

January 17, 2002

220 East Ryan Road Oak Creek, WI 53154-4533 414-768-7144

FAX: 414-768-7158

Project Reference #6515 FID #241287200 BRRTS #02-41-271-535

Ms. Gena Keenan Wisconsin Department of Natural Resources Southeast Region Milwaukee Service Center 2300 N. Dr. ML King Drive P.O. Box 12436 Milwaukee, WI 53212-0436

Re: WORK PLAN ADDENDUM

Norman Getz Property 6854 West Beloit Road West Allis, Wisconsin

Dear Ms. Keenan:

In compliance with NR 169.21 (2)(e), this letter has been prepared as an addendum to the Wisconsin Department of Natural Resources (WDNR) approved Sigma Environmental Services, Inc. (Sigma) January 2001, work plan for subsurface investigation work at the Norman Getz Property. As proposed in the January 2001 work plan, Sigma has implemented and completed the installation and sampling of test soil borings and groundwater monitoring wells at the above referenced site. Based on a review of the analytical data generated, tetrachloroethene and associated breakdown daughter products were detected on-site in both soil samples [up to 380 milligrams per kilograms (mg/kg)]and groundwater samples (up to 16.5 mg/kg) at elevated levels. Considering the location of the detected contamination with respect to the property lines and the direction of groundwater flow (north northwest), it is likely that impacts have migrated off-site (see attached analytical data and figure).

In an attempt to meet the requirements of Chapter NR 716 Wis. Adm. Code and delineate the extent of identified impacts, Sigma recommends the installation of up to four additional monitoring wells and one doubled cased piezometer. Upon completion of soil boring/well installation activities, each of the wells will be properly developed and the entire monitoring well network sampled for EPA Method 8021 or 8260 Volatile Organic Compounds. All proposed wells will be tied into the site survey to assist in groundwater flow calculations and the delineation of the extent of impacts. All site data generated will be included in a comprehensive site investigation report.



Norman Getz Property Work Plan Addendum Page 2

The scope of work and associated costs to complete the above referenced activities and delineate the extent of identified impacts are anticipated to exceed the original proposed scope of work and cost by more than \$3,000. Presented as an attachment to this letter is a breakout of anticipated additional and total project site investigation costs. It is recommended due to the elevated concentration of detected compounds that the proposed activities be implemented as soon as possible.

Upon your review of the attached information should you have any questions, please contact our office at (414) 768-7144.

Respectfully submitted,

attachments

SIGMA ENVIRONMENTAL SERVICES, INC.

James M. Westerman, CHMM

Project Manager/Hydrogeologist

Randy E. Boness, P.G.

Senior Scientist

Phase II Proposal Norman Getz Property 6854 West Beloit Road West Allis, Wisconsin' Project Reference #6515

Norman Getz Property

			ng Costs	Commodit		
		Total Labor	Equipment &	Sub- Contracting	Analytical Expenses	Total Cost
	Task	Costs	Expenses	Expenses		
1	Work Plan/Site Safety Plan/Project Setup					
	Project Coordination	\$710				\$710
	Subtotal Task 1	\$710	\$0	\$0	\$0	\$710
2	Site Invesitgation Activities					
	Project Coordination	\$1,640				\$1,640
l	Field Work/Supervision/Soil Sample Collection/Well Installation	\$1,120		\$3,700	\$280	\$5,100
	Monitoring Well Development/Sampling	\$880	\$1,045		\$1,150	\$3,075
	Waste Management	\$450		\$1,130	ì	\$1,580
l	Access Permits/Coordination	\$830				\$830
l	Site Survey	\$0		\$500		\$500
	Subtotal Task 2	\$4,920	\$1,045	\$5,330	\$1,430	\$12,725
3	Report Preparation/Data Evlauation					
	Report Prep./Field Doc./Proj. Coordination	\$1,340				\$1,340
	Subtotal Task 3	\$1,340	\$0	\$0	\$0	\$1,340
Add	litional Proposed Project Consulting Cost					\$8,015
Add	litional Proposed Project Commodity Services Cost					\$6,760
Tot	al Original Proposal					\$23,330
Add	litional Estimated Project Cost					\$14,775
Est	imated Total Project Cost					\$38,105
			•			

Samples	Rate	Cost
<u>tup</u>		
		·

2 Site Invesitgation Activities			
Soil (two samples per per soil boring/monitorin	g well)		
voc	4 samples	\$70 each	\$280
Water (One Round of Sampling + QA/QC)			
VOC	10 samples	\$70 each	\$700
Nitrate	5 samples	\$12 each	\$60
Sulfate	5 samples	\$10 each	\$50
Manganese	5 samples	\$12 each	\$60
			subtotal= \$1,150

3 Report Preparation/Data Evlauation
None

	Equipment Expenses	Phase II Proposal		
Task	Type of Equipment	Units	Rate	Cost

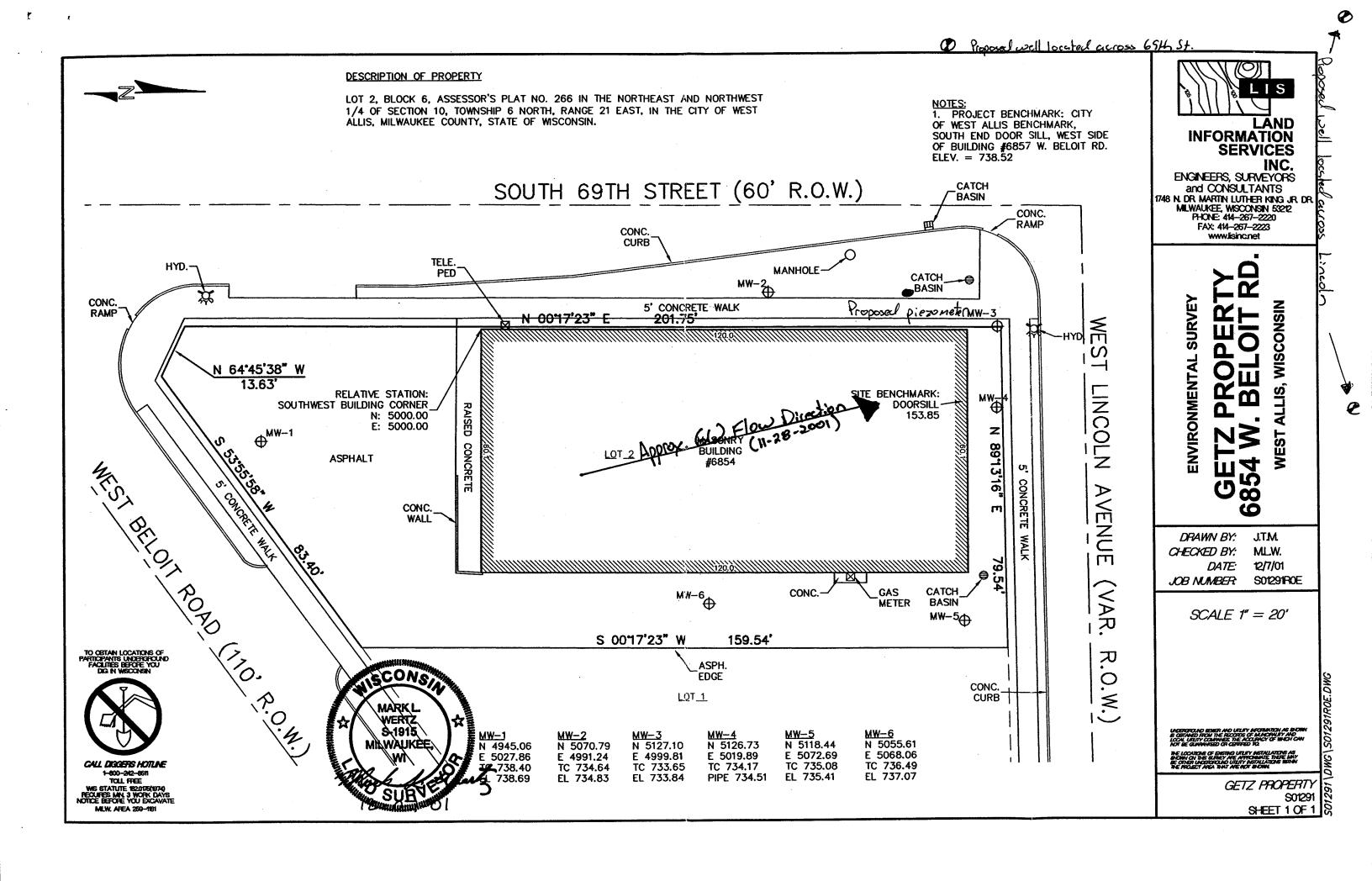
1 Work Plan/Site Safety Plan/Project Setup

None

\$95 drum \$0.45 gal.	\$3,700 subtotal= \$3,700 \$500 subtotal= \$500 \$950 subtotal= \$950 \$180
	\$500 \$500 \$ubtotal= \$500 \$950 \$ubtotal= \$950
	\$500 \$500 \$ubtotal= \$500 \$950 \$ubtotal= \$950
	\$500 subtotal= \$500 \$950 subtotal= \$950
	subtotal= \$500 \$950 subtotal= \$950
	\$950 subtotal= \$950
	subtotal= \$950
\$0.45 gal.	
\$0.45 gal.	¢100
	\$180
	subtotal= \$180
ater sampling.	
\$14 trip	\$28
\$70 day	\$140
\$25 day	\$50
\$3 5 day	\$35
\$ 30 day	\$30
\$5 Kit	\$50
\$15 each	\$150
	\$140
\$35 each	
	\$15 each

3 Report Preparation/Data Evlauati	on
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None



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

04 December 2001

Jim Westerman Sigma Environmental Services, Inc. 220 E. Ryan Road Oak Creek, WI 53154

RE: 6515

Enclosed are the results of analyses for samples received by the laboratory on 11/28/01 15:44. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 12/04/01 17:39

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	W111177-01	Water	11/28/01 10:20	11/28/01 15:44
MW-2	W111177-02	Water	11/28/01 11:40	11/28/01 15:44
MW-3	W111177-03	Water	11/28/01 12:30	11/28/01 15:44
MW-4	W111177-04	Water	11/28/01 12:00	11/28/01 15:44
MW-5	W111177-05	Water	11/28/01 11:15	11/28/01 15:44
MW-6	W111177-06	Water	11/28/01 10:40	11/28/01 15:44
Dup	W111177-07	Water	11/28/01 00:00	11/28/01 15:44
Equip	W111177-08	Water	11/28/01 00:00	11/28/01 15:44
Trip	W111177-09	Water	11/28/01 00:00	11/28/01 15:44

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.



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Sigma Environmental Services, Inc.

220 E. Ryan Road Oak Creek WI, 53154 Project: 6515

Project Number: 6515

Project Manager: Jim Westerman

Reported: 12/04/01 17:39

Diesel Range Organics (DRO) by WDNR DRO Great Lakes Analytical--Oak Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-4 (W111177-04) Water Sample	d: 11/28/01 12:00	Received:	11/28/01	1 15:44					
Diesel Range Organics (DRO)	0.169	0.100	mg/l	1	1110085	11/29/01	11/29/01	WDNR DRO	T10,T15,T2,T 6,T11
MW-5 (W111177-05) Water Sample	d: 11/28/01 11:15	Received:	11/28/01	1 15:44					
Diesel Range Organics (DRO)	0.822	0.100	mg/l	1	1110085	11/29/01	11/30/01	WDNR DRO	T10,T8,T15,T
MW-6 (W111177-06) Water Sample	d: 11/28/01 10:40	Received:	11/28/01	1 15:44	_				
Diesel Range Organics (DRO)	0.130	0.100	mg/l	1	1110085	11/29/01	11/30/01	WDNR DRO	T10,T6,T2,T1 5,T11

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515
Project Manager: Jim Westerman

Reported: 12/04/01 17:39

WDNR Volatile Organic Compounds by Method 8021

Great Lakes Analytical--Oak Creek

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (W111177-01) Water	Sampled: 11/28/01 10:20	Received:	11/28/01	15:44					
Benzene	ND	0.500	ug/l	1	1110088	11/29/01	11/29/01	EPA 8021B	
Bromobenzene	ND	0.500	"	**	**	` #	**	**	
Bromodichloromethane	ND	0.500	"	**	"	. "	n	"	
n-Butylbenzene	ND	0.500	**	H	**	11	"	11	
sec-Butylbenzene	ND	0.500	"	11	**	u	**	11	
tert-Butylbenzene	ND	0.500	"	H	"	11	**	u	
Carbon tetrachloride	ND	0.500	**	**	"	Ħ	**	"	
Chlorobenzene	ND	0.500	**	**	11	**	"	**	
Chloroethane	ND	0.500	**	•	11	н	*1	11	
Chloroform	ND	0.140	11	"	11	**	**	**	
Chloromethane	ND	0.600	"	n .	"	11	"	II.	
2-Chlorotoluene	ND	0.500	"	"	11	ŧŧ	"	**	
4-Chlorotoluene	ND	0.500	11	**	n	Ħ	"	**	
Dibromochloromethane	ND	0.500	11	**	**	**	"	**	
1,2-Dibromo-3-chloropropane	ND	0.390	Ħ	**	111	"	**	"	
1,2-Dibromoethane	ND	0.380	**	11	"	**	**		
1,2-Dichlorobenzene	ND	0.500	11	н	**	"	"	**	
1,3-Dichlorobenzene	ND	0.500		**	**	11	**	11	
1,4-Dichlorobenzene	ND	0.500		u	"	11	"	н	
Dichlorodifluoromethane	ND	0.500	н	**	**	11	Ħ	н	
1.1-Dichloroethane	ND	0.500	**	**	11		11	н	
1.2-Dichloroethane	ND	0.500	**	**	11	Ħ	н	н	
1,1-Dichloroethene	ND	0.500	H	11	**	**	**	, н	
cis-1,2-Dichloroethene	ND	0.500	**	u	11	"	**	**	
rans-1,2-Dichloroethene	ND	0.500		II .	11	н	11	""	
1,2-Dichloropropane	ND	0.500		11	11	**	**	11	
1,3-Dichloropropane	ND	0.500	и	**	**	**	**	**	
2,2-Dichloropropane	ND	0.500	"	**	11	**	**	Ħ	
Di-isopropyl ether	ND	5.00	"	**	11	"		#	
Ethylbenzene	ND	0.500	**	**		"	"	#1	
Hexachlorobutadiene	ND ND	5.00	**		"	11	**	11	
	ND ND	0.500	"	**	11	**		11	
Isopropylbenzene	ND ND	0.500		**	**	**	**	11	
p-Isopropyltoluene Methylene chloride	ND ND	0.530	"	**	**	11	11	11	
	ND ND	0.500	"	**			**	**	
Methyl tert-butyl ether	ND ND		**			"	"	 tr	
Naphthalene		2.00	"	"		" "		".	
n-Propylbenzene	ND	0.500	"	" "	"	"	"	**	
1,1,2,2-Tetrachloroethane	ND	0.350 0.500	"	"	. "	" "	"	#* #* ·	

