Firm	,
10. Analysis performed on water added?	☐ Yes	□ No				
(If yes, attach results)			D. Morr	IS		
			Boart Lo	ongyear		
17. Additional comments on development:						
•						
Facility Address or Owner/Responsible Party Addr	ess		The street of the street			
,			knowledge.	above into	ormation is true ar	nd correct to the best of my
Name:		<del></del>	knowledge.			
					-5-0	N
Firm:		<del></del>	Signature:		may be	M
			1 Dans	LIV	NOUND	
Street:			Print Name: 7 1010	111/	TUTUTUR	
City/State/Zip:			Firm: Boart I	Longyear	· Company	

Wisconsin Department of Natural Resources STS Project No. 5-87210XA December 17, 2002



# ATTACHMENT B

Laboratory Results of Collected Soil and Groundwater Samples

25 October 2002

Mark Mejac STS Consultants 11425 S. Lake Park Dr. Milwaukee, WI 53224 RE: 87210XA

OCT 28 2002 STS CONSULTANTS, LTD.

Enclosed are the results of analyses for samples received by the laboratory on 10/08/02. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

**Great Lakes Analytical** 

Andrea Stathas

Project Manager

State of Wisconsin Certification Numbers:

Great Lakes Analytical--Oak Creek, WI: 341000330

Great Lakes Analytical--Buffalo Grove, IL: 999917160



Email: info@glalabs.com (414) 570-9460 FAX (414) 570-9461

STS Consultants

11425 S. Lake Park Dr. Milwaukee WI, 53224

Project: 87210XA

Project Number: [none]
Project Manager: Mark Mejac

Reported: 10/25/02 16:27

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-2-0-1'	W210098-01	Soil	10/07/02 00:00	10/08/02 09:50
MW-3-2.5-4.5'	W210098-02	Soil	10/07/02 00:00	10/08/02 09:50
Methanol Blank	W210098-03	MeOH Blank	10/07/02 00:00	10/08/02 09:50

Great Lakes Analytical--Oak Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Email: info@glalabs.com (414) 570-9460 FAX (414) 570-9461

STS Consultants

11425 S. Lake Park Dr. Milwaukee WI, 53224 Project: 87210XA

Project Number: [none]
Project Manager: Mark Mejac

Reported: 10/25/02 16:27

# WDNR Volatile Organic Compounds by Method 8021 Great Lakes Analytical--Oak Creek

	Great	Reporting	<u> </u>						
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-2-0-1' (W210098-01) Soil	Sampled: 10/07/02 00:00	Receive	d: 10/08/0	2 09:50					QC
Benzene	ND		ug/kg dry	50	2100082	10/11/02	10/23/02	EPA 8021B	
Bromobenzene	ND	25.0	**	**	**	**	н .	11	
Bromodichloromethane	ND	25.0	"	tt.	tt	II.	"	u .	
n-Butylbenzene	ND	25.0	11	II	11	11	11	н	
sec-Butylbenzene	ND	25.0	"	ŧi	11	11	11	"	
tert-Butylbenzene	ND	25.0	"	11	11	"	11	11	
Carbon tetrachloride	ND	25.0	11	11	IP	II		**	
Chlorobenzene	ND	25.0	**	11	11	11	11	u	
Chloroethane	ND	25.0	19	11	Ħ	11	te .	11	
Chloroform	ND	25.0	u .	"	11	II	"	11	
Chloromethane	ND	25.0	n	н	II .	11	11	"	
2-Chlorotoluene	ND	25.0	#	"	11	**	11	H .	
4-Chlorotoluene	ND	25.0	11	11	**	11	"	#	
Dibromochloromethane	ND	25.0	11	æ	11	II.		n	
1,2-Dibromo-3-chloropropane	ND	25.0	**	11	"	11	11	II .	
1,2-Dibromoethane	ND	25.0	11	11	II	11	n	H	
1,2-Dichlorobenzene	ND	25.0	**	11	**	u	u	**	
1,3-Dichlorobenzene	ND	25.0	**	"	u	ir .	II	tt.	
1,4-Dichlorobenzene	ND	25.0	u	u	II .	II .	11	ur .	
Dichlorodifluoromethane	ND	25.0	II.		11	11	11	II .	
1,1-Dichloroethane	ND	25.0	11	,,	**	tt.	11	11	
1,2-Dichloroethane	ND	25.0	11	tt.	t <del>t</del>	II .	11	**	
1,1-Dichloroethene	ND	25.0	tr.	II .	11	11	11	1t	
cis-1,2-Dichloroethene	ND	25.0	II.	II .	11	11	,,	II .	
trans-1,2-Dichloroethene	ND	25.0	11	11	11	**	11	11	
1,2-Dichloropropane	ND	25.0	n	FE	U	11	11	**	
1,3-Dichloropropane	ND	25.0	11	u	II .	II	11	11	
2,2-Dichloropropane	ND	25.0	и	n .	п	11	u	n .	
Di-isopropyl ether	ND	25.0	II .	11	31	ţţ.	11	11	
Ethylbenzene	ND	25.0	n	11	II.	tt.	IF	n	
Hexachlorobutadiene	ND	25.0	**	IF	0	II .	11	u	
Isopropylbenzene	ND	25.0	u	11	11	11	u	u	
p-Isopropyltoluene	ND	25.0	II .	1)	11	11	n .	11	
Methylene chloride	ND	100	н	ti	11	It	**		
Methyl tert-butyl ether	ND	25.0	н	u	11	11	"	ıı .	
Naphthalene	ND	25.0	11	11	**	11	u.	11	
n-Propylbenzene	ND	25.0	**	п	11	n	IF.	11	
1,1,2,2-Tetrachloroethane	ND	25.0		11	Ħ	11	n	n	
Tetrachloroethene	133	25.0	u			п	11	u	
Toluene	ND	25.0		**	11	II	**	u ·	
1,2,3-Trichlorobenzene	ND	25.0	"	11	11	31	**	II.	
1,2,3-1 fichiorobenzene	ND	23.0							

Great Lakes Analytical--Oak Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Cendrea Stathas



Email: info@glalabs.com (414) 570-9460 FAX (414) 570-9461

STS Consultants

Project: 87210XA

11425 S. Lake Park Dr. Milwaukee WI, 53224 Project Number: [none]
Project Manager: Mark Mejac

Reported: 10/25/02 16:27

# WDNR Volatile Organic Compounds by Method 8021 Great Lakes Analytical--Oak Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-2-0-1' (W210098-01) Soil	Sampled: 10/07/02 00:00	Receive	d: 10/08/0	2 09:50					QQ
1,2,4-Trichlorobenzene	ND	25.0	ug/kg dry	50	2100082	10/11/02	10/23/02	EPA 8021B	
1,1,1-Trichloroethane	ND	25.0	u	11	II	11	11	11	
1,1,2-Trichloroethane	ND	25.0	11	n n	11	II .		11	
Trichloroethene	ND	25.0	#	II.	**	11	11	tt	
Trichlorofluoromethane	ND	25.0	ø	n	U	11	"	II	
1,2,4-Trimethylbenzene	ND	25.0	ęį.	tr	u	u	u	11	
1,3,5-Trimethylbenzene	ND	25.0	0	n n	tt	n .	11	11	
Vinyl chloride	ND	25.0	U	ŧ	11	"	**	11	
Total Xylenes	ND	25.0	**	11	#1	U	U	u	
Surrogate: 1-Cl-4-FB (ELCD)		96.9 %	80-	120	"	"	"	"	
Surrogate: 1-Cl-4-FB (PID)		96.4 %	80-		"	"	"	"	
MW-3-2.5-4.5' (W210098-02) So	oil Sampled: 10/07/02 00:	00 Rec	eived: 10/0	08/02 09:50	0				QC
Benzene	ND	25.0	ug/kg dry	50	2100082	10/11/02	10/23/02	EPA 8021B	
Bromobenzene	ND	25.0	n	11	II	Ħ	11	II .	
Bromodichloromethane	ND	25.0	n	tt	n	11	11	11	
n-Butylbenzene	ND	25.0	H	If	n	11	**	**	
sec-Butylbenzene	ND	25.0	11	п	#1	II .	n	11	
tert-Butylbenzene	ND	25.0	11	11	11	11	n	n .	
Carbon tetrachloride	ND	25.0	n .	**	п	11	n	II .	
Chlorobenzene	ND	25.0	11	11	п	II .	**	11	
Chloroethane	ND	25.0	ш	11	"	U	17	0	
Chloroform	ND	25.0	n .	11	***	11	ur .	u	
Chloromethane	ND	25.0	II .	11	tr.	11	u ·	II .	
2-Chlorotoluene	ND	25.0	H	**	O O	ti	u	n	
4-Chlorotoluene	ND	25.0	**	**	II.	11	n	11	
Dibromochloromethane	ND	25.0	"	II.	11	tt.	0	11	
1,2-Dibromo-3-chloropropane	ND	25.0	n .	11	19	n .	11	**	
1,2-Dibromoethane	ND	25.0	11	11	11	n .		u	
1,2-Dichlorobenzene	ND	25.0	11	. "	II .	11	II .	n	
1,3-Dichlorobenzene	ND	25.0	11	u	11	11	11	11	
1,4-Dichlorobenzene	ND	25.0	п	U	**	II .	11	11	
Dichlorodifluoromethane	ND	25.0	11	11		#1	u	u ·	
1,1-Dichloroethane	ND	25.0	**	u ·	11	f#	II	II .	
1,2-Dichloroethane	ND	25.0	n	u	n	U	11	11	
I,I-Dichloroethene	ND	25.0	11	**	**	II.	11	**	
cis-1,2-Dichloroethene	ND	25.0	**	#	tr	п	tt	tr.	
rans-1,2-Dichloroethene	ND	25.0	**	**	tr.	11	II.	U	
1,2-Dichloropropane	ND	25.0	II .	u	n .	**	II .	u	
1,3-Dichloropropane	ND	25.0	n .	u	11	u	n .	u	
.,. Liemoropropuno									

Great Lakes Analytical--Oak Creek

2,2-Dichloropropane

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Cendra Starthan

ND

25.0



Email: info@glalabs.com (414) 570-9460 FAX (414) 570-9461

STS Consultants

11425 S. Lake Park Dr. Milwaukee WI, 53224 Project: 87210XA

Project Number: [none]
Project Manager: Mark Mejac

Reported: 10/25/02 16:27

# WDNR Volatile Organic Compounds by Method 8021 Great Lakes Analytical--Oak Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3-2.5-4.5' (W210098-02) Soil	Sampled: 10/07/02	00:00 Rec	eived: 10/0	8/02 09:5	0				QC
Di-isopropyl ether	ND	25.0	ug/kg dry	50	2100082	10/11/02	10/23/02	EPA 8021B	
Ethylbenzene	ND	25.0	11	H	11	li .	11	u	
Hexachlorobutadiene	ND	25.0	11	11	11	II	11	U	
Isopropylbenzene	ND	25.0	11	11	11	II.	u	u	
p-Isopropyltoluene	ND	25.0	11	11	u	Ħ	lt .	"	
Methylene chloride	ND	100	ш	11	II .	<b>51</b>	II	**	
Methyl tert-butyl ether	ND	25.0	11	H	"	11	11	u .	
Naphthalene	ND	25.0	#1	11	11	It	11	u	
n-Propylbenzene	ND	25.0	11	11	11	II	**		
1,1,2,2-Tetrachloroethane	ND	25.0	**	II.	**	II .	tt	11	
Tetrachloroethene	ND	25.0	"	11	***	11	II .	11	
Toluene	ND	25.0	II .	11	"	11	II	tt	
1,2,3-Trichlorobenzene	ND	25.0	u	11	u	11	11	ŧŧ	
1,2,4-Trichlorobenzene	ND	25.0	II .	11	II	11	11	tt .	
1,1,1-Trichlorocthane	ND	25.0	n	Ħ	u	11	11	tt.	
1,1,2-Trichloroethane	ND	25.0	II	u	11	11	11	tt	
Trichloroethene ·	ND	25.0	11	"	11	ıı	, 11	II	
Trichlorofluoromethane	ND	25.0	11	11	11	II	11	II .	
1,2,4-Trimethylbenzene	ND	25.0	11	II .	11	11	11	n .	
1,3,5-Trimethylbenzene	ND	25.0	**	11	11	II	"	п	
Vinyl chloride	ND	25.0	II .	11	· ·	11	II	11	
Total Xylenes	ND	25.0	a	**	11	11	11	11	
Surrogate: 1-Cl-4-FB (ELCD)		86.4 %	80-1	20	"	#	"	"	
Surrogate: 1-Cl-4-FB (PID)		80.8 %	80-1	20	"	"	"	"	