Great Lakes Analytical--Oak Creek

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Andrea Stathas, Project Manager

Page 3 of 35



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

Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515
Project Manager: Jim Westerman

Reported: 12/04/01 17:39

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 (W111177-01) Water	Sampled: 11/28/01 10:20	Received:	11/28/01	15:44					
Toluene	ND	0.500	ug/l	1	1110088	11/29/01	11/29/01	EPA 8021B	
1,2,3-Trichlorobenzene	ND	2.00	"	Ħ	n	11	"	11	
1,2,4-Trichlorobenzene	ND	2.00	"	**	**	H	"		
1,1,1-Trichloroethane	ND	0.500	#	51	11	Ħ	"	11	
1,1,2-Trichloroethane	ND	0.160	"	Ħ	n	u	**	"	
Trichloroethene	ND	0.500	**	"	11	"	**	H	
Trichlorofluoromethane	ND	0.500	"	**	**	11	"	H	
1,2,4-Trimethylbenzene	.ND	1.00	"	11	n	11	н	11	
1,3,5-Trimethylbenzene	ND	1.00	"	**	**	11	"	u u	
Vinyl chloride	ND	0.170	"	tt	*	"	н	u	
Total Xylenes	ND	0.500	**	**	**	**	m .	u	
Surrogate: 1-Cl-4-FB (ELCD)		110 %	. 80-	120	"	"	"	н	
Surrogate: 1-Cl-4-FB (PID)		115 %		120	"	"	"	"	
MW-2 (W111177-02) Water	Sampled: 11/28/01 11:40		11/28/01	15:44					
Benzene	ND	0.500	ug/l	1	1110088	11/29/01	11/29/01	EPA 8021B	
Bromobenzene	ND	0.500	11	u	**	11		··	
Bromodichloromethane	ND	0.500	11	**	11	"	11	"	
n-Butylbenzene	ND	0.500	11	**	n	"	**		
sec-Butylbenzene	ND	0.500	tt	11	"	n	11	11	
tert-Butylbenzene	ND	0.500	**	11	"	н	**	11	
Carbon tetrachloride	ND	0.500		**		11	**	11	
Chlorobenzene	ND	0.500	**	**	u	# ,	"	#1	
Chloroethane	ND	0.500	"	11	#	n	н	н	
Chloroform	ND	0.140	**	"	**	**		H	
Chloromethane	ND	0.600	*	11	11	ij	"	II	
2-Chlorotoluene	ND	0.500	**	n	Ħ	u .	11	**	
4-Chlorotoluene	ND	0.500	11	n		"	11	**	
Dibromochloromethane	ND	0.500	"	11	**	**	rı	H .	
1,2-Dibromo-3-chloropropane	ND	0.390	"	Ħ	Ħ	**	11	n	
1,2-Dibromoethane	ND	0.380	**	**	11	H .	n	H .	
1,2-Dichlorobenzene	ND	0.500	u	"	Ħ	н	"	**	
1.3-Dichlorobenzene	ND	0.500	**	**	Ð	"	"	11	
1,4-Dichlorobenzene	ND	0.500	**	"	tt	"	11	, H	
Dichlorodifluoromethane	ND	0.500	**	**	**	"	"	Ħ	
1,1-Dichloroethane	ND	0.500	**	u	**	**	It	tt	
1,2-Dichloroethane	ND	0.500	**	Ħ	••	"	n	**	
1,1-Dichloroethene	ND	0.500	**	#	**	tt	"	"	
-,	3.75	0.500				44			

Great Lakes Analytical--Oak Creek

cis-1,2-Dichloroethene

ND

0.500

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Andrea Stathas, Project Manager

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road

Project Number: 6515

Oak Creek WI, 53154 Project Manager: Jim Westerman

Reported: 12/04/01 17:39

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 (W111177-02) Water	Sampled: 11/28/01 11:40	Received:	11/28/01	15:44					
trans-1,2-Dichloroethene	ND	0.500	ug/l	1	1110088	11/29/01	11/29/01	EPA 8021B	
1,2-Dichloropropane	ND	0.500	н	**	**	**	**	**	
1,3-Dichloropropane	ND	0.500	"	11	**	11	11	H	
2,2-Dichloropropane	ND	0.500	"	**	67	#	11	u .	
Di-isopropyl ether	ND	5.00	"	11	**	tt	11	н	
Ethylbenzene	ND	0.500	"	n n	11	**	11	. "	
Hexachlorobutadiene	ND	5.00	н		11	tt	**	**	
Isopropylbenzene	ND	0.500	"		11	**	**	**	
p-Isopropyltoluene	ND	0.500	"		11	**	**	•	
Methylene chloride	ND	0.530	"	н	tt	"	11	H	
Methyl tert-butyl ether	ND	0.500	"	**	Ħ	"	"	**	
Naphthalene	ND	2.00	"	**	ŧŧ	11	**	11	
n-Propylbenzene	ND	0.500	**		**	"	**	11	
1,1,2,2-Tetrachloroethane	ND	0.350	"	."	**	"	**	**	
Tetrachloroethene	5910	100	**	200	**	**	11/30/01	**	G12
Toluene	ND	0.500	11	1	Ħ	11	11/29/01	11	
1,2,3-Trichlorobenzene	ND	2.00	"	"	**	и	**	**	
1,2,4-Trichlorobenzene	ND	2.00	**	**	11	Ħ	II .	Ħ	
1,1,1-Trichloroethane	ND	0.500	н	**	n	**	н	**	
1,1,2-Trichloroethane	ND	0.160	**	**	11	**	Ħ	**	
Trichloroethene	1.25	0.500	н	**	11	**	**	er	
Trichlorofluoromethane	ND	0.500	u u	#	11	**	**	Ħ	
1,2,4-Trimethylbenzene	ND	1.00	н	**	н		**	Ħ	
1,3,5-Trimethylbenzene	ND	1.00	tt	tt	11	11	**	II .	
Vinyl chloride	ND	0.170	II .	17	11	11	**	u ·	
Total Xylenes	ND	0.500	н	#	н	#		#	
Surrogate: 1-Cl-4-FB (ELCD)		152 %	80-	120	"	"	"	"	O5
Surrogate: 1-Cl-4-FB (PID)		93.5 %	80-		"	"	"	#	

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515
Project Manager: Jim Westerman

Reported: 12/04/01 17:39

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 (W111177-03) Water	Sampled: 11/28/01 12:30	Received:	11/28/01	15:44					
Benzene	ND	0.500	ug/l	1	1110088	11/29/01	11/29/01	EPA 8021B	
Bromobenzene	ND	0.500	11	**	11	#	"	Ħ	
Bromodichloromethane	ND	0.500	11	**	**	**	"	#	
n-Butylbenzene	ND	0.500	**	**	"	11	"	#	
sec-Butylbenzene	ND	0.500	#1	**	"	11	**	Ħ	
tert-Butylbenzene	ND	0.500	**	11	**	**	"	Ħ	
Carbon tetrachloride	ND	0.500	н	**	**	11	"	#	
Chlorobenzene	ND	0.500	**	**	"	11	"	11	
Chloroethane	ND	0.500	#	Ħ	**	11	"	**	
Chloroform	ND	0.140	**	11	"	tf	"	**	
Chloromethane	ND	0.600	н	**	"	**	"	H	
2-Chlorotoluene	ND	0.500	**		"	**	"	Ħ	
4-Chlorotoluene	ND	0.500	н	**	"	11	"	"	
Dibromochloromethane	ND	0.500	11	H	"	11	"	**	
1,2-Dibromo-3-chloropropane	ND	0.390	Ħ	11	**	11	"	Ħ	
1,2-Dibromoethane	ND	0.380	**	"	"	#1	11	W .	
1,2-Dichlorobenzene	ND	0.500	**	11	**	tt	**	H .	
1,3-Dichlorobenzene	ND	0.500	**	**	**	tt	**	"	
1,4-Dichlorobenzene	ND	0.500	11	11	Ħ	"	**	**	
Dichlorodifluoromethane	ND	0.500	11	**	**	u	**	**	
1,1-Dichloroethane	ND	0.500	11	ŧŧ	**	**		11	
1,2-Dichloroethane	ND	0.500	Ħ	11	"		**	"	
1,1-Dichloroethene	ND	0.500	11	Ħ	**	" .	"	**	
cis-1,2-Dichloroethene	121	5.00	11	10	**	"	12/03/01	**	G1
trans-1,2-Dichloroethene	1.95	0.500	Ħ	1	"	"	11/29/01	•	
1,2-Dichloropropane	ND	0.500	н	Ħ	"	н	11	**	
1,3-Dichloropropane	ND	0.500	н	#1	"	11	Ħ	"	
2,2-Dichloropropane	ND	0.500	Ħ	"	"	11	11	11	
Di-isopropyl ether	ND	5.00	**	11	11	**	"	**	
Ethylbenzene	ND	0.500	**	**	**		н	**	
Hexachlorobutadiene	ND	5.00	#	***	**	**	•	11	
Isopropylbenzene	ND	0.500	91	Ħ	"	**	"	n	
p-Isopropyltoluene	ND	0.500	91	11	**	**	11	n	
Methylene chloride	ND	0.530	81	n	"	"	"	n	
Methyl tert-butyl ether	ND	0.500	#1	"	"	**	"	n	
Naphthalene	3.92	2.00	Ħ	**	"	**	"	n	
n-Propylbenzene	ND	0.500	н	**	"	. 11	**	n	
1,1,2,2-Tetrachloroethane	ND	0.350	Ħ	11	11	#1	11	n .	
Tetrachloroethene	16500	250	**	500	**	H	12/03/01	11	G1

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515 Project Manager: Jim Westerman

Reported: 12/04/01 17:39

WDNR Volatile Organic Compounds by Method 8021

Great Lakes Analytical--Oak Creek

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Note
MW-3 (W111177-03) Water	Sampled: 11/28/01 12:30	Received:	11/28/01	15:44					
Toluene	ND	0.500	ug/l	1	1110088	11/29/01	11/29/01	EPA 8021B	
1,2,3-Trichlorobenzene	ND	2.00	**	Ħ	11	**	**	**	
1,2,4-Trichlorobenzene	ND	2.00	. "	н	Ħ	n	u	"	
1,1,1-Trichloroethane	ND	0.500	11	Ħ	11	**	11	11	
1,1,2-Trichloroethane	ND	0.160	#	**	Ħ	н	**	н	
Frichloroethene	35.6	0.500	**	**	**	**	**	"	
Frichlorofluoromethane	ND	0.500	**	*	н	11	"	"	
1,2,4-Trimethylbenzene	.ND	1.00	**	**	Ħ	u	"	***	
1,3,5-Trimethylbenzene	ND	1.00	**	**	**		"	•	
Vinyl chloride	ND	0.170	tt	11	н		"	n .	
Total Xylenes	ND	0.500	**	"	11	11	"	H .	
Surrogate: 1-Cl-4-FB (ELCD)		170 %	80-	120	"	"	#	"	0
Surrogate: 1-Cl-4-FB (PID)		75.8 %		120	"	"	"	n	o
MW-4 (W111177-04) Water	Sampled: 11/28/01 12:00								
Benzene	ND	0.500	ug/l	1	1110088	11/29/01	11/29/01	EPA 8021B	
Bromobenzene	ND	0.500	"	11	11	11	Ħ	11	
Bromodichloromethane	ND	0.500	#	**	11	"		n	
n-Butylbenzene	ND	0.500	11	**	11	11	**	11	
sec-Butylbenzene	ND	0.500	**	**	н	11	**	•	
ert-Butylbenzene	ND	0.500	**	**	Ħ	**	17	H	
Carbon tetrachloride	ND	0.500	"	**	H	tr	11	11	
Chlorobenzene	ND	0.500	н	#	**	11 .	11	н	
Chloroethane	ND	0.500	11	**	**	11	**	**	
Chloroform	ND	0.140	и	**	н	11	**	11	
Chloromethane	ND	0.600	11	•	"	**	n	n	
2-Chlorotoluene	ND	0.500	н		"	11	11	**	
I-Chlorotoluene	ND	0.500	**	11	u	11		н	
Dibromochloromethane	ND	0.500	**		u	H	**	**	
,2-Dibromo-3-chloropropane	ND	0.390	**		u	11	H.	**	
,2-Dibromoethane	ND	0.380	11	**	"	н	**	n	
,2-Dichlorobenzene	ND	0.500	**	**	"	**	н	u	
1,3-Dichlorobenzene	ND	0.500	tt	"	"	**	"	ir	
,4-Dichlorobenzene	ND	0.500	**	11	n	"	11		
Dichlorodifluoromethane	ND	0.500	Ħ	н	11		tt	u	
,1-Dichloroethane	ND	0.500	**	"	11		11	u	
,2-Dichloroethane	ND	0.500	**	#	**	"	**	u	
•			**	**	11	11	"	11	
1,1-Dichloroethene	ND	0.500	"	"	"			.,	

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 12/04/01 17:39

WDNR Volatile Organic Compounds by Method 8021

Great Lakes Analytical--Oak Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-4 (W111177-04) Water	Sampled: 11/28/01 12:00	Received:	11/28/01	15:44					
trans-1,2-Dichloroethene	ND	0.500	ug/l	1	1110088	11/29/01	11/29/01	EPA 8021B	
1,2-Dichloropropane	ND	0.500	н	**	**	"	"	11	
1,3-Dichloropropane	ND	0.500	11	**	11	H	**	"	
2,2-Dichloropropane	ND	0.500	**	*	**	**	**	"	
Di-isopropyl ether	ND	5.00	11	Ħ	**	**	**	**	
Ethylbenzene	ND	0.500	**	11	Ħ	11	11	**	
Hexachlorobutadiene	ND	5.00	**	**	н	**	н	11	
Isopropylbenzene	ND	0.500	11	Ħ	н	Ħ	**	tt.	
p-Isopropyltoluene	ND	0.500	**	**	11	n	"	tt	
Methylene chloride	ND	0.530	**	**	11	11	n	Ħ	
Methyl tert-butyl ether	ND	0.500	н	11		#	11	11	
Naphthalene	ND	2.00	**	· w	H		"	, u ,	
n-Propylbenzene	ND	0.500	**	"	н	н	"	11	
1,1,2,2-Tetrachloroethane	ND	0.350	n	**	11	n.	**	"	
Tetrachloroethene	3.97	0.500	11	**	**	Ħ	11/30/01	11	
Toluene	ND	0.500	#	"	**	n.	11/29/01	11	
1,2,3-Trichlorobenzene	ND	2.00	н	"	н	**	11	11	
1,2,4-Trichlorobenzene	ND	2.00	**	"	**	"	**	11	
1,1,1-Trichloroethane	ND	0.500	"	"	**	u	**	11	
1,1,2-Trichloroethane	ND	0.160	н	11	**	"	**	11	
Trichloroethene	ND	0.500	н	"		"	**	11	
Trichlorofluoromethane	ND	0.500	11	**	**	"	и	41	
1,2,4-Trimethylbenzene	ND	1.00	#	"	**	*	н	11	
1,3,5-Trimethylbenzene	ND	1.00	11	11	*	**	"	11	
Vinyl chloride	ND	0.170	**	11	**	**	**	tt	
Total Xylenes	ND	0.500	11	11	**	**	n	11	
Surrogate: 1-Cl-4-FB (ELCD)		154 %	80-	120	"	#	"	"	05
Surrogate: 1-Cl-4-FB (PID)		134 %		120	"	"	и	"	05

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 12/04/01 17:39

WDNR Volatile Organic Compounds by Method 8021

Great Lakes Analytical-Oak Creek

		Reporting			•				
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-5 (W111177-05) Water	Sampled: 11/28/01 11:15	Received:	11/28/01	15:44					
Benzene	ND	0.500	ug/l	1	1110088	11/29/01	11/29/01	EPA 8021B	
Bromobenzene	ND	0.500	#	"	**	n	**	*	
Bromodichloromethane	ND	0.500	"	11	11	**	**	**	
n-Butylbenzene	ND	0.500	"	**	#	н	**	*	
sec-Butylbenzene	ND	0.500	**	41	11	Ħ	**	#	
tert-Butylbenzene	ND	0.500	11	**	n	11	**	Ħ	
Carbon tetrachloride	ND	0.500	**	**	"	**	"	11	
Chlorobenzene	ND	0.500	11	"	H .	***	"	н	
Chloroethane	ND	0.500	**	"	"	11	**	Ħ	
Chloroform	ND	0.140	**	**	II .	"	**	**	
Chloromethane	ND	0.600	**	**	"	11	**	**	
2-Chlorotoluene	ND	0.500	**	11	*	tt	#	#	
4-Chlorotoluene	ND	0.500	"	"	**	"	11	**	
Dibromochloromethane	ND	0.500	n	"	Ħ	u	**	"	
1,2-Dibromo-3-chloropropane	ND	0.390	и	#	**	II .	"	"	
1,2-Dibromoethane	ND	0.380	**	**	**	n	Ħ	"	
1,2-Dichlorobenzene	ND	0.500	**	**	**	"	**	"	
1,3-Dichlorobenzene	ND	0.500	#	#	**	"	"	"	
1,4-Dichlorobenzene	ND	0.500	Ħ	**	11	**	"	"	
Dichlorodifluoromethane	ND	0.500	Ħ	#	11	**	**	"	
1,1-Dichloroethane	ND	0.500	**	**	11	11	11	11	
1,2-Dichloroethane	ND	0.500	**	**		#	**	"	
1,1-Dichloroethene	ND	0.500	**	"	11	** .	**	n	
cis-1,2-Dichloroethene	ND	0.500	"	"	u	**	**	**	
trans-1,2-Dichloroethene	ND	0.500	**	**	11	11	**	et .	
1,2-Dichloropropane	ND	0.500	**	**	11	Ħ	**	**	
1,3-Dichloropropane	ND	0.500	**	ij	"	"	**	Ħ	
2,2-Dichloropropane	ND	0.500	**	"	11	Ħ	**	Ħ	
Di-isopropyl ether	ND	5.00	**	"	11	**	"	n	
Ethylbenzene	ND	0.500	"	"	**	Ħ	#	#	
Hexachlorobutadiene	ND	5.00	"		#1	"	**	н	
Isopropylbenzene	ND	0.500	"	**	11	**	**	Ħ	
p-Isopropyltoluene	ND	0.500	"	н	#	#	11	н	
Methylene chloride	ND	0.530	"	**	**	**	11	"	
Methyl tert-butyl ether	3.75	0.500		"	**	n	#	**	
Naphthalene	ND	2.00	"	**	**	**	**	11	
n-Propylbenzene	ND	0.500	"	**	**	н	**	tt	
1,1,2,2-Tetrachloroethane	ND	0.350	11	"	**	н	If		
Tetrachloroethene	ND	0.500	**	**	"	11	"	Ħ	

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 12/04/01 17:39

WDNR Volatile Organic Compounds by Method 8021

Great Lakes Analytical--Oak Creek

MW-5 (W111177-05) Water S Toluene 1,2,3-Trichlorobenzene	Sampled: 11/28/01 11:15 ND	Received.			Batch	Prepared	Analyzed	Method	Notes
	NID	Meceiven:	11/28/01	15:44					
1.2.3-Trichlorobenzene	מאז	0.500	ug/l	1	1110088	11/29/01	11/29/01	EPA 8021B	
	ND	2.00	"	H	11	11	ıı	**	
1,2,4-Trichlorobenzene	ND	2.00	"	**	**	Ħ	11	#	
1,1,1-Trichloroethane	ND	0.500		**	**	Ħ	н	11	
1,1,2-Trichloroethane	ND	0.160	"	11	11	11	**	**	
Trichloroethene	ND	0.500	**	**	**	"	11	11	
Trichlorofluoromethane	ND	0.500	**	11	н	"	**	**	
1,2,4-Trimethylbenzene	ND	1.00	**	"	ŧI	"	н	**	
1,3,5-Trimethylbenzene	ND	1.00	**	"	H	**	ŧr	rr r	
Vinyl chloride	ND	0.170	**	"	11	"	"	H	
Total Xylenes	ND	0.500	**		11	"	"	**	
Surrogate: 1-Cl-4-FB (ELCD)		116%	80-	120	,,	"	,,	"	
Surrogate: 1-Cl-4-FB (PID)		114 %		120	"	"	"	"	
	Sampled: 11/28/01 10:40								
Benzene	ND	0.500	ug/l	1	1110088	11/29/01	11/29/01	EPA 8021B	
Bromobenzene	ND	0.500	**	**	**	tt	11	н	
Bromodichloromethane	ND	0.500	**	**	***	**	н	н	
n-Butylbenzene	ND	0.500	"	H .	11	11	**	H	
sec-Butylbenzene	ND	0.500	**	**	н	**		II .	
tert-Butylbenzene	ND	0.500	**	н	н	11	**	11	
Carbon tetrachloride	ND	0.500	11	11	H	11	11	11	
Chlorobenzene	ND	0.500	**	11	#1	11	n	Ħ	
Chloroethane	ND	0.500	"	17	**	Ħ	tt	11	
Chloroform	ND	0.140	"	Ħ	11	н	н	"	
Chloromethane	ND	0.600	"	**	21	ŧi	н	u	
2-Chlorotoluene	ND	0.500	**	11	#1	**	"	Ħ .	
4-Chlorotoluene	ND	0.500	**	"	81	"	**	#	
Dibromochloromethane	ND	0.500	Ħ	"	11	"	Ħ	11	
1,2-Dibromo-3-chloropropane	ND	0.390	H	t1	61	11	н	Ħ	
1,2-Dibromoethane	ND	0.380	11	11	**	II .	**	**	
1,2-Dichlorobenzene	ND	0.500	**	**	11	**	n	11	
1,3-Dichlorobenzene	ND	0.500	11	"	**	"	11	11	
1,4-Dichlorobenzene	ND	0.500	11	"	н	u	11	19	
Dichlorodifluoromethane	ND	0.500	11	**	11	**	11	11	
1,1-Dichloroethane	ND	0.500	н	**	Ħ	"	11	19	
1,2-Dichloroethane	ND	0.500	Ħ	"	H	**	н	н	
1,1-Dichloroethene	ND	0.500	"	и	"	11	н	u	
cis-1,2-Dichloroethene	ND	0.500	"	"	**	11	*	**	

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 12/04/01 17:39

WDNR Volatile Organic Compounds by Method 8021

Great Lakes Analytical--Oak Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-6 (W111177-06) Water	Sampled: 11/28/01 10:40	Received:	11/28/01	15:44					
trans-1,2-Dichloroethene	ND	0.500	ug/l	1	1110088	11/29/01	11/29/01	EPA 8021B	
1,2-Dichloropropane	ND	0.500		**	11	Ħ	**	**	
1,3-Dichloropropane	ND	0.500	**	**	**		**	**	
2,2-Dichloropropane	ND	0.500	Ħ		н	ń	11	11	
Di-isopropyl ether	ND	5.00	**	11	11	**	II	11	
Ethylbenzene	ND	0.500	**	"	11	n	, u	n	
Hexachlorobutadiene	ND	5.00	"	#	11	**	Ħ	"	
Isopropylbenzene	ND	0.500	tt	Ħ	11	#	**		
p-Isopropyltoluene	ND	0.500	**	Ħ	H	"	**		
Methylene chloride	ND	0.530	**	н	Ħ	11	**	"	
Methyl tert-butyl ether	ND	0.500	41	"	"	**	**	**	
Naphthalene	ND	2.00	**	"	. 11		**	11	
n-Propylbenzene	ND	0.500	**	Ħ	11	**	**	44	
1,1,2,2-Tetrachloroethane	ND	0.350	11	н	н	"	**	**	
Tetrachloroethene	ND	0.500	**	Ħ	Ħ	"		4	
Toluene	ND	0.500	**	"	Ħ	**	"	Ħ	
1,2,3-Trichlorobenzene	ND	2.00		**	H	**	"	Ħ	
1,2,4-Trichlorobenzene	ND	2.00	"	11	11	**	11	**	
1,1,1-Trichloroethane	ND	0.500	**	Ħ	Ħ	11	"	",	
1,1,2-Trichloroethane	ND	0.160	*	•	Ħ	**	**	#	
Trichloroethene	ND	0.500	**	**	**	n	**	H	
Trichlorofluoromethane	ND	0.500	"			**	"	**	
1,2,4-Trimethylbenzene	ND	1.00	**		W	n .	**	**	
1,3,5-Trimethylbenzene	ND	1.00	**	**	ıı	11	"	**	
Vinyl chloride	ND	0.170	**	**	**	tt	#	n	
Total Xylenes	ND	0.500	Ħ	**	"	**	"	11	
Surrogate: 1-Cl-4-FB (ELCD)		178 %	80-	120	"	"	"	"	05
Surrogate: 1-Cl-4-FB (PID)		122 %		120	"	#	"	"	05