Great Lakes Analytical--Oak Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Email: info@glalabs.com (414) 570-9460 FAX (414) 570-9461

STS Consultants

11425 S. Lake Park Dr. Milwaukee WI, 53224 Project: 87210XA

Project Number: [none]
Project Manager: Mark Mejac

Reported: 10/25/02 16:27

# WDNR Volatile Organic Compounds by Method 8021 (Blanks)

# Great Lakes Analytical--Oak Creek

<u> </u>	Grea	t Lakes A	XII aiy ti	CalOa	K Creek	\			
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Methanol Blank (W210098-03) MeOH Blank	Sampled	l: 10/07/02 0	0:00 Re	ceived: 10	/08/02 09:	50			
Benzene	ND	25.0	ug/l	50	2100083	10/11/02	10/23/02	EPA 8021B	
Bromobenzene	ND	25.0	0	*1	11	u		11	
Bromodichloromethane	ND	25.0	11	u	59	#1	n .	n	
n-Butylbenzene	ND	25.0	0	**	H	11	u	"	
sec-Butylbenzene	ND	25.0	11	11	tt.	11	11	n	
tert-Butylbenzene	ND	25.0		rr	11	II .	"	11	
Carbon tetrachloride	ND	25.0	**	п	tr.	11	"	u	
Chlorobenzene	ND	25.0		**	0	n	"	"	
Chloroethane	ND	25.0	tr	II .	Hr.	10	**	11	
Chloroform	ND	25.0	11	**	11	II .	u	"	
Chloromethane	ND	25.0	t <del>t</del>	II .	11	11	п	u ·	
2-Chlorotoluene	ND	25.0	11	11	11	lt	11	**	
4-Chlorotoluene	ND	25.0	**		**	**	II.		
Dibromochloromethane	ND	25.0	u u	**	u	n	*1	11	
1,2-Dibromo-3-chloropropane	ND	25.0	n	0	11	11	11	11	
1,2-Dibromoethane	ND	25.0	ti.	**	11	**		n	
1,2-Dichlorobenzene	ND	25.0	11	u.	11	п	10	11	
1,3-Dichlorobenzene	ND	25.0	11		11	11		tr	
1,4-Dichlorobenzene	ND	25.0	11	19	"	11	**	11	
Dichlorodifluoromethane	ND	25.0	**		11	п	11	11	
1,1-Dichloroethane	ND	25.0		11	11			п	
· f	ND ND	25.0	,,	ır	11	11	11	11	
1,2-Dichloroethane			11		**			11	
1,1-Dichloroethene	ND	25.0		11	11	"	11	10	
cis-1,2-Dichloroethene	ND	25.0	"	"		"	11	11	
trans-1,2-Dichloroethene	ND	25.0	"	" "	"	"	" "		
1,2-Dichloropropane	ND	25.0			"			"	
1,3-Dichloropropane	ND	25.0				"	11		
2,2-Dichloropropane	ND	25.0	t†	n	19	II	19	11	
Di-isopropyl ether	ND	25.0	II .	11	"	**	It	u .	
Ethylbenzene	30.0	25.0	н	II .	11	II	11	II	
Hexachlorobutadiene	ND	25.0	"	"	11	11	"	11	
sopropylbenzene	ND	25.0	"	11	"	"	n	U	
o-Isopropyltoluene	ND	25.0	11	. "	**	n	**	11	
Methylene chloride	ND	100	n n	11	"	**	11	"	
Methyl tert-butyl ether	ND	10.0	u .	II	H	U	11	II	
Naphthalene	ND	25.0	u	"	tt.	11	11	11	
n-Propylbenzene	ND	25.0	11	U	11	11	11	н	
1,1,2,2-Tetrachloroethane	ND	25.0	U	n	**	ti .	н	II .	
Tetrachloroethene	ND	25.0	n	11	II .	11	u	**	
Toluene	ND	25.0	**	u	n	ш	ii .	II	
1,2,3-Trichlorobenzene	ND	25.0		n .	11	n	**	11	

Great Lakes Analytical--Oak Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Cendra Status



Email: info@glalabs.com (414) 570-9460 FAX (414) 570-9461

STS Consultants

11425 S. Lake Park Dr. Milwaukee WI, 53224 Project: 87210XA

Project Number: [none]
Project Manager: Mark Mejac

Reported: 10/25/02 16:27

# WDNR Volatile Organic Compounds by Method 8021 (Blanks) Great Lakes Analytical--Oak Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Methanol Blank (W210098-03) MeOH Blank	Sample	d: 10/07/02 0	0:00 R	eceived: 10	/08/02 09:	50			
1,2,4-Trichlorobenzene	ND	25.0	ug/l	50	2100083	10/11/02	10/23/02	EPA 8021B	
1,1,1-Trichloroethane	ND	25.0	**	n	31	**	u	II .	
1,1,2-Trichloroethane	ND	25.0	0	11	*11	tt	п	11	
Trichloroethene	ND	25.0	II	II.	n	11	n .	u	
Trichlorofluoromethane	ND	25.0	11	II	11	11	11	u	
1,2,4-Trimethylbenzene	ND	25.0	11	U	11	11	1E	II .	
1,3,5-Trimethylbenzene	ND	25.0	H	ŧI	11	11	II .	u u	
Vinyl chloride	ND	25.0	11	n	11	11	tt.	**	
Total Xylenes	ND	25.0	11	##	tt	u	II	11	
Surrogate: 1-Cl-4-FB (ELCD)		127 %	80-	-120	"	"	"	"	Н
Surrogate: 1-Cl-4-FB (PID)		118 %	80-	-120	"	"	"	"	

Great Lakes Analytical--Oak Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Email: info@glalabs.com (414) 570-9460 FAX (414) 570-9461

STS Consultants

11425 S. Lake Park Dr. Milwaukee WI, 53224 Project: 87210XA

Project Number: [none]
Project Manager: Mark Mejac

Reported: 10/25/02 16:27

# **Percent Solids**

# Great Lakes Analytical--Oak Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-2-0-1' (W210098-01) Soil Sar	npled: 10/07/02 00:00	Received	1: 10/08/0	02 09:50					
% Solids	95.8	0.0100	%	ı	2100074	10/10/02	10/11/02	5035 7.5	
MW-3-2.5-4.5' (W210098-02) Soil	Sampled: 10/07/02 00	:00 Rece	ived: 10/	08/02 09:5	0				
% Solids	79.5	0.0100	%	1	2100074	10/10/02	10/11/02	5035 7.5	

Great Lakes Analytical--Oak Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Email: info@glalabs.com (414) 570-9460 FAX (414) 570-9461

%REC

Limits

**RPD** 

STS Consultants

Analyte

1,4-Dichlorobenzene Dichlorodifluoromethane

1,1-Dichloroethane

1,2-Dichloroethane

1,1-Dichloroethene cis-1,2-Dichloroethene

Isopropylbenzene

p-Isopropyltoluene

Methylene chloride

11425 S. Lake Park Dr. Milwaukee WI, 53224

Project: 87210XA

Project Number: [none] Project Manager: Mark Mejac

Reporting

Limit

Result

ND

ND

ND

ND

ND

ND

ND

ND

25.0

25.0

25.0

25.0

25.0

25.0

25.0

100

Reported: 10/25/02 16:27

RPD

Limit

Notes

# WDNR Volatile Organic Compounds by Method 8021 - Quality Control Great Lakes Analytical--Oak Creek

Units

Spike

Level

Source

Result

%REC

Blank (2100082-BLK1)				Prepared: 10/11/02 Analyzed: 10/15/02
Benzene	ND	25.0 u	ıg/kg wet	
Bromobenzene	ND	25.0		
Bromodichloromethane	ND	25.0	II	
n-Butylbenzene	ND	25.0	ij	
sec-Butylbenzene	ND	25.0	11	
tert-Butylbenzene	ND	25.0	11	
Carbon tetrachloride	ND	25.0	u u	
Chlorobenzene	ND	25.0	n .	
Chloroethane	ND	25.0	"	
Chloroform	ND	25.0	**	
Chloromethane	ND	25.0	"	
2-Chlorotoluene	ND	25.0	· ·	
4-Chlorotoluene ·	ND	25.0		
Dibromochloromethane	ND	25.0	u	
,2-Dibromo-3-chloropropane	ND	25.0	"	
,2-Dibromoethane	ND	25.0	D	
,2-Dichlorobenzene	ND	25.0	11	
,3-Dichlorobenzene	ND	25.0	II.	

trans-1,2-Dichloroethene ND 25.0 1,2-Dichloropropane ND 25.0 1,3-Dichloropropane ND 25.0 ND 25.0 2,2-Dichloropropane ND 25.0 Di-isopropyl ether ND 25.0 Ethylbenzene ND 25.0 Hexachlorobutadiene ND 25.0

Great Lakes Analytical--Oak Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Email: info@glalabs.com (414) 570-9460 FAX (414) 570-9461

STS Consultants

Project: 87210XA

11425 S. Lake Park Dr. Milwaukee WI, 53224

Project Number: [none]
Project Manager: Mark Mejac

Reported: 10/25/02 16:27

# WDNR Volatile Organic Compounds by Method 8021 - Quality Control Great Lakes Analytical--Oak Creek

	D 1	Reporting	77.	Spike	Source	0/777	%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 2100082 - EPA 5030B [MeO]	H]									
Blank (2100082-BLK1)				Prepared:	10/11/02	Analyzed	: 10/15/02			
Methyl tert-butyl ether	ND	25.0	ug/kg wet					•		
Naphthalene	ND	25.0	II.							
n-Propylbenzene	ND	25.0	"							
1,1,2,2-Tetrachloroethane	ND	25.0	n n							
Tetrachloroethene	ND	25.0	11							
Toluene	ND	25.0	"							
1,2,3-Trichlorobenzene	ND	25.0	II .							
1,2,4-Trichlorobenzene	ND	25.0	n							
1,1,1-Trichloroethane	ND	25.0	16							
1,1,2-Trichloroethane	ND	25.0	11							
Trichloroethene	ND	25.0	11							
Trichlorofluoromethane	ND	25.0	n							
1,2,4-Trimethylbenzene .	ND	25.0	**							
1,3,5-Trimethylbenzene	ND	25.0	11							
Vinyl chloride	ND	25.0	ji .							
Гotal Xylenes	ND	25.0	n							
Surrogate: 1-Cl-4-FB (ELCD)	1060		"	1000		106	80-120			
Surrogate: 1-Cl-4-FB (PID)	998		"	1000		99.8	80-120			
LCS (2100082-BS1)				Prepared:	10/11/02	Analyzed	: 10/15/02			
Benzene	1020	25.0	ug/kg wet	1000		102	80-120			
Bromobenzene	1100	25.0	11	1000		110	80-120			
Bromodichloromethane	986	25.0	11	1000		98.6	80-120			
n-Butylbenzene	1070	25.0	ш	1000		107	80-120			
ec-Butylbenzene	1070	25.0	"	1000		107	80-120			
ert-Butylbenzene	1070	25.0	U	1000		107	80-120			
Carbon tetrachloride	1020	25.0	n	1000		102	80-120			
Chlorobenzene	1060	25.0	ij	1000		106	80-120			
Chloroethane	1970	25.0	11	1000		197	80-120			Н
Chloroform	1020	25.0	u	1000		102	80-120			
Chloromethane	1810	25.0	"	1000		181	80-120			Н
-Chlorotoluene	1040	25.0		1000		104	80-120			
I-Chlorotoluene	1110	25.0	**	1000		111	80-120			
Dibromochloromethane	1130	25.0	11	1000		113	80-120			