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 12/04/01 17:39

WDNR Volatile Organic Compounds by Method 8021

Great Lakes Analytical--Oak Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Dup (W111177-07) Water	Sampled: 11/28/01 00:00	Received: 11	/28/01 15	:44					
Benzene	ND	0.500	ug/l	1	1110088	11/29/01	11/30/01	EPA 8021B	
Bromobenzene	ND	0.500	**	**	Ħ	"	H	"	
Bromodichloromethane	ND	0.500	**	**	11	"	**	"	•
n-Butylbenzene	ND	0.500	11	#1	Ħ	"	u	Ħ	
sec-Butylbenzene	ND	0.500	**	17	Ħ	"	· ·	n	
tert-Butylbenzene	ND	0.500	**	11	н	"	Ü	н	
Carbon tetrachloride	ND	0.500	**	**	Ħ	"	Ü	n	
Chlorobenzene	ND .	0.500	11	**	n	**	•	n .	
Chloroethane	ND	0.500	11	n	Ħ	**	**	n	
Chloroform	ND	0.140	**	*	н	#	"	n	
Chloromethane	ND	0.600	**	"	Ħ	"	11	n .	
2-Chlorotoluene	ND	0.500	**	"	#	11	n	**	
4-Chlorotoluene	ND	0.500	e	"	**	Ħ	н	"	
Dibromochloromethane	ND	0.500		11	**	**	**	11	
1,2-Dibromo-3-chloropropane	e ND	0.390	*1	H	**	"	н	11	
1,2-Dibromoethane	ND	0.380	**	**	**	"	tt	н	
1,2-Dichlorobenzene	ND	0.500	#1	**	*1	11	"	H	
1,3-Dichlorobenzene	ND	0.500	**		н	**	**	**	
1,4-Dichlorobenzene	ND	0.500	Ħ	н	Ħ	"	11	11	
Dichlorodifluoromethane	ND	0.500	#	11	**	#	Ħ	11	
1.1-Dichloroethane	ND	0.500	**	41	**	**	н	11	
1,2-Dichloroethane	ND	0.500	11	11	"	#	**	11	
1,1-Dichloroethene	ND	0.500	**	n		**	н	Ħ	
cis-1,2-Dichloroethene	92.2	5.00		10		11	12/03/01	н	G12
trans-1,2-Dichloroethene	7.25	0.500	**	1	**	"	11/30/01	tt	
1,2-Dichloropropane	ND	0.500	16	**	**		11	"	
1,3-Dichloropropane	ND	0.500	11	"	11	11	11	H	
2,2-Dichloropropane	ND	0.500	**	"	н	**	11	11	
Di-isopropyl ether	ND	5.00	**	"	н	п	ti	11	
Ethylbenzene	ND	0.500	"	"		11	**	11	
Hexachlorobutadiene	ND	5.00	"	tt	**	"	"	tt	
Isopropylbenzene	ND	0.500	"	n	**	u	11	n	
p-Isopropyltoluene	ND	0.500	**	"	н	11	Ħ	"	
Methylene chloride	ND	0.530	**	**	н	11	н	"	
Methyl tert-butyl ether	ND	0.500	**	11	n .	n n	p	11	
Naphthalene	ND	2.00	"	11	"	Ħ	**	11	
n-Propylbenzene	ND	0.500	"	н	"	H	"	11	
1,1,2,2-Tetrachloroethane	ND	0.350	**	**	"	**	11	tt	
Tetrachloroethene	14200	250	**	500	"	11	12/03/01		G12

Great Lakes Analytical--Oak Creek

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Andrea Stathas, Project Manager

Page 12 of 35



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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 12/04/01 17:39

WDNR Volatile Organic Compounds by Method 8021

Great Lakes Analytical--Oak Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Dup (W111177-07) Water	Sampled: 11/28/01 00:00	Received: 11	/28/01 15	5:44					
Toluene	ND	0.500	ug/l	1	1110088	11/29/01	11/30/01	EPA 8021B	
1,2,3-Trichlorobenzene	ND	2.00	**	Ħ	**	**	"	"	
1,2,4-Trichlorobenzene	ND	2.00	"	tt	**	Ħ	11	H	
1,1,1-Trichloroethane	ND	0.500	н	**	#	11		"	
1,1,2-Trichloroethane	ND	0.160	**	**	11	#	n	"	
Trichloroethene	37.9	0.500	Ħ	**	u	II .	Ħ	"	
Trichlorofluoromethane	ND	0.500	**	**	tt .	"	**	"	
1,2,4-Trimethylbenzene	. ND	1.00	**	**	**	#	**	11	
1,3,5-Trimethylbenzene	ND	1.00	. "	**	#	**	**	n	
Vinyl chloride	ND	0.170	#	n	Ħ	11	11	· ·	
Total Xylenes	ND	0.500	#	"	#	"	11	n .	
Surrogate: 1-Cl-4-FB (ELCL))	137 %	80-	-120	"	"	"	"	O5
Surrogate: 1-Cl-4-FB (PID)		83.0 %	80-	-120	"	"	"	"	

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 12/04/01 17:39

WDNR Volatile Organic Compounds by Method 8021 (Blanks)

Great Lakes Analytical--Oak Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Equip (W111177-08) Water	Sampled: 11/28/01 00:00						-9-1-		
Benzene	ND	0.500	ug/l	1	1110088	11/29/01	11/30/01	EPA 8021B	
Bromobenzene	ND	0.500	11	"	"	"	#	"	
Bromodichloromethane	ND	0.500	**	**	"	**	**	•	
n-Butylbenzene	ND	0.500	#	и	**	11	Ħ	"	
sec-Butylbenzene	ND	0.500	n	Ħ	"	**	11	"	
tert-Butylbenzene	ND	0.500	#	**	"	11	**	**	
Carbon tetrachloride	ND	0.500	**	"	11	H	**	11	
Chlorobenzene	ND	0.500	H	**	**	***	"	11	
Chloroethane	ND	0.500	"	**	11	11	"	**	
Chloroform	ND	0.140	Ħ	11	**	11	**	n	
Chloromethane	ND	0.600	"	"	11	11	"	**	
2-Chlorotoluene	ND	0.500	**	**	11	11	11	**	
4-Chlorotoluene	ND	0.500		"	11	H	#1	и.	
Dibromochloromethane	ND	0.500	**	"	11	11	11	"	
1,2-Dibromo-3-chloropropane	ND	0.390		n	11	11	11	11	
1,2-Dibromoethane	ND	0.380		"	11	n	ŧŧ	"	
1,2-Dichlorobenzene	ND	0.500	"	"	tt	tt	11	TT .	
1,3-Dichlorobenzene	ND	0.500	"	"	**	tt .	н	11	
1,4-Dichlorobenzene	ND	0.500	**	11	11			11	
Dichlorodifluoromethane	ND	0.500	11	11	***	**	11	11	
1,1-Dichloroethane	ND	0.500	"	11	"	**	H	11	
1,2-Dichloroethane	ND	0.500	Ħ	**	"	**	11	**	
1,1-Dichloroethene	ND	0.500	H	**	"	"	"	n	
cis-1,2-Dichloroethene	ND	0.500	H	**	"	**	u	н	
trans-1,2-Dichloroethene	ND	0.500	**	**	11	**	"	н	
1,2-Dichloropropane	ND	0.500	**		fI	**	11	**	
1,3-Dichloropropane	ND	0.500		n	н	Ħ	п	•	
2,2-Dichloropropane	ND	0.500	11	11	н	II .	**	**	
Di-isopropyl ether	ND	5.00	#1	11		н	ıı	"	
Ethylbenzene	ND	0.500	**	Ħ	11	"	"	н	
Hexachlorobutadiene	ND	5.00	**	Ħ	11	**	**	**	
Isopropylbenzene	ND	0.500	**	"	n	11	ıı	"	
p-Isopropyltoluene	ND	0.500	**	**	ti	11	**	11	
Methylene chloride	ND	0.530	**	**	ŧI	н	11	11	
Methyl tert-butyl ether	ND	0.500	"	"	If	ti	"	11	
Naphthalene	ND	2.00	"	"	Ħ	н		11	
n-Propylbenzene	ND ND	0.500	**	**	**	н	.,	11	
1,1,2,2-Tetrachloroethane	ND	0.350	n	**	**	**	**	н	
Tetrachloroethene	ND ND	0.500	н	II	**	"	**	**	
i ou aomorocuiche	ND	0.500							

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 12/04/01 17:39

WDNR Volatile Organic Compounds by Method 8021 (Blanks)

Great Lakes Analytical--Oak Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Equip (W111177-08) Water	Sampled: 11/28/01 00:00	Received:	11/28/01	15:44					
Toluene	ND	0.500	ug/l	1	1110088	11/29/01	11/30/01	EPA 8021B	
1,2,3-Trichlorobenzene	ND	2.00	H	**	**	11	u	'n	
1,2,4-Trichlorobenzene	ND	2.00	H	11	11	Ħ	"	11	
1,1,1-Trichloroethane	ND	0.500	#	11	**	**	11	u	
1,1,2-Trichloroethane	ND	0.160	"	**	**	**	**	н .	
Trichloroethene	ND	0.500	Ħ	11	11	а	11	Ħ	
Trichlorofluoromethane	ND	0.500	"	н	"	н	"	Ħ	
1,2,4-Trimethylbenzene	ND	1.00	#	Ħ	**	**	"	m	
1,3,5-Trimethylbenzene	ND	1.00	11	n	16	**	11	**	
Vinyl chloride	ND	0.170	11	**	tt	**	Ħ	tt :	
Total Xylenes	ND	0.500	"		11				
Surrogate: 1-Cl-4-FB (ELCD)		96.4 %	80-	120	"	"	"	"	
Surrogate: 1-Cl-4-FB (PID)		117%		120	n	rr r	"	"	
, ,	Sampled: 11/28/01 00:00	Received: 11	/28/01 15	5:44				_	
Benzene	ND	0.500	ug/l	1	1110088	11/29/01	11/30/01	EPA 8021B	
Bromobenzene	ND	0.500	"	"	11	**	"	• (1	
Bromodichloromethane	ND	0.500	**	**	"	n	**	**	
n-Butylbenzene	ND	0.500	Ħ	11	11	11	11	Ħ	
sec-Butylbenzene	ND	0.500	**	11	**	11	"	**	
tert-Butylbenzene	. ND	0.500	11	11	Ħ	**	11	11	
Carbon tetrachloride	ND	0.500	11	а	**	11	n	**	
Chlorobenzene	ND	0.500	**	Ħ	11	и.	u	. 11	
Chloroethane	ND	0.500	Ħ	11	17	11	11	**	
Chloroform	ND	0.140	**	**	tt.	11	11	**	
Chloromethane	ND	0.600	17	"	**	n ,	11	н	
2-Chlorotoluene	ND	0.500	Ħ	u	"	#	**	**	
4-Chlorotoluene	ND	0.500	·	11		n	H	"	
Dibromochloromethane	ND	0.500	u	**	#	u	u	**	
1,2-Dibromo-3-chloropropane	ND	0.390	**	11	#	"	11	**	
1,2-Dibromoethane	ND	0.380	**	"	**	17	n	**	
1,2-Dichlorobenzene	ND	0.500	**	**	"	11	**	**	
1,3-Dichlorobenzene	ND	0.500	Ħ	11	"	H	**	**	
1,4-Dichlorobenzene	ND	0.500	"	"	"	н	"	**	
Dichlorodifluoromethane	ND	0.500	11	н	11	**	"	ti.	
1,1-Dichloroethane	ND	0.500	11	tt .	11	11	н	n	
1,2-Dichloroethane	ND	0.500	#	11	**	**		u	
1,1-Dichloroethene	ND	0.500	•	11	11	"	"	н	
cis-1,2-Dichloroethene	ND	0.500	11	#	"	II .	11	11	

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road

Project Number: 6515

Reported: 12/04/01 17:39

Oak Creek WI, 53154

Project Manager: Jim Westerman

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 (W111177-09) Water	Sampled: 11/28/01 00:00	Received: 11	/28/01 1	5:44					
trans-1,2-Dichloroethene	ND	0.500	ug/l	1	1110088	11/29/01	11/30/01	EPA 8021B	
1,2-Dichloropropane	ND	0.500	11	11	11	11	и	· ·	
1,3-Dichloropropane	ND	0.500	tt	11	Ħ	н	**	u	
2,2-Dichloropropane	ND	0.500	11	Ħ	11	n	•	u	
Di-isopropyl ether	ND	5.00	**		**	**	"	u	
Ethylbenzene	ND	0.500	"	*	"	**	"	н	
Hexachlorobutadiene	ND	5.00	11	**	"	11	11	н	
Isopropylbenzene	ND .	0.500	11	11	#1	tt	11	11	
p-Isopropyltoluene	ND	0.500	**	Ħ	"	11	11	H	
Methylene chloride	ND	0.530	11	п	"	11	n	н	
Methyl tert-butyl ether	ND	0.500	11	"	"	Ħ	11	n	
Naphthalene	ND	2.00	**	**	"	"	и	**	
n-Propylbenzene	ND	0.500	11	11	11	**	н	"	
1,1,2,2-Tetrachloroethane	ND	0.350	11	11	11	11	Ħ		
Tetrachloroethene	ND	0.500	11	n	n	11	н	**	
Toluene	ND	0.500	**	"	11	n	**	н	
1,2,3-Trichlorobenzene	ND	2.00	"	**	11	11	11	Ħ	
1,2,4-Trichlorobenzene	ND	2.00	н	11	н	11	11	n	
1,1,1-Trichloroethane	ND	0.500	Ħ	н	11	"	н	"	
1,1,2-Trichloroethane	ND	0.160	н	#	11	"	tt	n	
Trichloroethene	ND	0.500	"	#	11	n	tt	"	
Trichlorofluoromethane	ND	0.500	"	11	11	11	и	ii .	
1,2,4-Trimethylbenzene	ND	1.00		Ħ	Ħ	n .	**	"	
1,3,5-Trimethylbenzene	ND	1.00	•	"	**	11	**	11	
Vinyl chloride	ND	0.170	11	**	**	11	"	н	
Total Xylenes	ND	0.500	H	11	"	**	11	n	
Surrogate: 1-Cl-4-FB (ELCL))	96.4 %	80-	-120	"	"	"	"	
Surrogate: 1-Cl-4-FB (PID)		110 %		-120	"	"	"	n .	

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 12/04/01 17:39

General Chemistry Great Lakes Analytical

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-2 (W111177-02) Water	Sampled: 11/28/01 11:40	Received:	11/28/01	15:44					
Nitrate as N	2.14	0.0500	mg/l	1	1110485	11/29/01	11/29/01	EPA 353.2	
Sulfate as SO4	25.8	10.0	**	"	1110494	11/29/01	11/30/01	EPA 375.4	
MW-3 (W111177-03) Water	Sampled: 11/28/01 12:30	Received:	11/28/01	15:44	-				
Nitrate as N	3.54	0.250	mg/l	5	1110485	11/29/01	11/29/01	EPA 353.2	G12
Sulfate as SO4	28.3	10.0	"	1	1110494	11/29/01	11/30/01	EPA 375.4	
MW-4 (W111177-04) Water	Sampled: 11/28/01 12:00	Received:	11/28/01	15:44					
Nitrate as N	0.101	0.0500	mg/l	1	1110485	11/29/01	11/29/01	EPA 353.2	
Sulfate as SO4	174	20.0	11	2	1110494	11/29/01	11/30/01	EPA 375.4	G12
MW-5 (W111177-05) Water	Sampled: 11/28/01 11:15	Received:	11/28/01	15:44					
Nitrate as N	ND	0.0500	mg/l	1	1110485	11/29/01	11/29/01	EPA 353.2	
Sulfate as SO4	27.2	10.0	**	#1	1110494	11/29/01	11/30/01	EPA 375.4	
MW-6 (W111177-06) Water	Sampled: 11/28/01 10:40	Received:	11/28/01	15:44					
Nitrate as N	0.378	0.0500	mg/l	1	1110485	11/29/01	11/29/01	EPA 353.2	
Sulfate as SO4	135	10.0	**	"	1110494	11/29/01	11/30/01	EPA 375.4	

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 12/04/01 17:39

Dissolved Metals by EPA 6000/7000 Series Methods

Great Lakes Analytical

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-2 (W111177-02) Water	Sampled: 11/28/01 11:40	Received:	11/28/01	15:44					
Manganese	0.304	0.0500	mg/l	1	1110499	11/30/01	11/30/01	EPA 6010B	
MW-3 (W111177-03) Water	Sampled: 11/28/01 12:30	Received:	11/28/01	15:44					
Manganese	0.120	0.0500	mg/l	1	1110499	11/30/01	11/30/01	EPA 6010B	
MW-4 (W111177-04) Water	Sampled: 11/28/01 12:00	Received:	11/28/01	15:44					
Manganese	0.282	0.0500	mg/i	1	1110499	11/30/01	11/30/01	EPA 6010B	
MW-5 (W111177-05) Water	Sampled: 11/28/01 11:15	Received:	11/28/01	15:44					
Manganese	0.565	0.0500	mg/l	1	1110499	11/30/01	11/30/01	EPA 6010B	
MW-6 (W111177-06) Water	Sampled: 11/28/01 10:40	Received:	11/28/01	15:44					
Manganese	0.230	0.0500	mg/l	1	1110499	11/30/01	11/30/01	EPA 6010B	٠

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 12/04/01 17:39

Polynuclear Aromatic Compounds by EPA Method 8310

Great Lakes Analytical

		Reporting			-				
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-4 (W111177-04) Water	Sampled: 11/28/01 12:00	Received:	11/28/01	15:44					
Acenaphthene	ND	5.00	ug/l	1	1110495	11/29/01	11/30/01	EPA 8310	
Acenaphthylene	ND	5.00	**	Ħ	"	#	**	e e	
Anthracene	ND	5.00	**	**	n	11	. #		
Benz (a) anthracene	ND	0.100	#	Ħ	"	11	**	н	
Benzo (a) pyrene	ND	0.0200	**	**	"	11	#	ti .	
Benzo (b) fluoranthene	ND	0.0200	"	u		Ħ	**	**	
Benzo (ghi) perylene	ND	5.00	11	Ħ	"	н	11	**	
Benzo (k) fluoranthene	ND	0.100	#	u	11	11	u	#	
Chrysene	ND	0.0200	#	"	n	11	11	n	
Dibenz (a,h) anthracene	ND	0.100	**	"	H	n	11	**	
Fluoranthene	ND	5.00	**	"	"	**	ŧı	**	
Fluorene	ND	5.00	ŧŧ	11	11	**	**	#	
Indeno (1,2,3-cd) pyrene	ND	0.200	11	**	11	**	n	11	
1-Methylnaphthalene	ND	5.00	**	**	#	•		**	
2-Methylnaphthalene	ND	5.00	"	11	#	II.		**	
Naphthalene	ND	5.00	**	**	**	11	11	**	
Phenanthrene	ND	5.00	11	11	11	Ħ		n	
Pyrene	ND	5.00	11	Ħ		"	**	11	
Surrogate: Carbazole		86.1 %	24.5	-122	"	"	"	n n	
MW-5 (W111177-05) Water	Sampled: 11/28/01 11:15								
Acenaphthene	ND	5.00	ug/l	1	1110495	11/29/01	11/30/01	EPA 8310	
Acenaphthylene	ND	5.00	"		**	Ħ,	n	Ħ	
Anthracene	ND	5.00	11	**	**	**	11	n	
Benz (a) anthracene	ND	0.100	11	**	tt	н	**	**	
Benzo (a) pyrene	ND	0.0200	tt	**	**	**	"	tt	
Benzo (b) fluoranthene	ND	0.0200	11	**	**		#	Ħ	
Benzo (ghi) perylene	ND	5.00	11	**	**	11	**	Ħ	
Benzo (k) fluoranthene	ND	0.100	Ħ	**	"	H .	**	**	
Chrysene	ND	0.0200	**	**	"	11	"	**	
Dibenz (a,h) anthracene	ND	0.100	**	W.	**	**	11	11	
Fluoranthene	ND	5.00	**	и		**		**	
Fluorene	ND	5.00	•		**	11	II	**	
Indeno (1,2,3-cd) pyrene	ND ND	0.200	*	"	"	"	11	n	
1-Methylnaphthalene	ND	5.00	**	**	**	**	u	11	
2-Methylnaphthalene	ND ND	5.00	"	**	"	**	11	**	
Naphthalene	ND ND	5.00	"	**	**	"	"	н	
-	ND	5.00	11	**	**	**	11	11	
Phenanthrene Program	ND ND		4	,,	**	11	11		
Pyrene	ND	5.00	••	**			**	**	

Great Lakes Analytical--Oak Creek

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Andrea Stathas, Project Manager

Page 19 of 35



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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 12/04/01 17:39

Polynuclear Aromatic Compounds by EPA Method 8310

Great Lakes Analytical

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-5 (W111177-05) Water	Sampled: 11/28/01 11:15	Received:	11/28/01	15:44					
Surrogate: Carbazole		415 %	24.	5-122	1110495	11/29/01	11/30/01	EPA 8310	05
MW-6 (W111177-06) Water	Sampled: 11/28/01 10:40	Received:	11/28/01	15:44					
Acenaphthene	ND	5.00	ug/l	1	1110495	11/29/01	11/30/01	EPA 8310	
Acenaphthylene	ND	5.00		n	11	11	"	н	
Anthracene	ND	5.00	**	***	#1	н	ч	tt .	
Benz (a) anthracene	ND	0.100	**	**	**	II	**	**	
Benzo (a) pyrene	ND	0.0200		11	*1	tt	**	**	
Benzo (b) fluoranthene	ND	0.0200		#1	**	11	**	•	
Benzo (ghi) perylene	ND	5.00	**	11	**	#	11	**	
Benzo (k) fluoranthene	ND	0.100	**	11	**	Ħ	11	н	
Chrysene	ND	0.0200	**	Ħ	tt	н	11	и	
Dibenz (a,h) anthracene	ND	0.100	**	11	Ħ	н	11	n .	
Fluoranthene	ND	5.00	19	tt	*1	11	**	н	
Fluorene	ND	5.00	"	11	Ħ	n	н	n	
Indeno (1,2,3-cd) pyrene	ND	0.200	**	Ħ	11	"	**	"	
1-Methylnaphthalene	ND	5.00	11	11	**	**	**	11	
2-Methylnaphthalene	ND	5.00	**	**	**	"	•	"	
Naphthalene	ND	5.00	"	11	•	Ħ	**	11	
Phenanthrene	ND	5.00	**	**	11	tf .	**	Ħ	
Pyrene	ND	5.00	H	"	11	11	Ħ	11	
Surrogate: Carbazole		86.1 %	24.	5-122	"	"	"	"	

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 12/04/01 17:39

Diesel Range Organics (DRO) by WDNR DRO - Quality Control Great Lakes Analytical--Oak Creek

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1110085 - EPA 3510C		·								· · · · · · · · · · · · · · · · · · ·
Blank (1110085-BLK1)				Prepared	& Analyze	ed: 11/29/	01			
Diesel Range Organics (DRO)	ND	0.100	mg/l							
LCS (1110085-BS1)				Prepared	& Analyze	ed: 11/29/	01			
Diesel Range Organics (DRO)	0.800	0.100	mg/l	1.00		80.0	75-115			
LCS Dup (1110085-BSD1)				Prepared	& Analyzo	ed: 11/29/	01			
Diesel Range Organics (DRO)	0.870	0.100	mg/l	1.00		87.0	75-115	8.38	20	

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 12/04/01 17:39

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 1110088 - EPA 5030B (P/T)										
Blank (1110088-BLK1)				Prepared	& Analyzo	ed: 11/29/	01			
Benzene	ND	0.500	ug/l		-					
Bromobenzene	ND	0.500	11							
Bromodichloromethane	ND	0.500	**							
n-Butylbenzene	ND	0.500	**							
sec-Butylbenzene	ND	0.500	**							
tert-Butylbenzene	ND	0.500	**							
Carbon tetrachloride	ND	0.500	**							
Chlorobenzene	ND	0.500	Ħ							
Chloroethane	ND	0.500	"							
Chloroform	ND	0.140	11							
Chloromethane	ND	0.600	н							
2-Chlorotoluene	ND	0.500	**							
4-Chlorotoluene	ND	0.500	11							
Dibromochloromethane	ND	0.500	н							
1,2-Dibromo-3-chloropropane	ND	0.390	14							
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	11							
1,1-Dichloroethane	ND	0.500	"							
1,2-Dichloroethane	ND	0.500	"							
1,1-Dichloroethene	ND	0.500	"							
cis-1,2-Dichloroethene	ND	0.500	**							
trans-1,2-Dichloroethene	ND	0.500	10							
1,2-Dichloropropane	ND	0.500	"							
1,3-Dichloropropane	ND	0.500	"							
2,2-Dichloropropane	ND	0.500	*							
Di-isopropyl ether	ND	5.00	"							
Ethylbenzene	ND	0.500	**							
Hexachlorobutadiene	ND	5.00	11							
Isopropylbenzene	ND	0.500	"							
p-Isopropyltoluene	ND	0.500	**							
Methylene chloride	ND	0.530	**							
	3.770	0.500								

Great Lakes Analytical--Oak Creek

Methyl tert-butyl ether

ND

0.500

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 12/04/01 17:39

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 1110088 - EPA 5030B (P/T)										
Blank (1110088-BLK1)				Prepared	& Analyze	ed: 11/29/	01			
Naphthalene	ND	2.00	ug/l							
n-Propylbenzene	ND	0.500	11							
1,1,2,2-Tetrachloroethane	ND	0.350	"							
Tetrachloroethene	ND	0.500	н							
Toluene	ND	0.500	"							
1,2,3-Trichlorobenzene	ND	2.00	Ħ							
1,2,4-Trichlorobenzene	ND	2.00	"							
1,1,1-Trichloroethane	ND	0.500	"							
1,1,2-Trichloroethane	ND	0.160	н							
Trichloroethene	ND	0.500	n							
Trichlorofluoromethane	ND	0.500	**							
1,2,4-Trimethylbenzene	ND	1.00	"							
1,3,5-Trimethylbenzene	ND	1.00	**							
Vinyl chloride	ND	0.170	11							
Total Xylenes	ND	0.500	11							
Surrogate: 1-Cl-4-FB (ELCD)	10.6		"	10.0		106	80-120			·
Surrogate: 1-Cl-4-FB (PID)	11.0		"	10.0		110	80-120			
LCS (1110088-BS1)				Prepared of	& Analyze	ed: 11/29/0	01			
Benzene	10.6	0.500	ug/l	10.0		106	85-115			
Bromobenzene	11.4	0.500	*1	10.0		114	85-115			
Bromodichloromethane	10.2	0.500	** .	10.0		102	85-115			
n-Butylbenzene	10.8	0.500	**	10.0		108	85-115			
sec-Butylbenzene	11.1	0.500	**	10.0		111	85-115			
tert-Butylbenzene	11.3	0.500	11	10.0		113	85-115			
Carbon tetrachloride	11.3	0.500	**	10.0		113	85-115			
Chlorobenzene	9.47	0.500	**	10.0		94.7	85-115			
Chloroethane	9.12	0.500	**	10.0		91.2	85-115			
Chloroform	10.6	0.140	**	10.0		106	85-115			
Chloromethane	8.86	0.600	••	10.0		88.6	85-115			
2-Chlorotoluene	10.1	0.500	**	10.0		101	85-115			
4-Chlorotoluene	10.6	0.500	**	10.0		106	85-115			
Dibromochloromethane	9.80	0.500	**	10.0		98.0	85-115			
1,2-Dibromo-3-chloropropane	11.0	0.390	**	10.0		110	85-115			
1,2-Dibromoethane	9.68	0.380	11	10.0		96.8	85-115			