Great Lakes Analytical--Oak Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Undue Statha



Email: info@glalabs.com (414) 570-9460 FAX (414) 570-9461

STS Consultants

11425 S. Lake Park Dr. Milwaukee WI, 53224

Project: 87210XA

Project Number: [none]
Project Manager: Mark Mejac

Reporting

Reported: 10/25/02 16:27

**RPD** 

# WDNR Volatile Organic Compounds by Method 8021 - Quality Control Great Lakes Analytical--Oak Creek

Spike

Source

%REC

Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 2100082 - EPA 5030B [MeC	OH]									
LCS (2100082-BS1)				Prepared:	10/11/02	Analyzed	: 10/15/02			
1,2-Dibromo-3-chloropropane	1140	25.0	ug/kg wet	1000		114	80-120			
1,2-Dibromoethane	1150	25.0	"	1000		115	80-120			
1,2-Dichlorobenzene	1110	25.0	11	1000		111	80-120			
1,3-Dichlorobenzene	1090	25.0	"	1000		109	80-120			
,4-Dichlorobenzene	1110	25.0	"	1000		111	80-120			
Dichlorodifluoromethane	1340	25.0	11	1000		134	80-120			Н
,1-Dichloroethane	1120	25.0	u	1000		112	80-120			
,2-Dichlorocthane	981	25.0	u	1000		98.1	80-120			
,1-Dichloroethene	1260	25.0	п	1000		126	80-120			Н
ris-1,2-Dichloroethene	1200	25.0		1000		120	80-120			
rans-1,2-Dichloroethene	1210	25.0	**	1000		121	80-120			Н
,2-Dichloropropane	989	25.0	lt.	1000		98.9	80-120			
,3-Dichloropropane	1000	25.0	u	1000		100	80-120			
,2-Dichloropropane	1000	25.0	11	1000		100	80-120			
Di-isopropyl ether	910	25.0	n	1000		91.0	80-120			
thylbenzene	1020	25.0		1000		102	80-120			
<b>Ie</b> xachlorobutadiene	970	25.0	11	1000		97.0	80-120			
sopropylbenzene	1070	25.0	10	1000		107	80-120			
-Isopropyltoluene	1050	25.0	"	1000		105	80-120			
1ethylene chloride	1180	100	u	1000		118	80-120			
Aethyl tert-butyl ether	1050	25.0	п	1000		105	80-120			
laphthalene	1170	25.0	II.	1000		117	80-120			
-Propylbenzene	1110	25.0	II.	1000		111	80-120			
,1,2,2-Tetrachloroethane	998	25.0	II .	1000		99.8	80-120			
etrachloroethene	1040	25.0	11	1000		104	80-120			
oluene	1050	25.0	н	1000		105	80-120			
2,3-Trichlorobenzene	1080	25.0	11	1000		108	80-120			
2,4-Trichlorobenzene	1110	25.0	"	1000		111	80-120			
1,1-Trichloroethane	1020	25.0	"	1000		102	80-120			
1,2-Trichloroethane	953	25.0	u	1000		95.3	80-120			
richloroethene	990	25.0	u	1000		99.0	80-120			

25.0

25.0

25.0

754

1100

1090

1000

1000

1000

Great Lakes Analytical--Oak Creek

Trichlorofluoromethane

1,2,4-Trimethylbenzene

1,3,5-Trimethylbenzene

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

80-120

80-120

80-120

75.4

110

109

Cendra Starthas

L



Email: info@glalabs.com (414) 570-9460 FAX (414) 570-9461

STS Consultants

Project: 87210XA

11425 S. Lake Park Dr. Milwaukee WI, 53224

Project Number: [none]
Project Manager: Mark Mejac

Reported: 10/25/02 16:27

# WDNR Volatile Organic Compounds by Method 8021 - Quality Control Great Lakes Analytical--Oak Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2100082 - EPA 5030B [MeOH]										
LCS (2100082-BS1)				Prepared:	10/11/02	Analyzed	: 10/15/02			
Vinyl chloride	876	25.0	ug/kg wet	1000		87.6	80-120			
Total Xylenes	3280	25.0	"	3000		109	80-120			
Surrogate: 1-Cl-4-FB (ELCD)	954		"	1000		95.4	80-120			
Surrogate: 1-Cl-4-FB (PID)	996		"	1000		99.6	80-120			
LCS Dup (2100082-BSD1)				Prepared:	10/11/02	Analyzed	: 10/15/02			
Benzene	1070	25.0	ug/kg wet	1000		107	80-120	4.78	20	
Bromobenzene	1150	25.0	**	1000		115	80-120	4.44	20	
Bromodichloromethane	1200	25.0	ıı	1000		120	80-120	19.6	20	
n-Butylbenzene	1140	25.0	ø	1000		114	80-120	6.33	20	
sec-Butylbenzene	1120	25.0	11	1000		112	80-120	4.57	20	
tert-Butylbenzene	1120	25.0	II.	1000		112	80-120	4.57	20	
Carbon tetrachloride	1230	25.0	11	1000		123	80-120	18.7	20	Н
Chlorobenzene	1090	25.0	U	1000		109	80-120	2.79	20	
Chloroethane	3360	25.0	11	1000		336	80-120	52.2	20	НН
Chloroform	1240	25.0	ıı	1000		124	80-120	19.5	20	Н
Chloromethane	2940	25.0	11	1000		294	80-120	47.6	20	НН
2-Chlorotoluene	1080	25.0	11	1000		108	80-120	3.77	20	
4-Chlorotoluene	1140	25.0	ı)	1000		114	80-120	2.67	20	
Dibromochloromethane	1360	25.0	11	1000		136	80-120	18.5	20	Н
1,2-Dibromo-3-chloropropane	1370	25.0	ıı	1000		137	80-120	18.3	20	Н
1,2-Dibromoethane	1380	25.0	11	1000		138	80-120	18.2	20	Н
1,2-Dichlorobenzene	1150	25.0	rt .	1000		115	80-120	3.54	20	
1,3-Dichlorobenzene	1140	25.0	II	1000		114	80-120	4.48	20	
1,4-Dichlorobenzene	1150	25.0	**	1000		115	80-120	3.54	20	
Dichlorodifluoromethane	1550	25.0	11	1000		155	80-120	14.5	20	Н
1,1-Dichloroethane	1380	25.0	11	1000		138	80-120	20.8	20	НН
1,2-Dichloroethane	1200	25.0	11	1000		120	80-120	20.1	20	Н
1,1-Dichloroethene	1290	25.0	11	1000		129	80-120	2.35	20	Н
cis-1,2-Dichloroethene	1180	25.0	ıt	1000		118	80-120	1.68	20	
trans-1,2-Dichloroethene	1250	25.0	11	1000		125	80-120	3.25	20	Н
1,2-Dichloropropane	1220	25.0	"	1000		122	80-120	20.9	20	НН
1,3-Dichloropropane	1200	25.0	u	1000		120	80-120	18.2	20	
2,2-Dichloropropane	1210	25.0	II.	1000		121	80-120	19.0	20	Н

Great Lakes Analytical--Oak Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Andrea Stathas, Project Manager

Page 11 of 14



Email: info@glalabs.com (414) 570-9460 FAX (414) 570-9461

STS Consultants

11425 S. Lake Park Dr. Milwaukee WI, 53224 Project: 87210XA

Project Number: [none]
Project Manager: Mark Mejac

Reporting

Reported: 10/25/02 16:27

RPD

%REC

# WDNR Volatile Organic Compounds by Method 8021 - Quality Control Great Lakes Analytical--Oak Creek

Spike

Source

Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 2100082 - EPA 5030B [MeOH]										
LCS Dup (2100082-BSD1)		-		Prepared:	10/11/02	Analyzed	: 10/15/02			
Di-isopropyl ether	926	25.0	ug/kg wet	1000		92.6	80-120	1.74	20	
Ethylbenzene	1050	25.0	11	1000		105	80-120	2.90	20	
Hexachlorobutadiene	1040	25.0	It	1000		104	80-120	6.97	20	
Isopropylbenzene	1120	25.0	"	1000		112	80-120	4.57	20	
p-Isopropyltoluene	1100	25.0	u	1000		110	80-120	4.65	20	
Methylene chloride	1430	100	n	1000		143	80-120	19.2	20	Н
Methyl tert-butyl ether	1110	25.0	**	1000		111	80-120	5.56	20	
Naphthalene	1250	25.0	tt	1000		125	80-120	6.61	20	Н
n-Propylbenzene	1150	25.0	u	1000		115	80-120	3.54	20	
1,1,2,2-Tetrachlorocthane	1210	25.0	n	1000		121	80-120	19.2	20	Н
Tetrachloroethene	1060	25.0	**	1000		106	80-120	1.90	20	
Toluene	1080	25.0	u	1000		108	80-120	2.82	20	
1,2,3-Trichlorobenzene .	1200	25.0	"	1000		120	80-120	10.5	20	
1,2,4-Trichlorobenzene	1200	25.0	ii	1000		120	80-120	7.79	20	
1,1,1-Trichloroethane	1250	25.0	"	1000		125	80-120	20.3	20	НН
1,1,2-Trichloroethane	1140	25.0	11	1000		114	80-120	17.9	20	
Trichloroethene	1030	25.0	**	1000		103	80-120	3.96	20	
Trichlorofluoromethane	959	25.0	n	1000		95.9	80-120	23.9	20	Н
1,2,4-Trimethylbenzene	1150	25.0	u	1000		115	80-120	4.44	20	
1,3,5-Trimethylbenzene	1140	25.0	ű	1000		114	80-120	4.48	20	
Vinyl chloride	822	25.0	"	1000		82.2	80-120	6.36	20	
Total Xylenes	3380	25.0	**	3000		113	80-120	3.00	20	
Surrogate: 1-Cl-4-FB (ELCD)	1120		"	1000		112	80-120			
Surrogate: 1-Cl-4-FB (PID)	1030		"	1000		103	80-120			

Great Lakes Analytical--Oak Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Cendrea Stathas



Email: info@glalabs.com (414) 570-9460 FAX (414) 570-9461

STS Consultants

11425 S. Lake Park Dr. Milwaukee WI, 53224 Project: 87210XA

Project Number: [none]
Project Manager: Mark Mejac

Reported: 10/25/02 16:27

# Percent Solids - Quality Control Great Lakes Analytical--Oak Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2100074 - Percent Solids										
Blank (2100074-BLK1)				Prepared:	10/10/02	Analyzed	: 10/11/02			
% Solids	ND	0.0100	%							
Duplicate (2100074-DUP1)	So	urce: W2100	98-01	Prepared:	10/10/02	Analyzed	: 10/11/02			
% Solids	94.8	0.0100	%		95.8			1.05	20	

Great Lakes Analytical--Oak Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Andrea Stathas, Project Manager

Page 13 of 14



Email: info@glalabs.com (414) 570-9460 FAX (414) 570-9461

**STS** Consultants

11425 S, Lake Park Dr. Milwaukee WI, 53224

Project: 87210XA Project Number: [none] Project Manager: Mark Mejac

Reported: 10/25/02 16:27

#### **Notes and Definitions**

QC The result for one or more quality control measurements associated with this sample did not meet the laboratory and/or source

method acceptance criteria.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

Н

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

L This quality control measurement is below the laboratory established limit.