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

Project Number: 6515

220 E. Ryan Road Oak Creek WI, 53154

Project Manager: Jim Westerman

Reported: 12/04/01 17:39

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 1110088 - EPA 5030B (P/T)			,					<u> </u>		
LCS (1110088-BS1)				Prepared	& Analyze	ed: 11/29/0	01			
1,2-Dichlorobenzene	11.5	0.500	ug/l	10.0		115	85-115			
1,3-Dichlorobenzene	10.7	0.500	11	10.0		107	85-115			
1,4-Dichlorobenzene	10.8	0.500	Ħ	10.0		108	85-115			
Dichlorodifluoromethane	8.65	0.500	11	10.0		86.5	85-115			
1,1-Dichloroethane	11.3	0.500	**	10.0		113	85-115			
1,2-Dichloroethane	11.4	0.500	**	10.0		114	85-115			
1,1-Dichloroethene	10.2	0.500	**	10.0		102	85-115			
cis-1,2-Dichloroethene	10.2	0.500	**	10.0		102	85-115			
trans-1,2-Dichloroethene	10.6	0.500	tt	10.0		106	85-115			
1,2-Dichloropropane	11.1	0.500	#1	10.0		111	85-115			
1,3-Dichloropropane	10.4	0.500	11	10.0		104	85-115			
2,2-Dichloropropane	11.5	0.500	11	10.0		115	85-115			
Di-isopropyl ether	10.7	5.00	tt	10.0		107	85-115			
Ethylbenzene	10.1	0.500	Ħ	10.0		101	85-115			
Hexachlorobutadiene	10.6	5.00	Ħ	10.0		106	85-115			
Isopropylbenzene	11.2	0.500	Ħ	10.0		112	85-115			
p-Isopropyltoluene	11.2	0.500	н	10.0		112	85-115			
Methylene chloride	10.5	0.530	**	10.0		105	85-115			
Methyl tert-butyl ether	10.6	0.500	#	10.0		106	85-115			
Naphthalene	11.3	2.00	Ħ	10.0		113	85-115			
n-Propylbenzene	11.1	0.500	**	10.0		111	85-115			
1,1,2,2-Tetrachloroethane	10.9	0.350	**	10.0		109	85-115			
Tetrachloroethene	10.8	0.500	**	10.0		108	85-115			
Toluene	10.7	0.500	**	10.0		107	85-115			
1,2,3-Trichlorobenzene	11.4	2.00	11	10.0		114	85-115			
1,2,4-Trichlorobenzene	11.1	2.00	**	10.0		111	85-115			
1,1,1-Trichloroethane	10.6	0.500	**	10.0		106	85-115			
1,1,2-Trichloroethane	10.1	0.160	**	10.0		101	85-115			
Trichloroethene	10.5	0.500	**	10.0		105	85-115			
Trichlorofluoromethane	8.87	0.500	H	10.0		88.7	85-115			
1,2,4-Trimethylbenzene	11.4	1.00	Ħ	10.0		114	85-115			
1,3,5-Trimethylbenzene	11.2	1.00	**	10.0		112	85-115			
Vinyl chloride	10.9	0.170	**	10.0		109	85-115			
Total Xylenes	31.8	0.500	"	30.0		106	85-115			
Surrogate: 1-Cl-4-FB (ELCD)	9.03		"	10.0		90.3	80-120			

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

220 E. Ryan Road Oak Creek WI, 53154 Project: 6515

Project Number: 6515

Project Manager: Jim Westerman

Reported: 12/04/01 17:39

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 1110088 - EPA 5030B (P/T)										-
LCS (1110088-BS1)				Prepared	& Analyze	ed: 11/29/0	01			
Surrogate: 1-Cl-4-FB (PID)	10.0		"	10.0		100	80-120			
Matrix Spike (1110088-MS1)	So	urce: W1111'	77-01	Prepared	& Analyze	ed: 11/29/0	01			
Benzene	9.68	0.500	ug/l	10.0	ND	96.8	75-125			
Bromobenzene	10.0	0.500	**	10.0	ND	100	75-125			
Bromodichloromethane	12.2	0.500	"	10.0	ND	122	75-125			
n-Butylbenzene	10.4	0.500	"	10.0	ND	104	75-125			
sec-Butylbenzene	9.98	0.500	**	10.0	ND	99.8	75-125			
tert-Butylbenzene	9.98	0.500	**	10.0	ND	99.8	75-125			
Carbon tetrachloride	10.8	0.500	**	10.0	ND	108	75-125			
Chlorobenzene	8.51	0.500	"	10.0	ND	85.1	75-125			
Chloroethane	8.79	0.500	11	10.0	ND	87.9	75-125			
Chloroform	9.06	0.140	**	10.0	ND	90.6	75-125			
Chloromethane	8.10	0.600	**	10.0	ND	81.0	75-125			
2-Chlorotoluene	9.00	0.500	**	10.0	ND	90.0	75-125			
4-Chiorotoluene	10.3	0.500	11	10.0	ND	103	75-125			
Dibromochloromethane	10.8	0.500	**	10.0	ND	108	75-125			
1,2-Dibromo-3-chloropropane	10.5	0.390	**	10.0	ND	105	75-125			
1,2-Dibromoethane	12.0	0.380	11	10.0	ND	120	75-125			
1,2-Dichlorobenzene	10.2	0.500	11	10.0	ND	102	75-125			
1,3-Dichlorobenzene	8.28	0.500	u	10.0	ND	82.8	75-125			
1,4-Dichlorobenzene	10.3	0.500	"	10.0	ND	103	75-125			
Dichlorodifluoromethane	7.52	0.500	"	10.0	ND	75.2	75-125			
1,1-Dichloroethane	11.0	0.500	Ħ	10.0	ND	110	75-125			
1,2-Dichloroethane	10.5	0.500	**	10.0	ND	105	75-125			
1,1-Dichloroethene	9.21	0.500	**	10.0	ND	92.1	75-125			
cis-1,2-Dichloroethene	9.28	0.500	н	10.0	ND	92.8	75-125			
trans-1,2-Dichloroethene	9.39	0.500	**	10.0	ND	93.9	75-125			
1,2-Dichloropropane	9.97	0.500	**	10.0	ND	99.7	75-125			
1,3-Dichloropropane	11.1	0.500	**	10.0	ND	111	75-125			
2,2-Dichloropropane	11.5	0.500	n	10.0	ND	115	75-125			
Di-isopropyl ether	9.74	5.00	n	10.0	ND	97.4	75-125			
Ethylbenzene	9.03	0.500	**	10.0	ND	90.3	75-125			
Hexachlorobutadiene	9.70	5.00	**	10.0	ND	97.0	75-125			
Isopropylbenzene	9.95	0.500	н	10.0	ND	99.5	75-125			

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 12/04/01 17:39

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 1110088 - EPA 5030B (P/T)		***								
Matrix Spike (1110088-MS1)	Soi	ırce: W1111	77-01	Prepared	& Analyze	ed: 11/29/0	01			
p-Isopropyltoluene	9.31	0.500	ug/l	10.0	ND	93.1	75-125			
Methylene chloride	10.2	0.530	**	10.0	ND	102	75-125			
Methyl tert-butyl ether	9.26	0.500	**	10.0	ND	92.6	75-125			
Naphthalene	10.4	2.00	11	10.0	ND	104	75-125			
-Propylbenzene	10.5	0.500	**	10.0	ND	105	75-125			
,1,2,2-Tetrachloroethane	10.4	0.350	"	10.0	ND	104	75-125			
etrachloroethene	9.79	0.500	"	10.0	ND	97.9	75-125			
Toluene	9.53	0.500	**	10.0	ND	95.3	75-125			
1,2,3-Trichlorobenzene	9.70	2.00	11	10.0	ND	97.0	75-125			
,2,4-Trichlorobenzene	9.99	2.00	11	10.0	ND	99.9	75-125			
,1,1-Trichloroethane	11.4	0.500	"	10.0	ND	114	75-125			
,1,2-Trichloroethane	10.8	0.160	11	10.0	ND	108	75-125			
richloroethene	9.34	0.500	**	10.0	ND	93.4	75-125			
richlorofluoromethane	9.48	0.500	Ħ	10.0	ND	94.8	75-125			
,2,4-Trimethylbenzene	9.90	1.00	**	10.0	ND	99.0	75-125			
,3,5-Trimethylbenzene	9.60	1.00	#	10.0	ND	96.0	75-125			
Vinyl chloride	9.30	0.170	**	10.0	ND	93.0	75-125			
Total Xylenes	28.7	0.500	Ħ	30.0	ND	95.7	75-125			
Gurrogate: 1-Cl-4-FB (ELCD)	9.38		"	10.0	•	93.8	80-120			
Surrogate: 1-Cl-4-FB (PID)	10.0		n	10.0		100	80-120			
Matrix Spike Dup (1110088-MSD1)	Soi	ırce: W1111'	77-01	Prepared of	& Analyze	ed: 11/29/0	01			
Benzene	10.3	0.500	ug/l	10.0	ND	103	75-125	6.21	20	
Bromobenzene	10.8	0.500	.,	10.0	ND	108	75-125	7.69	20	
Bromodichloromethane	11.7	0.500	11	10.0	ND	117	75-125	4.18	20	
n-Butylbenzene	11.3	0.500	н	10.0	ND	113	75-125	8.29	20	
ec-Butylbenzene	10.7	0.500	Ħ	10.0	ND	107	75-125	6.96	20	
ert-Butylbenzene	10.8	0.500	n	10.0	ND	108	75-125	7.89	20	
Carbon tetrachloride	10.5	0.500	Ħ	10.0	ND	105	75-125	2.82	20	
Chlorobenzene	9.12	0.500	Ħ	10.0	ND	91.2	75-125	6.92	20	
Chloroethane	9.45	0.500	**	10.0	ND	94.5	75-125	7.24	20	
Chloroform	9.09	0.140	**	10.0	ND	90.9	75-125	0.331	20	
Chloromethane	8.69	0.600	**	10.0	ND	86.9	75-125	7.03	20	
2-Chlorotoluene	9.72	0.500	**	10.0	ND	97.2	75-125	7.69	20	
4-Chlorotoluene	11.2	0.500		10.0	ND	112	75-125	8.37	20	

Great Lakes Analytical--Oak Creek

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Andrea Stathas, Project Manager

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 12/04/01 17:39

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 1110088 - EPA 5030B (P/T)										
Matrix Spike Dup (1110088-MSD1)	Sor	rce: W1111	77-01	Prepared .	& Analyze	ed: 11/29/0)1	····	·····	
Dibromochloromethane	11.3	0.500	ug/l	10.0	ND	113	75-125	4.52	20	
1,2-Dibromo-3-chloropropane	11.2	0.390	"	10.0	ND	112	75-125	6.45	20	
1,2-Dibromoethane	12.3	0.380	"	10.0	ND	123	75-125	2.47	20	
1,2-Dichlorobenzene	11.2	0.500	n ·	10.0	ND	112	75-125	9.35	20	
1,3-Dichlorobenzene	8.90	0.500	**	10.0	ND	89.0	75-125	7.22	20	
1,4-Dichlorobenzene	11.2	0.500	#	10.0	ND	112	75-125	8.37	20	
Dichlorodifluoromethane	8.24	0.500	Ħ	10.0	ND	82.4	75-125	9.14	20	
1,1-Dichloroethane	10.7	0.500	ŧŧ	10.0	ND	107	75-125	2.76	20	
1,2-Dichloroethane	11.2	0.500	#	10.0	ND	112	75-125	6.45	20	
1,1-Dichiloroethene	9.82	0.500	**	10.0	ND	98.2	75-125	6.41	20	
ris-1,2-Dichloroethene	9.88	0.500	ŧŧ	10.0	ND	98.8	75-125	6.26	20	
rans-1,2-Dichloroethene	10.0	0.500	Ħ	10.0	ND	100	75-125	6.29	20	
1,2-Dichloropropane	10.1	0.500	#1	10.0	ND	101	75-125	1.30	20	
1,3-Dichloropropane	11.7	0.500	**	10.0	ND	117	75-125	5.26	20	
2,2-Dichloropropane	11.0	0.500	11	10.0	ND	110	75-125	4.44	20	
Di-isopropyl ether	10.5	5.00	**	10.0	ND	105	75-125	7.51	20	
Ethylbenzene	9.64	0.500	H	10.0	ND	96.4	75-125	6.53	20	
Hexachlorobutadiene	10.2	5.00	"	10.0	ND	102	75-125	5.03	20	
sopropylbenzene	10.6	0.500	u	10.0	ND	106	75-125	6.33	20	
p-Isopropyltoluene	10.1	0.500	"	10.0	ND	101	75-125	8.14	20	
Methylene chloride	10.1	0.530	Ħ	10.0	ND	101	75-125	0.985	20	
Methyl tert-butyl ether	9.82	0.500	.11	10.0	ND	98.2	75-125	5.87	20	
Naphthalene	10.9	2.00	11	10.0	ND	109	75-125	4.69	20	
n-Propylbenzene	11.3	0.500	н	10.0	ND	113	75-125	7.34	20	
,1,2,2-Tetrachloroethane	10.4	0.350	n	10.0	ND	104	75-125	0.00	20	
letrachloroethene	10.4	0.500	**	10.0	ND	104	75-125	6.04	20	
Foluene Column C	10.0	0.500	11	10.0	ND	100	75-125	4.81	20	
,2,3-Trichlorobenzene	10.7	2.00		10.0	ND	107	75-125	9.80	20	
,2,4-Trichlorobenzene	10.8	2.00	Ħ	10.0	ND	108	75-125	7.79	20	
,1,1-Trichloroethane	11.5	0.500	Ħ	10.0	ND	115	75-125	0.873	20	
,1,2-Trichloroethane	11.2	0.160	**	10.0	ND	112	75-125	3.64	20	
Trichloroethene	10.0	0.500	**	10.0	ND	100	75-125	6.83	20	
Trichlorofluoromethane	9.00	0.500	**	10.0	ND	90.0	75-125	5.19	20	
,2,4-Trimethylbenzene	10.9	1.00	**	10.0	ND	109	75-125	9.62	20	
,3,5-Trimethylbenzene	10.4	1.00	**	10.0	ND	104	75-125	8.00	20	