This quality control measurement is above the laboratory established limit.

Great Lakes Analytical--Oak Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Andrea Stathas, Project Manager

Page 14 of 14



## CHAIN OF CUSTODY REPORT

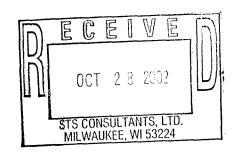
38 3us Pa vay Buffalo Grove, IL 60089-4505 (847) 808-7766 FAX (847) 808-7772

) E yaı loa Oak Creek, WI 53154 (414) 570-9460 FAX (414) 570-9461

<u></u>																						
Client: STS Consultato Ltd.		Bill To:											TA	T: E	ÎD)	4 DA	<u> 47 3</u>	DAY	2 DA	Y 1 DA	Y < 24	HRS.
Address: 1425 W. Lake Park Do	_	Addres											- 1				tical critical		DA	TE RESULT	rs NEEDED	): 
Mil. 117 5321			2						· · · · · · · · · · · · · · · · · · ·				Re	ceive	ed:		Coce	rigerato	Te	тр. Ирог	n Receipi	t:
Report to: M. V. Mar. Phone #: (1)	1250-1030	State &					Ph	one i	# · /	1	······								rery Me	====		
Milwaykee, WI 53224 Report to: Mark Mejac Phone #: (414 E-mail: Fax #: (414	35-4-08-25	Program					I	. 11 -	,	<u>)</u> _		,			) [					nt Ship	ped 🗌 Co	ourier 🗆
Project Name:	/	/ /	/	/ ;	# of L	3ottle	S			Take .	/ /							SAI	MPLE VTROL	/		
Project #/PO#: 87 Zlo X A	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		/-	7 7	7	// /	7	/&\				/ ii	/ay	/37	/s /	/ /	/ ,					
Sampler: Bryan Beraman	/ kg / k		5 / J	<u>3</u> /	/ /	\	/,./.	Ó (5)			ן /נ	/ /					8	\$\\ \text{\te}\text{\texi}\text{\text{\text{\text{\text{\text{\text{\text{\texi}\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\tex	ž /	LABO	RATOR	3 <i>Y</i>
FIELD ID, LOCATION	7 88 / 8	Solife TELL Solife TELL Market Ma Mar	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	]  \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\				*/ <b>3</b> 6	THE STATE OF		/ /		/ /	/ ,	/ ,	Ι,			1		JMBE	
Sampler: Bryan Bergman FIELD ID, LOCATION  1 Mu-2 0-1	1- 3	(	7: XON N																	2.0		1
PID:	10-7-02	5016	1	_	-	_ _	12		-	$\Delta$	_	1.						-	$\overline{\mathcal{W}}$	400	)48-	0
2 MW-3 2.5-4.5'	\		1				2			X												02
3 Mest Black		Ψ		-	+	Ť					1											
PID:	$\downarrow$									$X_{\perp}$												03
4																		, Ì				
PID:				_	$\downarrow \downarrow$		<u> </u>					-					<b> </b>					
5   PID:											ľ			l								
6 Pib.					+		-															
PID:																						
7																						
PID:							_	<u> </u>														
8																			ı			
PID: 9				_	-	_												$\vdash$				
PID:																			i			
10																						
PID:					10																	
REUNQUISHED 10-8-02 A	RECEIVED	Jein		1,6 20/3	4%	RELI	NQUI	SHED	)					f	RECE	IVED	)					
PID:  RELINQUISHED  RELINQUISHED  RELINQUISHED  COMMENTS:	RECEIVED IN	11/1	(	0/8	/4	RELI	NQUI	SHED	)					1	RECE	IVEL	)					
COMMENTS:	min			14	<u></u>	<u> </u>						·		L							: 	
																		PAG	E		OF	1

25 October 2002

Mark Mejac STS Consultants 11425 S. Lake Park Dr. Milwaukee, WI 53224 RE: 87210XA



Enclosed are the results of analyses for samples received by the laboratory on 10/11/02. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

**Great Lakes Analytical** 

Andrea Stathas Project Manager

**State of Wisconsin Certification Numbers:** 

Great Lakes Analytical--Oak Creek, WI: 341000330 Great Lakes Analytical--Buffalo Grove, IL: 999917160



Email: info@glalabs.com (414) 570-9460 FAX (414) 570-9461

STS Consultants

11425 S. Lake Park Dr. Milwaukee WI, 53224 Project: 87210XA

Project Number: [none]
Project Manager: Mark Mejac

Reported: 10/25/02 14:25

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-3	W210148-01	Water	10/11/02 00:00	10/11/02 14:02
MW-I	W210148-02	Water	10/11/02 00:00	10/11/02 14:02
MW-1D	W210148-03	Water	10/11/02 00:00	10/11/02 14:02
MW-2	W210148-04	Water	10/11/02 00:00	10/11/02 14:02
Trip Blank	W210148-05	Water	10/11/02 00:00	10/11/02 14:02

Great Lakes Analytical--Oak Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Email: info@glalabs.com (414) 570-9460 FAX (414) 570-9461

STS Consultants

Project: 87210XA

11425 S. Lake Park Dr. Milwaukee WI, 53224

Project Number: [none]
Project Manager: Mark Mejac

Reported: 10/25/02 14:25

## WDNR Volatile Organic Compounds by Method 8021 Great Lakes Analytical--Oak Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 (W210148-01) Water	Sampled: 10/11/02 00:00	Received:	10/11/02	14:02					QC
Benzene	ND	0.500	ug/l	1	2100132	10/19/02	10/22/02	EPA 8021B	
Bromobenzene	ND	0.500	ü	11	11	H		n	
Bromodichloromethane	ND	0.500	**	II	18	11	u	п	
n-Butylbenzene	ND	0.500	и	11	11	"	"	**	
sec-Butylbenzene	ND	0.500	11	II	It	11	u	n .	
tert-Butylbenzene	ND	0.500	n	11	11	u	0		
Carbon tetrachloride	ND	0.500		11	lt .	#	II .	n .	
Chlorobenzene	ND	0.500	**	lt.	**	II	u .	"	
Chloroethane	ND	0.500	n	u u	11	11	11	D	
Chloroform	0.295	0.140	11	u u	**	n n	u ·	**	
Chloromethane	ND	0.600	n n	II .	11	11	n	и	
2-Chlorotoluene	ND	0.500	18	ıı	11	II	**	11	
4-Chlorotoluene	ND	0.500		11	II	11	It	п	
Dibromochloromethane	ND	0.500	11	ıı	u	II	#	n	
1,2-Dibromo-3-chloropropane	ND	0.390	п	**	n	#	п	п	
1,2-Dibromoethane	ND	0.380	11	u	**	п	H	11	
1,2-Dichlorobenzene	ND	0.500	"	n .	lt .	11	n .	If	
1,3-Dichlorobenzene	ND	0.500	n	11	19	"	11	ii .	
1,4-Dichlorobenzene	ND	0.500	"	n	11	п		a a	
Dichlorodifluoromethane	ND	0.500	"	11	11	11	II	II.	
1,1-Dichloroethane	ND	0.500	11			11	**	11	
1.2-Dichloroethane	ND	0.500	u	**	11	11	IF	tt.	
1,1-Dichloroethene	ND	0.500	H	lf.	**	11	n	н	
cis-1,2-Dichloroethene	25.3	0.500	и	ii .	"	II.	11	u	
trans-1,2-Dichloroethene	23.3 ND	0.500	"	11	11	1)	11	II .	
1,2-Dichloropropane	ND	0.500	"		"	11	11	11	
1,3-Dichloropropane	ND	0.500		**	11	11	tr.	11	
2,2-Dichloropropane	ND	0.500	11	o o	**	tt.		11	
	ND ND	5.00		11	**	ш	11	ri .	
Di-isopropyl ether	ND ND	0.500	**	п	.,	"	II.	II	
Ethylbenzene	ND ND	5.00		11	п	11	11		
Hexachlorobutadiene	ND ND	0.500	14	11	,,	11	II	II	
Isopropylbenzene			"	*)	ii	н	11	"	
p-Isopropyltoluene	ND ND	0.500		u		,,			
Methylene chloride	ND	0.530		"	"	" "	"		
Methyl tert-butyl ether	1.37	0.500	19	" U		" "	"	 II	
Naphthalene	ND	2.00	"	"	"	"	**		
n-Propylbenzene	ND	0.500	"	"	"	11	"	"	
1,1,2,2-Tetrachloroethane	ND	0.350			"	"			
Tetrachloroethene	3660	125	11	250	"	"	10/23/02	"	
Toluene	ND	0.500		1	"		10/22/02	"	
1,2,3-Trichlorobenzene	ND	2.00	**	11	17	59		"	

Great Lakes Analytical--Oak Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

andrea Stathas



Email: info@glalabs.com (414) 570-9460 FAX (414) 570-9461

STS Consultants

Project: 87210XA

11425 S. Lake Park Dr. Milwaukee WI, 53224 Project Number: [none]
Project Manager: Mark Mejac

Reported: 10/25/02 14:25

# WDNR Volatile Organic Compounds by Method 8021 Great Lakes Analytical—Oak Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
MW-3 (W210148-01) Water	Sampled: 10/11/02 00:00	Received:	10/11/02	14:02					Q
1,2,4-Trichlorobenzene	ND	2.00	ug/l	ı	2100132	10/19/02	10/22/02	EPA 8021B	
1,1,1-Trichloroethane	1.04	0.500		tt.	0	II.		II	
1,1,2-Trichloroethane	ND	0.160	**	п	11	II .	11	11	
<b>Frichloroethene</b>	40.2	0.500	**	11	**	11	11	u	
<b>Frichlorofluoromethane</b>	ND	0.500	"	II.	11	lt .	11	II.	
1,2,4-Trimethylbenzene	ND	1.00	11	11	11	II .	11	11	
1,3,5-Trimethylbenzene	ND	1.00	n .	H	11	Ħ	**	**	
Vinyl chloride	ND	0.170	**	u .	11	u	u	n	
Γotal Xylenes	ND	0.500	u	II	11	н	U	"	
Surrogate: 1-Cl-4-FB (ELCD)		127 %	80-	 120	"	"	"	"	Н
Surrogate: 1-Cl-4-FB (PID)		94.7 %	80-		"	"	"	"	••
MW-1 (W210148-02) Water	Sampled: 10/11/02 00:00	Received:	10/11/02	14:02					Q
Benzene	ND	0.500	ug/l	1	2100132	10/19/02	10/22/02	EPA 8021B	
Bromobenzene	ND	0.500	n	11	u	II.	n	n n	
Bromodichloromethane	ND	0.500	u	11	**	II .	*1		
n-Butylbenzene	ND	0.500	11			**	**	11	
ec-Butylbenzene	ND	0.500	17	II	II .	"	u	II .	
ert-Butylbenzene	ND	0.500	•	11	31	II .	II	**	
Carbon tetrachloride	ND	0.500	11	11	18	11	**	ti .	
Chlorobenzene	ND	0.500	11	ıı	u	n.	u ·	tr.	
Chloroethane	ND	0.500	u	II		u	u	n	
Chloroform	ND	0.140		11	n.	u u	н	11	
Chloromethane	ND	0.600	29	n	11	**	n	77	
-Chlorotoluene	ND	0.500	**	п	u	II .	II	II.	
-Chlorotoluene	ND	0.500	u	11	11	n .	11	п	
Dibromochloromethane	ND	0.500	n	**	**	H	11	11	
,2-Dibromo-3-chloropropane	ND	0.390	11	u ·	Ħ	#	II.	11	
,2-Dibromoethane	ND	0.380	II.	п	п	II	u	II .	
,2-Dichlorobenzene	ND	0.500	11	11	11	11	11	u	
,3-Dichlorobenzene	ND	0.500	11	**	11	#1	**	11	
,4-Dichlorobenzene	ND	0.500	**	II	n	u .	"		
Dichlorodifluoromethane	ND	0.500	ıı .	11	II .	tt.		II.	
,1-Dichloroethane	ND	0.500	11	11	11	ш	11	u	
,2-Dichloroethane	ND	0.500	11	**	11	11	11	п	
,1-Dichloroethene	ND	0.500	17	II .	11	ti	"	"	
is-1,2-Dichloroethene	1.16	0.500	u	u	ıı	tt	u	"	
rans-1,2-Dichloroethene	1.16 ND	0.500	ш	11	11	u	u		
,2-Dichloropropane	ND ND	0.500	11	*1	11	11	11	u	
,3-Dichloropropane	ND ND	0.500	;;	tt	**	11	**	11	
	1813	17. 7171							