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Reporting

Project Manager: Jim Westerman

Reported: 12/04/01 17:39

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 1110088 - EPA 5030B (P/T)										
Matrix Spike Dup (1110088-MSD1)	Soui	rce: W1111	77-01	Prepared	& Analyz	ed: 11/29/	01			
Vinyl chloride	9.88	0.170	ug/l	10.0	ND	98.8	75-125	6.05	20	
Total Xylenes	30.4	0.500	11	30.0	ND	101	75-125	5.75	20	
Surrogate: 1-Cl-4-FB (ELCD)	9.07		"	10.0		90.7	80-120			
Surrogate: 1-Cl-4-FB (PID)	10.0		"	10.0		100	80-120			

Great Lakes Analytical--Oak Creek

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Andrea Stathas, Project Manager

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 12/04/01 17:39

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1110088 - EPA 5030B (P/T)										
Blank (1110088-BLK1)				Prepared	& Analyz	ed: 11/29/	01			
Benzene	ND	0.500	ug/l							
Bromobenzene	ND	0.500	11							
Bromodichloromethane	ND	0.500	**							
n-Butylbenzene	ND	0.500	**							
sec-Butylbenzene	ND	0.500	**							
tert-Butylbenzene	· ND	0.500	н							
Carbon tetrachloride	ND	0.500	н							
Chlorobenzene	ND	0.500	#							
Chloroethane	ND	0.500	**							
Chloroform	ND	0.140	#							
Chloromethane	ND	0.600	"							
2-Chlorotoluene	ND	0.500	**							
4-Chlorotoluene	ND	0.500	**							
Dibromochloromethane	ND	0.500	н							
1,2-Dibromo-3-chloropropane	ND	0.390	**							
1,2-Dibromoethane	ND	0.380	**							
1,2-Dichlorobenzene	ND	0.500	11							
1,3-Dichlorobenzene	ND	0.500	**							
1,4-Dichlorobenzene	ND	0.500	"							
Dichlorodifluoromethane	ND	0.500	**							
1,1-Dichloroethane	ND	0.500	**							
1,2-Dichloroethane	ND	0.500	**							
1,1-Dichloroethene	ND	0.500	**							
cis-1,2-Dichloroethene	ND	0.500	**							
trans-1,2-Dichloroethene	ND	0.500	11							
1,2-Dichloropropane	ND	0.500	**							
1,3-Dichloropropane	ND	0.500	**							
2,2-Dichloropropane	ND	0.500	**							
Di-isopropyl ether	ND	5.00	**							
Ethylbenzene	ND	0.500	**							
Hexachlorobutadiene	ND	5.00	"							
Isopropylbenzene	ND	0.500	н							
p-Isopropyltoluene	ND	0.500	и							
Methylene chloride	ND	0.530	**							
Methyl tert-butyl ether	ND	0.500	**							

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Reporting

Project Manager: Jim Westerman

Reported: 12/04/01 17:39

RPD

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

Spike

Source

%REC

Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 1110088 - EPA 5030B (P/T)										
Blank (1110088-BLK1)				Prepared	& Analyze	ed: 11/29/0	01			
Naphthalene	ND	2.00	ug/l							
n-Propylbenzene	ND	0.500	**							
1,1,2,2-Tetrachloroethane	ND	0.350	11							
Tetrachloroethene	ND	0.500	"							
Toluene	ND	0.500	Ħ							
1,2,3-Trichlorobenzene	· ND	2.00	"							
1,2,4-Trichlorobenzene	ND	2.00	**							
1,1,1-Trichloroethane	ND	0.500	"							
1,1,2-Trichloroethane	ND	0.160	"							
Trichloroethene	ND	0.500	**							
Trichlorofluoromethane	ND	0.500	**							
1,2,4-Trimethylbenzene	ND	1.00	"							
1,3,5-Trimethylbenzene	ND	1.00	**							
Vinyl chloride	ND	0.170	**							
Total Xylenes	ND	0.500	**							
Surrogate: 1-Cl-4-FB (ELCD)	10.6		n	10.0		106	80-120			
Surrogate: 1-Cl-4-FB (PID)	11.0		"	10.0		110	80-120			
LCS (1110088-BS1)				Prepared	& Analyze	ed: 11/29/0	01			
Surrogate: 1-Cl-4-FB (ELCD)	9.03		ug/l	10.0		90.3	80-120			
Surrogate: 1-Cl-4-FB (PID)	10.0		"	10.0		100	80-120			
Matrix Spike (1110088-MS1)	So	urce: W1111	77-01	Prepared	& Analyze	ed: 11/29/	01			
Surrogate: 1-Cl-4-FB (ELCD)	9.38		ug/l	10.0		93.8	80-120	.,		
Surrogate: 1-Cl-4-FB (PID)	10.0		"	10.0		100	80-120			
Matrix Spike Dup (1110088-MSD1)	So	urce: W1111	77-01	Prepared	& Analyze	ed: 11/29/	01			
Surrogate: 1-Cl-4-FB (ELCD)	9.07		ug/l	10.0		90.7	80-120			
Surrogate: 1-Cl-4-FB (PID)	10.0		"	10.0		100	80-120			

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

220 E. Ryan Road Oak Creek WI, 53154 Project: 6515

Project Number: 6515

Project Manager: Jim Westerman

Reported: 12/04/01 17:39

General Chemistry - Quality Control Great Lakes Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1110485 - General Prep WC		_								
Blank (1110485-BLK1)				Prepared	& Analyze	ed: 11/29/0	01			
Nitrate as N	ND	0.0500	mg/l							
LCS (1110485-BS1)		_		Prepared	& Analyzo	ed: 11/29/0	01			
Nitrate as N	1.09	0.0500	mg/l	1.00		109	70-116			
Matrix Spike (1110485-MS1)	Sou	rce: B11136	3-01	Prepared	& Analyze	ed: 11/29/0	01			
Nitrate as N	1.12	0.0500	mg/l	1.00	ND	111	68-117			
Matrix Spike Dup (1110485-MSD1)	Sou	rce: B11136	3-01	Prepared	& Analyze	ed: 11/29/0	01			
Nitrate as N	1.08	0.0500	mg/l	1.00	ND	107	68-117	3.64	15	
Batch 1110494 - General Prep WC										
Blank (1110494-BLK1)				Prepared:	11/29/01	Analyzed	: 11/30/01			
Sulfate as SO4	ND	10.0	mg/l							
LCS (1110494-BS1)				Prepared:	11/29/01	Analyzed	: 11/30/01			
Sulfate as SO4	27.3	10.0	mg/l	30.0		91.0	78-121			
Matrix Spike (1110494-MS1)	Sou	rce: B11131	3-01	Prepared:	11/29/01	Analyzed	: 11/30/01			
Sulfate as SO4	101	10.0	mg/l	60.0	41.9	98.5	55-127			
Matrix Spike Dup (1110494-MSD1)	Sou	rce: B11131	3-01	Prepared:	11/29/01	Analyzed	: 11/30/01			
Sulfate as SO4	102	10.0	mg/l	60.0	41.9	100	55-127	0.985	19	

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 12/04/01 17:39

Dissolved Metals by EPA 6000/7000 Series Methods - Quality Control Great Lakes Analytical

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 1110499 - EPA 3015										
Blank (1110499-BLK1)				Prepared	& Analyze	ed: 11/30/	01			
Manganese	ND	0.0500	mg/l							
LCS (1110499-BS1)				Prepared	& Analyze	ed: 11/30/	01			
Manganese	1.95	0.0500	mg/l	2.00		97.5	80.7-115			
Matrix Spike (1110499-MS1)	Sou	rce: W1111	77-02	Prepared	& Analyzo	ed: 11/30/	01			
Manganese	2.31	0.0500	mg/l	2.00	0.304	100	79.1-119			
Matrix Spike Dup (1110499-MSD1)	Sou	rce: W1111	77-02	Prepared	& Analyzo	ed: 11/30/	01			
Manganese	2.32	0.0500	mg/l	2.00	0.304	101	79.1-119	0.432	7.86	

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 12/04/01 17:39

Polynuclear Aromatic Compounds by EPA Method 8310 - Quality Control Great Lakes Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1110495 - EPA 3510C	··································									
Blank (1110495-BLK1)				Prepared:	11/29/01	Analyzed	: 11/30/01			
Acenaphthene	ND	5.00	ug/l							
Acenaphthylene	ND	5.00	11							
Anthracene	ND	5.00	**							
Benz (a) anthracene	ND	0.100	**							
Benzo (a) pyrene	ND	0.0200	11							
Benzo (b) fluoranthene	ND	0.0200	#							
Benzo (ghi) perylene	ND	5.00	**							
Benzo (k) fluoranthene	ND	0.100	**							
Chrysene	ND	0.0200	11							
Dibenz (a,h) anthracene	ND	0.100	11							
Fluoranthene	ND	5.00	**							
Fluorene	ND	5.00	**							
Indeno (1,2,3-cd) pyrene	ND	0.200	"							
1-Methylnaphthalene	ND	5.00	"							
2-Methylnaphthalene	ND	5.00	"							
Naphthalene	ND	5.00	**							
Phenanthrene	ND	5.00	**							
Pyrene	ND	5.00	11							
Surrogate: Carbazole	0.469		"	0.500		93.8	24.5-122			
LCS (1110495-BS1)				Prepared:	11/29/01	Analyzed	: 11/30/01			_
Acenaphthene	1.16	0.0500	ug/l	2.00		58.0	23.9-107			
Acenaphthylene	1.29	0.0500	**	2.00		64.5	21.6-101			
Anthracene	1.61	0.0500	"	2.00		80.5	24.8-107			
Benz (a) anthracene	1.39	0.00100	. #1	2.00		69.5	32.9-100			
Benzo (a) pyrene	1.39	0.000200	H .	2.00		69.5	23.5-113			
Benzo (b) fluoranthene	1.37	0.000200	**	2.00		68.5	34.5-126			
Benzo (ghi) perylene	0.796	0.0500	**	2.00		39.8	35.7-97.5			
Benzo (k) fluoranthene	1.65	0.00100	**	2.00		82.5	42.9-113			
Chrysene	1.16	0.000200	11	2.00		58.0	39.9-110			
Dibenz (a,h) anthracene	0.939	0.00100	u	2.00		47.0	31.3-92.5			
Fluoranthene	1.63	0.0500	н	2.00		81.5	36.1-105			
Fluorene	1.39	0.0500	11	2.00		69.5	36.6-99.6			
Indeno (1,2,3-cd) pyrene	1.18	0.00200	11	2.00		59.0	41.5-95.7			
I-Methylnaphthalene	0.993	0.0500	Ħ	2.00		49.6	20.5-110			

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 12/04/01 17:39

Polynuclear Aromatic Compounds by EPA Method 8310 - Quality Control Great Lakes Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1110495 - EPA 3510C									******	
LCS (1110495-BS1)				Prepared:	11/29/01	Analyzed	1: 11/30/01			
2-Methylnaphthalene	1.03	0.0500	ug/l	2.00		51.5	20.9-109			
Naphthalene	0.916	0.0500	"	2.00		45.8	22-99.8			
Phenanthrene	1.25	0.0500	11	2.00		62.5	25.8-115			
Pyrene	0.803	0.0500		2.00		40.2	31.5-112			
Surrogate: Carbazole	0.396		"	0.500		79.2	24.5-122			
LCS Dup (1110495-BSD1)				Prepared:	11/29/01	Analyzed	1: 11/30/01			
Acenaphthene	1.29	0.0500	ug/l	2.00		64.5	23.9-107	10.6	62.5	
Acenaphthylene	1.46	0.0500	**	2.00		73.0	21.6-101	12.4	60.7	
Anthracene	1.67	0.0500	11	2.00		83.5	24.8-107	3.66	47.4	
Benz (a) anthracene	1.41	0.00100	11	2.00		70.5	32.9-100	1.43	47.4	
Benzo (a) pyrene	1.45	0.000200	"	2.00		72.5	23.5-113	4.23	45.2	
Benzo (b) fluoranthene	1.42	0.000200	Ħ	2.00		71.0	34.5-126	3.58	52.4	
Benzo (ghi) perylene	0.886	0.0500	н	2.00		44.3	35.7-97.5	10.7	45.4	
Benzo (k) fluoranthene	1.72	0.00100	11	2.00		86.0	42.9-113	4.15	49.6	
Chrysene	1.18	0.000200	#	2.00		59.0	39.9-110	1.71	51.7	
Dibenz (a,h) anthracene	1.00	0.00100	Ħ	2.00		50.0	31.3-92.5	6.29	53.2	
Fluoranthene	1.64	0.0500	11	2.00		82.0	36.1-105	0.612	58.8	
Fluorene	1.48	0.0500	11	2.00		74.0	36.6-99.6	6.27	52.5	
ndeno (1,2,3-cd) pyrene	1.15	0.00200	**	2.00		57.5	41.5-95.7	2.58	45.8	
1-Methylnaphthalene	1.14	0.0500	er e	2.00		57.0	20.5-110	13.8	50.2	
2-Methylnaphthalene	1.16	0.0500	#	2.00		58.0	20.9-109	11.9	53.2	
Naphthalene	1.03	0.0500	"	2.00		51.5	22-99.8	11.7	57.2	
Phenanthrene	1.27	0.0500	tt	2.00		63.5	25.8-115	1.59	55.9	
Pyrene	0.807	0.0500	11	2.00		40.4	31.5-112	0.497	50	
Surrogate: Carbazole	0.394		"	0.500		78.8	24.5-122			

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road

Project Number: 6515

Oak Creek WI, 53154 Project Manager: Jim Westerman

Reported: 12/04/01 17:39

Notes and Definitions

G12 The reporting limit of this sample/analyte is elevated due to sample matrix and/or other effects.