Great Lakes Analytical--Oak Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Cendrea Starthan



Email: info@glalabs.com (414) 570-9460 FAX (414) 570-9461

STS Consultants

11425 S. Lake Park Dr. Milwaukee WI, 53224 Project: 87210XA

Project Number: [none]
Project Manager: Mark Mejac

Reported: 10/25/02 14:25

## WDNR Volatile Organic Compounds by Method 8021 Great Lakes Analytical--Oak Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (W210148-02) Water	Sampled: 10/11/02 00:00	Received:	10/11/02 1	4:02					QC
Di-isopropyl ether	ND	5.00	ug/l	ı	2100132	10/19/02	10/22/02	EPA 8021B	
Ethylbenzene	ND	0.500	11	u	**	11	**	**	
Hexachlorobutadiene	ND	5.00	II	n	11	11	u .	11	
Isopropylbenzene	ND	0.500	11	u	ti.	11	"	11	
p-Isopropyltoluene	ND	0.500	II .	11	II	II	II.	II.	
Methylene chloride	ND	0.530	11	"	11	11	11	11	
Methyl tert-butyl ether	ND	0.500	II .	11	II	U .	u .	"	
Naphthalene	ND	2.00	11		17	11	11	**	
n-Propylbenzene	ND	0.500	u u	11	н	u	11	u u	
1,1,2,2-Tetrachloroethane	ND	0.350	n	lt .	18	11	"	n n	
Tetrachloroethene	124	5.00	tr.	10	**	11	10/23/02	**	
Toluene	ND	0.500		1	11	II	10/22/02	II .	
1,2,3-Trichlorobenzene	ND	2.00	10	u	11	11	11	11	
1,2,4-Trichlorobenzene	ND	2.00	**	11	tr.	11	11	n n	
1,1,1-Trichloroethane	ND	0.500	"	11	11	II .	II.	II .	
1,1,2-Trichloroethane	ND	0.160	19	II .	**	11	ш	n	
<b>Frichloroethene</b>	8.01	0.500	11	17	II .	11	11	**	
Frichlorofluoromethane	ND	0.500	11	•	II .	II.	H	II .	
1,2,4-Trimethylbenzene	ND	1.00	19	II .		II .		11	
1,3,5-Trimethylbenzene	ND	1.00	II .	#	u	u	11	tt	
Vinyl chloride	ND	0.170	11	tt.	11	II	н	п	
Γotal Xylenes	ND	0.500	11	II .	"	11	II	11	
Surrogate: 1-Cl-4-FB (ELCD)		127 %	80-12	20	"	"	"	" H	[
Surrogate: 1-Cl-4-FB (PID)		98.4 %	80-12	20	"	"	"	"	

Great Lakes Analytical--Oak Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Email: info@glalabs.com (414) 570-9460 FAX (414) 570-9461

STS Consultants

11425 S. Lake Park Dr. Milwaukee WI, 53224 Project: 87210XA

Project Number: [none]
Project Manager: Mark Mejac

Reported: 10/25/02 14:25

## WDNR Volatile Organic Compounds by Method 8021 Great Lakes Analytical--Oak Creek

		Reporting	T T '-	D'L-t'	D		A	N.C. d. T.	37.
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1D (W210148-03) Water	Sampled: 10/11/02 00:00	Received	: 10/11/02	2 14:02					QC
Benzene	ND	0.500	ug/l	l	2100132	10/19/02	10/22/02	EPA 8021B	
Bromobenzene	ND	0.500	n	18	11	II.		11	
Bromodichloromethane	ND	0.500	II .	11	11	II.	II .	u .	
n-Butylbenzene	ND	0.500	**	11	11	n	11	н	
sec-Butylbenzene	ND	0.500	"	II	11	11	11	II .	
tert-Butylbenzene	ND	0.500	u	11	II	"	11	**	
Carbon tetrachloride	ND	0.500	11	н	11	**	Ħ	n	
Chlorobenzene	ND	0.500	n	"	**	**	.,	n .	
Chloroethane	ND	0.500	**	11	H	II .	U	II.	
Chloroform	ND	0.140	11	II.	**	II	u	п	
Chloromethane	ND	0.600	11	u	II .	11	п	u ·	
2-Chlorotoluene	ND	0.500	n	r+	"	11	"	u	
4-Chlorotoluene	ND	0.500	"	11	11	11	11	It	
Dibromochloromethane	ND	0.500	11	11	II .	u	11	11	
1,2-Dibromo-3-chloropropane	ND	0.390	11	11	11	11	11	II	
1,2-Dibromoethane	ND	0.380	u	"	D	II	11	11	
1,2-Dichlorobenzene	ND	0.500	II .	u u	II	11	11	, <b>ii</b>	
1,3-Dichlorobenzene	ND	0.500	n	"	11	11	11	11	
1,4-Dichlorobenzene	ND	0.500	n	"	11	11	**	11	
Dichlorodifluoromethane	ND	0.500	**	"	99	W	· ·	tt.	
1,1-Dichloroethane	ND	0.500	**	11	u	II.	II .	II .	
1,2-Dichloroethane	ND	0.500	u	11	11	u	n .	II .	
1,1-Dichloroethene	ND	0.500	u .	n .	n	II .	11	11	
cis-1,2-Dichloroethene	1.47	0.500	n .	u	11	11	ti	н	
trans-1,2-Dichloroethene	ND	0.500	**	n	11	"	11	"	
1,2-Dichloropropane	ND	0.500	0	11	**	**	**	u .	
1,3-Dichloropropane	ND	0.500	**	11	11	tt.	e	n	
2,2-Dichloropropane	ND	0.500	"	11		u .	11	II	
Di-isopropyl ether	ND	5.00	**	11	18	II.	п	II.	
Ethylbenzene	ND	0.500	n .	11	11	II .	II .	n .	
Hexachlorobutadiene	ND	5.00	II.	**	If	U	It	u ·	
(sopropylbenzene	ND	0.500	п	ч	It	11	u	11	
o-Isopropyltoluene	ND	0.500	11	u	11	11	11	11	
Methylene chloride	ND	0.530	11	н	11	11	**	u	
Methyl tert-butyl ether	ND	0.500	11	n	11	11	**	**	
Naphthalene	ND	2.00	11	n	11	tr.	**	u	
1-Propylbenzene	ND	0.500	u	11	п	11	n .	u	
1,1,2,2-Tetrachloroethane	ND	0.350	"		11	II	II	rr .	
Fetrachloroethene	104	5.00		10	II .	II	10/23/02	11	
Foluene	ND	0.500	"	1	u	11	10/22/02	II .	
1,2,3-Trichlorobenzene	ND	2.00			и	II .	11	II.	

Great Lakes Analytical--Oak Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Centres Startus



Email: info@glalabs.com (414) 570-9460 FAX (414) 570-9461

STS Consultants

11425 S. Lake Park Dr. Milwaukee WI, 53224 Project: 87210XA

Project Number: [none]
Project Manager: Mark Mejac

Reported: 10/25/02 14:25

# WDNR Volatile Organic Compounds by Method 8021 Great Lakes Analytical--Oak Creek

		Reporting			k Creek				<del>, , , , , , , , , , , , , , , , , , , </del>
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1D (W210148-03) Water	Sampled: 10/11/02 00:00	Received	: 10/11/0	2 14:02					QO
1,2,4-Trichlorobenzene	ND	2.00	ug/l	1	2100132	10/19/02	10/22/02	EPA 8021B	
1,1,1-Trichloroethane	ND	0.500	11	11	11	**	u ,	11	
1,1,2-Trichloroethane	ND	0.160	11	11	18	0	"	"	
Trichloroethene	6.08	0.500	17	11	11	11	"	"	
Trichlorofluoromethane	ND	0.500	11	u	11	II	"	"	
1,2,4-Trimethylbenzene	ND	1.00	17	11	**	ti .		"	
1,3,5-Trimethylbenzene	ND	1.00	n	n n	II.	II	59	U	
Vinyl chloride	ND	0.170	11	11	11	II	11	II .	
Total Xylenes	ND	0.500	"	It	11	tt.	59	u .	
Surrogate: 1-Cl-4-FB (ELCD)	* *** ** *** *** *** *** *** *** *** *	112%	80-	120	"	"	11	"	
Surrogate: 1-Cl-4-FB (PID)		86.2 %	80-	120	"	"	"	"	
MW-2 (W210148-04) Water S	Sampled: 10/11/02 00:00 I	Received:	10/11/02	14:02					QC
Benzene	ND	0.500	ug/l	1	2100132	10/19/02	10/22/02	EPA 8021B	
Bromobenzene	ND	0.500	11	11	11	II	11	11	
Bromodichloromethane	ND	0.500	It	57	11	n	tt	п	
n-Butylbenzene	ND	0.500	n		IF	11	н	11	
sec-Butylbenzene	ND	0.500	17	11	II .	II .	**	11	
tert-Butylbenzene	ND	0.500	II.	11	11	II	tt.	Ħ	
Carbon tetrachloride	ND	0.500	11	a a	TP.	11	If	н	
Chlorobenzene	ND	0.500	18	#1	II .	II .	"	**	
Chloroethane	ND	0.500	п	u u	11	II .	10	H	
Chloroform	0.208	0.140	11	u	tt.	11	11	п	
Chloromethane	ND	0.600	11	II .	п	11	11	n .	
2-Chlorotoluene	ND	0.500	11	**	11	ıı	**	Ħ	
1-Chlorotoluene	ND	0.500	18	11		n	tr .	H .	
Dibromochloromethane	ND	0.500	11	11	n n	11	11	n	
1,2-Dibromo-3-chloropropane	ND	0.390	**	u	**	II .	11	31	
1,2-Dibromoethane	ND	0.380	#	11	11	11	tr.	tt.	
1,2-Dichlorobenzene	ND	0.500	n	TT .	11	ıı	11	п	
,3-Dichlorobenzene	ND	0.500	11	IF	11	II	11	ŧŧ	
1,4-Dichlorobenzene	ND	0.500	ii.	11	n .	11	11	II	
Dichlorodifluoromethane	ND	0.500	n	"	"	II.	u	II .	
1,1-Dichloroethane	ND	0.500	11	n	u .	11	11	11	
1,2-Dichloroethane	ND	0.500	II.	17	11	**	11	11	
1,1-Dichloroethene	1.22	0.500	11	ır	10	U	II	11	
cis-1,2-Dichloroethene	37.8	0.500	u	11	II	· ·	11	**	
rans-1,2-Dichloroethene	1.08	0.500	ıı	11	10	11	<b>FI</b>	tt.	
,2-Dichloropropane	ND	0.500	11	19	n	o o	11	II .	
,3-Dichloropropane	ND	0.500	11	II .	**	O C	н	If	
2,2-Dichloropropane	ND	0.500	11	n	II.	O .	11	11	

Great Lakes Analytical--Oak Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Andrea Stathas, Project Manager

Page 6 of 17



Email: info@glalabs.com (414) 570-9460 FAX (414) 570-9461

STS Consultants

11425 S. Lake Park Dr. Milwaukee WI, 53224

Project: 87210XA

Project Number: [none]

Project Manager: Mark Mejac

Reported: 10/25/02 14:25

## WDNR Volatile Organic Compounds by Method 8021

## Great Lakes Analytical--Oak Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-2 (W210148-04) Water	Sampled: 10/11/02 00:00	Received:	10/11/02	14:02					Qo
Di-isopropyl ether	ND	5.00	ug/l	1	2100132	10/19/02	10/22/02	EPA 8021B	
Ethylbenzene	ND	0.500	"	u	**	tř	" .	II .	
Hexachlorobutadiene	ND	5.00	"	II .	#	U	H	п	
Isopropylbenzene	ND	0.500	11	n	11	81	U	11	
p-Isopropyltoluene	ND	0.500	**	11	11	"	II.	n	
Methylene chloride	ND	0.530	"	u	11	11	11	11	
Methyl tert-butyl ether	1.52	0.500	11	II .	11	II	11	u .	
Naphthalene	ND	2.00	11	n	<b>69</b>	11	tt	II	
n-Propylbenzene	ND	0.500	**	n	It	11	**	II	
1,1,2,2-Tetrachloroethane	ND	0.350	1f	n	11	11	u	11	
Tetrachloroethene	1990	50.0	u	100	II	u u	10/23/02	11	
Toluene	ND	0.500		1	II	#	10/22/02	"	
1,2,3-Trichlorobenzene	ND	2.00	n	II .	11	11	n	11	
1,2,4-Trichlorobenzene	ND	2.00	11	II .	#1	II	**	U	
1,1,1-Trichloroethane	0.728	0.500	11	n .	**	II	11	O C	
1,1,2-Trichloroethane	ND	0.160	11	n	n	n	II.	a a	
Trichloroethene	132	50.0	H.	100	11	ij.	10/23/02	u	
Trichlorofluoromethane	ND	0.500	u	l	ır	11	10/22/02	11	
1,2,4-Trimethylbenzene	ND	1.00	n	ts	11	**	II	п	
1,3,5-Trimethylbenzene	ND	1.00	n	"	11	u	II	n	
Vinyl chloride	ND	0.170	"	· ·	11	u u	"	11	
Total Xylenes	ND	0.500	"	II	11	11	11	II	
Surrogate: 1-Cl-4-FB (ELCD)		135 %	80-	120	"	"	"	"	Н
Surrogate: 1-Cl-4-FB (PID)		89.9 %	80-	120	"	"	"	"	

Great Lakes Analytical--Oak Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Cendrea Startian



Email: info@glalabs.com (414) 570-9460 FAX (414) 570-9461

STS Consultants

11425 S. Lake Park Dr.

Milwaukee WI, 53224

Project: 87210XA

Project Number: [none] Project Manager: Mark Mejac

Reported: 10/25/02 14:25

## WDNR Volatile Organic Compounds by Method 8021 (Blanks)

## Great Lakes Analytical--Oak Creek

	-	Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Trip Blank (W210148-05) Water	Sampled: 10/11/02 00	:00 Receiv	ved: 10/1	1/02 14:02					Q
Benzene	ND	0.500	ug/l	l	2100132	10/19/02	10/22/02	EPA 8021B	
Bromobenzene	ND	0.500	Ħ	"	18	tt.	"	II .	
Bromodichloromethane	ND	0.500	"	"	11	II .	"	II	
n-Butylbenzene	ND	0.500	H	u	11	11	**	"	
sec-Butylbenzene	ND	0.500	tr .		"	11	11	II.	
tert-Butylbenzene	ND	0.500	11	11	11	II .	n .	n	
Carbon tetrachloride	ND	0.500	18		11	n	11	**	
Chlorobenzene	ND	0.500	II .	11	u	II .	u	II	
Chloroethane	ND	0.500	U	11	er e	11	**	11	
Chloroform	ND	0.140	11	n	11	n	19	u	
Chloromethane	ND	0.600	11	11	п	II.	11	н	
2-Chlorotoluene	ND	0.500	11	u	11	II .	n	n	
4-Chlorotoluene	ND	0.500	19	n	11	11	11	**	
Dibromochloromethane	ND	0.500	II.	11		11	**	**	
1,2-Dibromo-3-chloropropane	ND	0.390	n .	19	u	U	tr	II	
1,2-Dibromoethane	ND	0.380	11	11	n	п	u	II .	
1,2-Dichlorobenzene	ND	0.500	н		<b>11</b>	u	п	n	
1,3-Dichlorobenzene	ND	0.500	11	u	tt.	11	п	11	
1,4-Dichlorobenzene	ND	0.500	u	#1		.,	11	11	
Dichlorodifluoromethane	ND	0.500	"	u	11	tt.	10	II.	
1,1-Dichloroethane	ND	0.500	**		"	II.	It	11	
1,2-Dichloroethane	ND	0.500	"	**	**	1)	ıı .	11	
1,1-Dichloroethene	ND	0.500		11	(r	11	11	11	
cis-1,2-Dichloroethene	ND	0.500	11	11		"	11	**	
trans-1,2-Dichloroethene	ND ND	0.500	**		,,	tt.	11	"	
	ND ND	0.500	16	u .	11	16			
1,2-Dichloropropane			11					11	
1,3-Dichloropropane	ND	0.500		16	.,		" "	 D	
2,2-Dichloropropane	ND	0.500		u u		"	" II		
Di-isopropyl ether	ND	5.00	"	,,	**	"	"	"	
Ethylbenzene	ND	0.500		"	" Ir	"	" II	"	
Hexachlorobutadiene	ND	5.00							
sopropylbenzene	ND	0.500	**	**	"	11	н	11	
o-Isopropyltoluene	ND	0.500	11	11	11	11	"	11	
Methylene chloride	ND	0.530	"	f#	"	11	"	II.	
Methyl tert-butyl ether	ND	0.500	**	"	II	11	"	11	
Naphthalene	ND	2.00	11	II	11	n	II	11	
n-Propylbenzene	ND	0.500	11	II .	11	11	##	Ħ	
,1,2,2-Tetrachloroethane	ND	0.350	u	11	TI .	It	11	"	
Tetrachloroethene	ND	0.500	11	11	11	IT	11	II .	
<b>Folue</b> ne	ND	0.500	U	10	II.	11	"	11	
,2,3-Trichlorobenzene	ND	2.00	**	11	11	11	11	II .	

Great Lakes Analytical--Oak Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Andrea Stathas, Project Manager

Page 8 of 17



Email: info@glalabs.com (414) 570-9460 FAX (414) 570-9461

STS Consultants

Project: 87210XA

11425 S. Lake Park Dr. Milwaukee WI, 53224

Project Number: [none]
Project Manager: Mark Mejac

Reported: 10/25/02 14:25

## WDNR Volatile Organic Compounds by Method 8021 (Blanks)

## Great Lakes Analytical--Oak Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Trip Blank (W210148-05) Water	Sampled: 10/11/02 00	:00 Recei	ved: 10/1	1/02 14:02					QC
1,2,4-Trichlorobenzene	ND	2.00	ug/l	1	2100132	10/19/02	10/22/02	EPA 8021B	
1,1,1-Trichloroethane	ND	0.500	11	11	II	11		11	
1,1,2-Trichloroethane	ND	0.160	**	n	31	Ħ	11	**	
Trichloroethene	ND	0.500	II.	11	**	II	11	II	
Trichlorofluoromethane	ND	0.500	11	n	11	11	**	11	
1,2,4-Trimethylbenzene	ND	1.00	**	III	"	ti .	II	tt.	
1,3,5-Trimethylbenzene	ND	1.00	"	n	Œ	tr.	11	II.	
Vinyl chloride	ND	0.170	**	11	n	11	*1	11	
Total Xylenes	ND	0.500		"	11	"	tt.	tt	
Surrogate: 1-Cl-4-FB (ELCD)		119 %	80-	120	11	"	11	"	
Surrogate: 1-Cl-4-FB (PID)		94.8 %	80-	120	"	"	"	"	

Great Lakes Analytical--Oak Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Email: info@glalabs.com (414) 570-9460 FAX (414) 570-9461

STS Consultants

Project: 87210XA

11425 S. Lake Park Dr. Milwaukee WI, 53224 Project Number: [none]
Project Manager: Mark Mejac

Reported: 10/25/02 14:25

## WDNR Volatile Organic Compounds by Method 8021 - Quality Control Great Lakes Analytical--Oak Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2100132 - EPA 5030B (P/T)										
Blank (2100132-BLK1)				Prepared:	10/19/02	Analyzed	: 10/21/02			
Benzene	ND	0.500	ug/l	1-1,-						
Bromobenzene	ND	0.500	11							
Bromodichloromethane	ND	0.500	11							
n-Butylbenzene	ND	0.500	11							
sec-Butylbenzene	ND	0.500	u .							
tert-Butylbenzene	ND	0.500	11							
Carbon tetrachloride	ND	0.500	Tr.							
Chlorobenzene	ND	0.500	н							
Chloroethane	ND	0.500	11							
Chloroform	ND	0.140	tr.							
Chloromethane	ND	0.600	11							
2-Chlorotoluene	ND	0.500	11							
4-Chlorotoluene	ND	0.500	п							
Dibromochloromethane	ND	0.500	n							
1,2-Dibromo-3-chloropropane	ND	0.390	**							
1,2-Dibromoethane	ND	0.380	"							
1,2-Dichlorobenzene	ND	0.500	"							
1,3-Dichlorobenzene	ND	0.500	"							
1,4-Dichlorobenzene	ND	0.500	"							
Dichlorodifluoromethane	ND	0.500	**							
1,1-Dichloroethane	ND	0.500	tr.							
1,2-Dichloroethane	ND	0.500								
1,1-Dichloroethene	ND	0.500	10							
cis-1,2-Dichloroethene	ND	0.500	"							
trans-1,2-Dichloroethene	ND	0.500	**							
1,2-Dichloropropane	ND	0.500	18							
1,3-Dichloropropane	ND	0.500	11							
2,2-Dichloropropane	ND	0.500	**							
Di-isopropyl ether	ND	5.00								
Ethylbenzene	ND	0.500	11							
Hexachlorobutadiene	ND	5.00	**							
Isopropyibenzene	ND	0.500	ır							
p-Isopropyltoluene	ND	0.500	n							
Methylene chloride	ND	0.530	11							

Great Lakes Analytical--Oak Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Centrea Stathan



Email: info@glalabs.com (414) 570-9460 FAX (414) 570-9461

STS Consultants 11425 S. Lake Park Dr. Milwaukee WI, 53224 Project: 87210XA

Project Number: [none]
Project Manager: Mark Mejac

Reporting

Reported: 10/25/02 14:25

RPD-

%REC

## WDNR Volatile Organic Compounds by Method 8021 - Quality Control Great Lakes Analytical--Oak Creek

Spike

Source

Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 2100132 - EPA 5030B (P/T)		****								
Blank (2100132-BLK1)				Prepared:	10/19/02	Analyzed	: 10/21/02			
Methyl tert-butyl ether	ND	0.500	ug/l							
Naphthalene	ND	2.00	**							
n-Propylbenzene	ND	0.500	"							
1,1,2,2-Tetrachloroethane	ND	0.350	11							
Tetrachloroethene	ND	0.500	n							
Toluene	ND	0.500								
1,2,3-Trichlorobenzene	ND	2.00	11							
1,2,4-Trichlorobenzene	ND	2.00	11							
1,1,1-Trichloroethane	ND	0.500	II .							
1,1,2-Trichloroethane	ND	0.160	"							
Trichloroethene	ND	0.500	**							
Frichlorofluoromethane	ND	0.500	**							
,2,4-Trimethylbenzene .	ND	1.00	u							
,3,5-Trimethylbenzene	ND	1.00	u							
Vinyl chloride	N.D	0.170	n							
Total Xylenes	ND	0.500	**							
Surrogate: 1-Cl-4-FB (ELCD)	10.8		"	10.0		108	80-120			
Surrogate: 1-Cl-4-FB (PID)	10.2		"	10.0		102	80-120			
LCS (2100132-BS1)				Prepared:	10/19/02	Analyzed:	10/21/02			
Benzene	11.3	0.500	ug/l	10.0		113	85-115			
Bromobenzene	9.92	0.500	Ħ	10.0		99.2	85-115			
Bromodiehloromethane	14.4	0.500	W.	10.0		144	85-115			Н
-Butylbenzene	9.73	0.500	u	10.0		97.3	85-115			
ec-Butylbenzene	9.68	0.500	11	10.0		96.8	85-115			
ert-Butylbenzene	10.1	0.500	12	10.0		101	85-115			
Carbon tetrachloride	12.5	0.500	11	10.0		125	85-115			Н
Chlorobenzene	10.1	0.500	u	10.0		101	85-115			
Chloroethane	23.7	0.500	п	10.0		237	85-115			Н
Chloroform	13.2	0.140	II .	10.0		132	85-115			Н
Chloromethane	16.6	0.600	11	10.0		166	85-115			Н
-Chlorotoluene	9.48	0.500	11	10.0		94.8	85-115			
-Chlorotoluene	9.70	0.500	11	10.0		97.0	85-115			
Dibromochloromethane	14.3	0.500	Tr.	10.0		143	85-115			Н

Great Lakes Analytical--Oak Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

andrea Stathas



Email: info@glalabs.com (414) 570-9460 FAX (414) 570-9461

STS Consultants 11425 S. Lake Park Dr. Milwaukee WI, 53224 Project: 87210XA
Project Number: [none]
Project Manager: Mark Mejac

Reported: 10/25/02 14:25

## WDNR Volatile Organic Compounds by Method 8021 - Quality Control Great Lakes Analytical--Oak Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2100132 - EPA 5030B (P/T)						<u> </u>				
LCS (2100132-BS1)				Prepared:	10/19/02	Analyzed	: 10/21/02			
1,2-Dibromo-3-chloropropane	11.2	0.390	ug/l	10.0		112	85-115			
1,2-Dibromoethane	16.1	0.380	11	10.0		161	85-115			Н
1,2-Dichlorobenzene	9.56	0.500	11	10.0		95.6	85-115			
1,3-Dichlorobenzene	9.48	0.500	n	10.0		94.8	85-115			
1,4-Dichlorobenzene	9.46	0.500	11	10.0		94.6	85-115			
Dichlorodifluoromethane	8.83	0.500	"	10.0		88.3	85-115			
1,1-Dichloroethane	12.1	0.500		10,0		121	85-115			Н
1,2-Dichloroethane	11.4	0.500	u	10.0		114	85-115			
1,1-Dichloroethene	11.1	0.500	**	10.0		111	85-115			
cis-1,2-Dichloroethene	11.4	0.500		10.0		114	85-115			
trans-1,2-Dichloroethene	11.4	0.500	Ħ	10.0		114	85-115			
1,2-Dichloropropane	12.9	0.500	"	10.0		129	85-115			Н
1,3-Dichloropropane .	11.5	0.500	н	10.0		115	85-115			
2,2-Dichloropropane	12.8	0.500	п	10.0		128	85-115			Н
Di-isopropyl ether	10.8	5.00		10.0		108	85-115			
Ethylbenzene	9.53	0.500	**	10.0		95.3	85-115			
Hexachlorobutadiene	9.03	5.00		10.0		90.3	85-115			
Isopropylbenzene	10.0	0.500	**	10.0		100	85-115			
p-Isopropyltoluene	9.89	0.500	"	10.0		98.9	85-115			
Methylene chloride	11.2	0.530	D	10.0		112	85-115			
Methyl tert-butyl ether	11.4	0.500	**	10.0		114	85-115			
Naphthalene	8.69	2.00	"	10.0		86.9	85-115			
n-Propylbenzene	9.68	0.500	"	10.0		96.8	85-115			
1,1,2,2-Tetrachloroethane	11.0	0.350	**	10.0		110	85-115			
Tetrachloroethene	10.5	0.500	11	10.0		105	85-115			
Toluene	10.4	0.500	11	10.0		104	85-115			
1,2,3-Trichlorobenzene	8.64	2.00	u u	10.0		86.4	85-115			
1,2,4-Trichlorobenzene	8.61	2.00	**	10.0		86.1	85-115			
1,1,1-Trichloroethane	12.6	0.500	u	10.0		126	85-115			Н
1.1.2-Trichloroethane	11.2	0.160	u	10.0		112	85-115			
Trichloroethene	10.9	0.500	10	10.0		109	85-115			
Trichlorofluoromethane	11.9	0.500		10.0		119	85-115			Н
1,2,4-Trimethylbenzene	9.84	1.00	u	10.0		98.4	85-115			
1,3,5-Trimethylbenzene	10.1	1.00	11	10.0		101	85-115			

Great Lakes Analytical--Oak Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Cendrea Stathas



Email: info@glalabs.com (414) 570-9460 FAX (414) 570-9461

STS Consultants 11425 S. Lake Park Dr. Milwaukee WI, 53224 Project: 87210XA
Project Number: [none]
Project Manager: Mark Mejac

Reported: 10/25/02 14:25

## WDNR Volatile Organic Compounds by Method 8021 - Quality Control Great Lakes Analytical--Oak Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2100132 - EPA 5030B (P/T)										
LCS (2100132-BS1)				Prepared:	10/19/02	Analyzed	: 10/21/02			
Vinyl chloride	11.3	0.170	ug/l	10.0		113	85-115			
Total Xylenes	30.4	0.500	11	30.0		101	85-115			
Surrogate: 1-Cl-4-FB (ELCD)	8.19	gy William F Adrian Village and The Company	"	10.0		81.9	80-120		***************************************	
Surrogate: 1-Cl-4-FB (PID)	10.0		"	10.0		100	80-120			
Matrix Spike (2100132-MS1)	So	urce: W21013	37-06	Prepared:	10/19/02	Analyzed	: 10/22/02			
Benzene	11.0	0.500	ug/l	10.0	ND	110	75-125			
Bromobenzene	9.79	0.500	18	10.0	ND	97.9	75-125			
Bromodichloromethane	14.4	0.500	11	10.0	ND	144	75-125			Н
n-Butylbenzene	8.95	0.500	"	10.0	ND	89.5	75-125			
sec-Butylbenzene	9.07	0.500	II	10.0	ND	90.7	75-125			
tert-Butylbenzene	9.90	0.500	11	10.0	ND	99.0	75-125			
Carbon tetrachloride	11.7	0.500	**	10.0	ND	117	75-125			
Chlorobenzene	10.2	0.500		10.0	ND	102	75-125			
Chloroethane	21.7	0.500	**	10.0	ND	217	75-125			Н
Chloroform	11.8	0.140	"	10.0	ND	118	75-125			
Chloromethane	17.9	0.600	"	10.0	ND	179	75-125			Н
2-Chlorotoluene	10.0	0.500	"	10.0	ND	100	75-125			
4-Chlorotoluene	9.30	0.500	••	10.0	ND	93.0	75-125			
Dibromochloromethane	14.1	0.500	"	10.0	ND	141	75-125			Н
1,2-Dibromo-3-chloropropane	11.7	0.390		10.0	ND	117	75-125			
1,2-Dibromoethane	14.7	0.380	11	10.0	ND	147	75-125			Н
1,2-Dichlorobenzene	9.07	0.500	"	10.0	ND	90.7	75-125			
1,3-Dichlorobenzene	9.02	0.500	**	10.0	ND	90.2	75-125			
,4-Dichlorobenzene	8.93	0.500	п	10.0	ND	89.3	75-125			
Dichlorodifluoromethane	8.65	0.500	Ħ	10.0	ND	86.5	75-125			
1,1-Dichloroethane	11.6	0.500	**	10.0	ND	116	75-125			
,2-Dichloroethane	10.5	0.500	11	10.0	ND	105	75-125			
,1-Dichloroethene	11.4	0.500	**	10.0	ND	114	75-125			
cis-1,2-Dichloroethene	11.3	0.500	u .	10.0	ND	113	75-125			
rans-1,2-Dichloroethene	11.5	0.500	11	10.0	ND	115	75-125			
,2-Dichloropropane	11.9	0.500	**	10.0	ND	119	75-125			
,3-Dichloropropane	11.3	0.500	ıı	10.0	ND	113	75-125			
2,2-Dichloropropane	11.3	0.500	11	10.0	ND	113	75-125			

Great Lakes Analytical--Oak Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Cerclica Stathas

Email: info@glalabs.com (414) 570-9460 FAX (414) 570-9461

STS Consultants 11425 S. Lake Park Dr. Milwaukee WI, 53224 Project: 87210XA
Project Number: [none]
Project Manager: Mark Mejac

Reported: 10/25/02 14:25

## WDNR Volatile Organic Compounds by Method 8021 - Quality Control Great Lakes Analytical--Oak Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2100132 - EPA 5030B (P/T)										
Matrix Spike (2100132-MS1)	So	urce: W21013	37-06	Prepared:	10/19/02	Analyzed:	10/22/02			
Di-isopropyl ether	10.8	5.00	ug/l	10.0	ND	108	75-125			
Ethylbenzene	9.52	0.500	11	10.0	ND	95.2	75-125			
Hexachlorobutadiene	8.44	5.00	"	10.0	ND	84.4	75-125			
Isopropylbenzene	9.85	0.500	11	10.0	ND	98.5	75-125			
p-Isopropyltoluene	9.23	0.500	"	10.0	ND	92.3	75-125			
Methylene chloride	10.8	0.530	H.	10.0	ND	108	75-125			
Methyl tert-butyl ether	11.3	0.500	11	10.0	ND	113	75-125			
Naphthalene	7.61	2.00	II.	10.0	ND	76.1	75-125			
n-Propylbenzene	9.20	0.500	14	10.0	ND	92.0	75-125			
1,1,2,2-Tetrachloroethane	10.5	0.350	"	10.0	ND	105	75-125			
Tetrachloroethene	10.5	0.500	**	10.0	ND	105	75-125			
Toluene	10.5	0.500	"	10.0	ND	105	75-125			
1,2,3-Trichlorobenzene	8.30	2.00	**	10.0	ND	83.0	75-125			
1,2,4-Trichlorobenzene	8.01	2.00	"	10.0	ND	80.1	75-125			
1,1,1-Trichloroethane	11.5	0.500	11	10.0	ND	115	75-125			
1,1,2-Trichloroethane	10.8	0.160	u u	10.0	ND	108	75-125			
Trichloroethene	11.6	0.500	11	10.0	ND	116	75-125			
Trichlorofluoromethane	10.9	0.500	**	10.0	ND	109	75-125			
1,2,4-Trimethylbenzene	9.33	1.00		10.0	ND	93.3	75-125			
1,3,5-Trimethylbenzene	9.80	1.00	11	10.0	ND	98.0	75-125			
Vinyl chloride	10.4	0.170	11	10.0	ND	104	75-125			
Total Xylenes	30.0	0.500	**	30.0	ND	100	75-125			
Surrogaie: I-Cl-4-FB (ELCD)	9.10	***************************************	"	10.0		91.0	80-120			
Surrogate: 1-Cl-4-FB (PID)	10.1		"	10.0		101	80-120			
Matrix Spike Dup (2100132-MSD1)	Sou	ırce: W21013	7-06	Prepared:	10/19/02	Analyzed:	10/22/02			
Benzene	11.7	0.500	ug/l	10.0	ND	117	75-125	6.17	20	
<b>Bro</b> mobenzene	10.6	0.500	U	10.0	ND	106	75-125	7.95	20	
Bromodichloromethane	14.9	0.500	11	10.0	ND	149	75-125	3.41	20	Н
n-Butylbenzene	9.83	0.500	п	10.0	ND	98.3	75-125	9.37	20	
ec-Butylbenzene	9.90	0.500	11	10.0	ND	99.0	75-125	8.75	20	
ert-Butylbenzene	10.8	0.500	u	10.0	ND	108	75-125	8.70	20	
Carbon tetrachloride	12.5	0.500	"	10.0	ND	125	75-125	6.61	20	
Chlorobenzene	11.0	0.500	u	10.0	ND	110	75-125	7.55	20	

Great Lakes Analytical--Oak Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Andrea Stathas, Project Manager

Page 14 of 17



Email: info@glalabs.com (414) 570-9460 FAX (414) 570-9461

STS Consultants

11425 S. Lake Park Dr. Milwaukee WI, 53224 Project: 87210XA

Project Number: [none]
Project Manager: Mark Mejac

Reported: 10/25/02 14:25

## WDNR Volatile Organic Compounds by Method 8021 - Quality Control Great Lakes Analytical--Oak Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2100132 - EPA 5030B (P/T)					***************************************					
Matrix Spike Dup (2100132-MSD1)	So	urce: W21013	7-06	Prepared:	10/19/02	Analyzed:	10/22/02			
Chloroethane	26.6	0.500	ug/l	10.0	ND	266	75-125	20.3	20	НН
Chloroform	12.2	0.140	11	10.0	ND	122	75-125	3.33	20	
Chloromethane	21.5	0.600	11	10.0	ND	215	75-125	18.3	20	Н
2-Chlorotoluene	10.9	0.500	"	10.0	ND	109	75-125	8.61	20	
4-Chlorotoluene	10.2	0.500	"	10.0	ND	102	75-125	9.23	20	
Dibromochloromethane	15.1	0.500	**	10.0	ND	151	75-125	6.85	20	Н
1,2-Dibromo-3-chloropropane	11.3	0.390	11	10.0	ND	113	75-125	3.48	20	
1,2-Dibromoethane	15.8	0.380	II	10.0	ND	158	75-125	7.21	20	Н
1,2-Dichlorobenzene	9.97	0.500	11	10.0	ND	99.7	75-125	9.45	20	
1,3-Dichlorobenzene	9.85	0.500	ıı	10.0	ND	98.5	75-125	8.80	20	
1,4-Dichlorobenzene	9.78	0.500	11	10.0	ND	97.8	75-125	9.09	20	
Diehlorodifluoromethane	10.2	0.500	u	10.0	ND	102	75-125	16.4	20	
1,1-Dichloroethane .	11.8	0.500	11	~ 10.0	ND	118	75-125	1.71	20	
1,2-Dichloroethane	12.4	0.500	"	10.0	ND	124	75-125	16.6	20	
1,1-Dichloroethene	12.0	0.500	11	10.0	ND	120	75-125	5.13	20	
cis-1,2-Dichloroethene	12.2	0.500	u	10.0	ND	122	75-125	7.66	20	
rans-1.2-Dichloroethene	12.3	0.500	u	10.0	ND	123	75-125	6.72	20	
,2-Dichloropropane	13.1	0.500	n	10.0	ND	131	75-125	9.60	20	Н
,3-Dichloropropane	12.4	0.500	n	10.0	ND	124	75-125	9.28	20	
2,2-Dichloropropane	12.4	0.500	11	10.0	ND	124	75-125	9.28	20	
Di-isopropyl ether	11.9	5.00	11	10.0	ND	119	75-125	9.69	20	
Ethylbenzene	10.2	0.500	u	10.0	ND	102	75-125	6.90	20	
Hexachlorobutadiene	9.37	5.00	"	10.0	ND	93.7	75-125	10.4	20	
sopropylbenzene	10.7	0.500	**	10.0	ND	107	75-125	8.27	20	
o-Isopropyltoluene	10.1	0.500	11	10.0	ND	101	75-125	9.00	20	
Methylene chloride	12.1	0.530	tt.	10.0	ND	121	75-125	11.4	20	
Methyl tert-hutyl ether	11.9	0.500	u	10.0	ND	119	75-125	5.17	20	
Naphthalene	8.64	2.00	II	10.0	ND	86.4	75-125	12.7	20	
-Propylbenzene	10.0	0.500	**	10.0	ND	100	75-125	8.33	20	
,1,2,2-Tetrachloroethane	11.5	0.350	11	10.0	ND	115	75-125	9.09	20	
Cetrachloroethene	11.5	0.500	11	10.0	ND	115	75-125	9.09	20	
Coluene	11.4	0.500	n	10.0	ND	114	75-125	8.22	20	
,2,3-Trichlorobenzene	9.27	2.00	11	10.0	ND	92.7	75-125	11.0	20	
,2,4-Trichlorobenzene	8.95	2.00	"	10.0	ND	89.5	75-125	11.1	20	

Great Lakes Analytical--Oak Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Cendra Stathas



Email: info@glalabs.com (414) 570-9460 FAX (414) 570-9461

STS Consultants

11425 S. Lake Park Dr. Milwaukee WI, 53224

Project: 87210XA

Project Number: [none]
Project Manager: Mark Mejac

Reported: 10/25/02 14:25

## WDNR Volatile Organic Compounds by Method 8021 - Quality Control Great Lakes Analytical--Oak Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2100132 - EPA 5030B (P/T)										
Matrix Spike Dup (2100132-MSD1)	Sou	rce: W21013	37-06	Prepared:	10/19/02	Analyzed	: 10/22/02			
1,1,1-Trichloroethane	12.3	0.500	ug/l	10.0	ND	123	75-125	6.72	20	
1,1,2-Trichloroethane	12.1	0.160	11	10.0	ND	121	75-125	11.4	20	
Trichloroethene	12.2	0.500	18	10.0	ND	122	75-125	5.04	20	
Trichlorofluoromethane	12.0	0.500	II .	10.0	ND	120	75-125	9.61	20	
1,2,4-Trimethylbenzene	9.99	1.00	n n	10.0	ND	99.9	75-125	6.83	20	
1,3,5-Trimethylbenzene	10.5	1.00	u	10.0	ND	105	75-125	6.90	20	
Vinyl chloride	10.7	0.170	18	10.0	ND	107	75-125	2.84	20	
Total Xylenes	32.3	0.500	н	30.0	ND	108	75-125	7.38	20	
Surrogate: 1-Cl-4-FB (ELCD)	9.01	of the sale of Mark Address of the Sale of	"	10.0	CALLED IN ALTERNATION OF	90.1	80-120		V	
Surrogate: 1-Cl-4-FB (PID)	10.2		"	10.0		102	80-120			

Great Lakes Analytical--Oak Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Andrea Stathas, Project Manager

Page 16 of 1



Email: info@glalabs.com (414) 570-9460 FAX (414) 570-9461

STS Consultants Project: 87210XA Project Number: [none] 11425 S. Lake Park Dr. Reported: Project Manager: Mark Mejac 10/25/02 14:25 Milwaukee WI, 53224

#### Notes and Definitions

QC The result for one or more quality control measurements associated with this sample did not meet the laboratory and/or source

method acceptance criteria.

Analyte DETECTED DET

Analyte NOT DETECTED at or above the reporting limit ND

NR Not Reported

dry Sample results reported on a dry weight basis

**RPD** Relative Percent Difference

This quality control measurement is below the laboratory established limit.

This quality control measurement is above the laboratory established limit.

Great Lakes Analytical--Oak Creek

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Andrea Stathas, Project Manager

Page 17 of 17



## CHAIN OF CUSTODY REPORT

.36. Jus... Pa....vay Buffalo Grove, IL 60089-4505 (847) 808-7766 FAX (847) 808-7772 Cak Creek, WI 53154 (414) 570-9460 FAX (414) 570-9461

Client: STS Consultants		Bill To:	Sane										TAT:	€TD:	) 4 E	DAY	3 DAY	2 DAY 1	DAY <2	24 HRS.
Address: 11425 W. Lake Pari	r Dr	Address:													AT is cr I is not			DATE RE	SULTS NEED	ED:
Milwaukee, WI 53224 Report to: Mark Mejac Phone #: (414) Fax #: (414) Project Name: Bence		Address.									-		Rece	ived:		٥٠٠			Upon Rece	ipt:
Report to: Mark Mar Phone #: (	1 259-3030	State &					Phon	e #: (	· }					mbient erable				ery Method		
E-mail: Fax #: (9/9)	) 359-0822	Drogram.				- 1	Eav #	· /	Ú	<b>,</b> ,					□ Ot			☐ Client ☐		Courier 🗌
Project Name: Bence	/ /		/_	# 0	of Bot	tles	. ,	[\& [		(3) (4)			/ /	/ /	' /		SAM	MPLE /		
Project #/PO#: 87210 XA	/ & /	& / u.	/ /	rese	rvative	y Use	ea /		\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		//	/ /	: 41://				<i></i>	NTROL /		
Sampler: Adam Flurin	7 & & / & !		/ /3/	/ /		//	/ *	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\						/ /	/ /	/ /č	£ \£	LA	BORATO	ORY
FIFLD ID LOCATION	10/11/02	3/2/2						\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		$\rightarrow$		/ /				186		U)	NUMB	
1 MW-3	10/11/02		<u> </u>				3			/								; <b>1</b> :	14 C -	1.1
FIU.	1 100	W	3		-		2 -	_		<del> </del>	<del>                                     </del>				_	<u> </u>	$\vdash$	Wili	) 170-	01
2 Mw - 1 PID:			]						)										7	52
3 MW-10							$\dagger \dagger$		$\dagger \dagger$	+				$\top$	+-		$\vdash$	•		
PID:																			1	5
1 MW-Z						,	$\prod$													v3 v4
PID:	V	\\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	V				$\Psi$										$\perp \perp$			
5 Trip Blank	-		1				,			<i>)</i>										
PID:			- -				1		-		+-+					-	++			,رر
6] PID:																				
7			++-		+	$\vdash$			-	+-		_	_	$\dashv$	+	<del>                                     </del>	+			
PID:																				
8																				
PID:																				
9																				
PID:																_				
															1					
PELINALISUED PID:					4									1_		<u></u>				
FEYINGUISHED 10/11/02 F	REGEIVED J	100ALAP	<i>()(</i> !	<i>"</i> "	OJRE —	ELINC	QUISH	ED						REC	CEIVE	D				
	RECEIVED	www.c	$\sim$ $_{\downarrow}$	1.0	) RE	ELINC	QUISH	ED						RE	CEIVE	D				
								-												
COMMENTS:																				
																	PAGI	E	OF	- [
	The state of the s																			