O4 The recovery for this analyte is below the laboratory's established acceptance criteria.

O5 The recovery for this analyte is above the laboratory's established acceptance criteria.

T10 Diesel Range

T11 Motor Oil Range

T15 Late Elevated Baseline

T2 Late Peaks

T6 Early Peaks

T8 Diesel Pattern

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

Great Lakes Analytical--Oak Creek

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CHAIN OF CUSTODY REPORT

1380 Busch Parkway Buffalo Grove, IL 60089-4505 (847) 808-7766 FAX (847) 808-7772

140 E. Ryan Road Oak Creek, WI 53154 (414) 570-9460 FAX (414) 570-9461

Client: SiGMA Envi	ronmenta	al		Bill To:						4							TA	T: .	STD.	4 C	AY	3 DA	Y 2 DAY 11	DAY < 24 HRS.
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Oak Creek WI						/	,	X	1														CEIPT:	. (2)
		768	7144	State 8	2) -			1Ph	one	#: ()										ed: Air Bill No	
Report to: Jim Westerman	Fax #: (414)	768	7158	Progra						Fa	x #:	ì	<u> </u>			 ,			D I				sa. All Bill No	•
Project: 6515		/				/ _			ottle tive L	S Isod		& /	\mathcal{S}	75	<i>l</i> u/							/s	AMPLE /	
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1 MW-1	PID:	ı	10:20			3	I			3	3													77-01
2 MW-Z	PID:	1	11:40			3	1		J	5	3	1	1											-02
3 MW-3	PID:		12:30			3)		1	5	3	1	1											-03
4 MW-4	PID:		12:00			4	1		2	7	3	1	1	١	ı									704
5 MW-5	PID:		11:15			4	1		2	7	3	ī	1	1	١									105
6 MW-6	PID:		10:40			4	1		Z	7	3	1	1	1										90
7 Dup.	, , , , , , , , , , , , , , , , , , , ,					2			+	3	3											 		
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8 Equip.	PID:	1				1				1	1													-08
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28 November 2001

Jim Westerman Sigma Environmental Services, Inc. 220 E. Ryan Road Oak Creek, WI 53154

RE: 6515

Enclosed are the results of analyses for samples received by the laboratory on 11/12/01 07:46. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Sigma Environmental Services, Inc.

Project: 6515

Project Manager: Jim Westerman

220 E. Ryan Road

Project Number: 6515

Reported: 11/28/01 15:04

Oak Creek WI, 53154

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1 2-4'	W111082-01	Soil (WI)	11/09/01 00:00	11/12/01 07:46
MW-1 6-8'	W111082-02	Soil (WI)	11/09/01 00:00	11/12/01 07:46
MW-6 4-6'	W111082-03	Soil (WI)	11/09/01 00:00	11/12/01 07:46
MW-6 8-10'	W111082-04	Soil (WI)	11/09/01 00:00	11/12/01 07:46
MW-5 4-6'	W111082-05	Soil (WI)	11/09/01 00:00	11/12/01 07:46
MW-5 10-12'	W111082-06	Soil (WI)	11/09/01 00:00	11/12/01 07:46
MW-4 0-2'	W111082-07	Soil (WI)	11/09/01 00:00	11/12/01 07:46
MW-4 6-8'	W111082-08	Soil (WI)	11/09/01 00:00	11/12/01 07:46
MW-3 0-2'	W111082-09	Soil (WI)	11/09/01 00:00	11/12/01 07:46
MW-3 6-8'	W111082-10	Soil (WI)	11/09/01 00:00	11/12/01 07:46
MW-2 6-8'	W111082-11	Soil (WI)	11/09/01 00:00	11/12/01 07:46
MW-2 12-14'	W111082-12	Soil (WI)	11/09/01 00:00	11/12/01 07:46
MeOH BLANK	W111082-13	MeOH Blank	11/09/01 00:00	11/12/01 07:46

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515 Project Manager: Jim Westerman

Reported: 11/28/01 15:04

Diesel Range Organics (DRO) by WDNR DRO Great Lakes Analytical--Oak Creek

1		Reporting						
Analyte	Result	Limit Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-6 4-6' (W111082-03) Soil (WI)	Sampled: 11/09/0	1 00:00 Received:	11/12/01 07	7:46		"		
Diesel Range Organics (DRO)	9.45	5.79 mg/kg dry	1	1110037	11/12/01	11/13/01	WDNR DRO	T10,T6,T15,T 2,T8,T11
MW-6 8-10' (W111082-04) Soil (WI)	Sampled: 11/09/	01 00:00 Received	: 11/12/01 (7:46				
Diesel Range Organics (DRO)	ND	5.83 mg/kg dry	1	1110037	11/12/01	11/12/01	WDNR DRO	
MW-5 4-6' (W111082-05) Soil (WI)	Sampled: 11/09/0	1 00:00 Received:	11/12/01 07	7:46				
Diesel Range Organics (DRO)	2180	329 mg/kg dry	51	1110037	11/12/01	11/12/01	WDNR DRO	G12,T10,T8
MW-5 10-12' (W111082-06) Soil (W1	() Sampled: 11/09	9/01 00:00 Receive	d: 11/12/01	07:46				
Diesel Range Organics (DRO)	18.0	5.84 mg/kg dry	1	1110037	11/12/01	11/12/01	WDNR DRO	T10,T8,T15,T 2,T6
MW-4 0-2' (W111082-07) Soil (WI)	Sampled: 11/09/0	1 00:00 Received:	11/12/01 07	7:46				
Diesel Range Organics (DRO)	ND	6.23 mg/kg dry	, 1	1110037	11/12/01	11/12/01	WDNR DRO	
MW-4 6-8' (W111082-08) Soil (WI)	Sampled: 11/09/0	1 00:00 Received:	11/12/01 07	7:46				
Diesel Range Organics (DRO)	ND	5.83 mg/kg dry	, 1	1110037	11/12/01	11/12/01	WDNR DRO	

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

220 E. Ryan Road Oak Creek WI, 53154 Project: 6515

Project Number: 6515

Project Manager: Jim Westerman

Reported: 11/28/01 15:04

Percent Solids

Great Lakes Analytical--Oak Creek

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-6 4-6' (W111082-03) Soil (WI)	Sampled: 11/09/0	1 00:00 Re	ceived:	11/12/01 07	':46				
% Solids	86.3	0.0100	%	1	1110048	11/14/01	11/14/01	Balance	
MW-6 8-10' (W111082-04) Soil (WI)	Sampled: 11/09/	01 00:00 R	leceived:	: 11/12/01 0	7:46				
% Solids	85.7	0.0100	%	1	1110048	11/14/01	11/14/01	Balance	
MW-5 4-6' (W111082-05) Soil (WI)	Sampled: 11/09/0	1 00:00 Re	ceived:	11/12/01 07	':46				
% Solids	77.5	0.0100	%	1	1110048	11/14/01	11/14/01	Balance	
MW-5 10-12' (W111082-06) Soil (WI)	Sampled: 11/09	701 00:00	Received	1: 11/12/01	07:46				
% Solids	85.6	0.0100	%	1	1110048	11/14/01	11/14/01	Balance	
MW-4 0-2' (W111082-07) Soil (WI)	Sampled: 11/09/0	1 00:00 Re	ceived:	11/12/01 07	':4 6				
% Solids	80.3	0.0100	%	1	1110048	11/14/01	11/14/01	Balance	
MW-4 6-8' (W111082-08) Soil (WI)	Sampled: 11/09/0	1 00:00 Re	ceived:	11/12/01 07	:46			_	
% Solids	85.8	0.0100	%	1	1110048	11/14/01	11/14/01	Balance	

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515
Project Manager: Jim Westerman

Reported: 11/28/01 15:04

WDNR Volatile Organic Compounds by Method 8260B (Blank Analysis)

Great Lakes Analytical

	*	Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MeOH BLANK (W111082-13) MeOH Blank	Sampleo	i: 11/09/01 0	0:00 Re	ceived: 11/	12/01 07:4	16			
Benzene	ND	25.0	ug/l	50	1110320	11/16/01	11/16/01	EPA 8260B	
Bromobenzene	ND	25.0	**	11	· ·	Ħ	"	**	
Bromodichloromethane	ND	25.0	11	11	"	Ħ	**	H	
n-Butylbenzene	ND	25.0	н	tt	"	11	11	II .	
sec-Butylbenzene	ND	25.0	**	#	"	#	11	**	
tert-Butylbenzene	ND	25.0	Ħ	H	**	Ħ	. "	"	
Carbon tetrachloride	ND	25.0	н	11	**	tt	**	Ħ	
Chlorobenzene	ND	25.0	H	tt	**	н	•	11	
Chloroethane	ND	25.0	н	Ħ	**	Ħ	H	11	
Chloroform	ND	25.0	**	11	**	Ħ	**	н	
Chloromethane	82.0	25.0	н	tl	u	11	"	11	Е
2-Chlorotoluene	ND	25.0	H	tt	"	11		ii .	
4-Chlorotoluene	ND	25.0	н	Ħ	n .	11	**	H .	
Dibromochloromethane	ND	25.0	H	Ħ	**	Ħ	"	u	
1,2-Dibromo-3-chloropropane	ND	25.0	tt.	tt.	**	*	**	"	
1,2-Dibromoethane	ND	25.0	H.	**	"	Ħ	11	"	
1,2-Dichlorobenzene	ND	25.0	**	н	"	н	11	"	
1,3-Dichlorobenzene	ND	25.0	**	**	11	**	11	"	
1,4-Dichlorobenzene	ND	25.0	11	**	**	**	#	**	
Dichlorodifluoromethane	ND	25.0	**	**	**	Ħ	**	u	
1.1-Dichloroethane	ND	25.0	н	**	**	n	н		
1,2-Dichloroethane	ND	25.0	11	11	**	**	**	u	
1,1-Dichloroethene	ND	25.0	11	11	n	**		u	
cis-1,2-Dichloroethene	ND	25.0	**	**	#	11			
trans-1,2-Dichloroethene	ND	25.0	"	**	#	n	**	•	
1,2-Dichloropropane	ND	25.0	11	**	**	Ħ			
1,3-Dichloropropane	ND	25.0	15	**	"	н	**	"	
2,2-Dichloropropane	ND	25.0	11	**	H	**		"	
Di-isopropyl ether	ND	25.0	**	**	"	tt	"	"	
Ethylbenzene	ND	25.0	"	**	"	"	11	11	
Hexachlorobutadiene	ND	25.0	**	11	**	"	II	H	
Isopropylbenzene	ND	25.0	**	**	11	"	II	н	
p-Isopropyltoluene	ND	25.0	11	**	Ħ	"	н	H	
Methylene chloride	ND	100	11	11	11	**	rr ·	**	
Methyl tert-butyl ether	ND	10.0	**	**	ш	11	"	**	
Naphthalene	ND	25.0	11	u	н	11	"	"	
n-Propylbenzene	ND	25.0	н	u	*1	11	"	"	
1,1,2,2-Tetrachloroethane	ND	25.0	**	**	**	н	11	11	
Tetrachloroethene	119	25.0	**	**	**	**	11	11	

Great Lakes Analytical--Oak Creek

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Andrea Stathas, Project Manager

Page 4 of 39



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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515 Project Manager: Jim Westerman Reported: 11/28/01 15:04

WDNR Volatile Organic Compounds by Method 8260B (Blank Analysis)

Great Lakes Analytical

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MeOH BLANK (W111082-13) MeOH Blank	Sampled	: 11/09/01 0	0:00 Re	ceived: 11/	/12/01 07:4	16			
Toluene	ND	25.0	ug/l	50	1110320	11/16/01	11/16/01	EPA 8260B	
1,2,3-Trichlorobenzene	ND	25.0	**	**	Ħ	11	"	Ħ	
1,2,4-Trichlorobenzene	ND	25.0	**	**		**	"	**	
1,1,1-Trichloroethane	ND	25.0	**	. "	"	**	u	**	
1,1,2-Trichloroethane	ND	25.0	11	Ħ	**	**	"	#	
Trichloroethene	ND	25.0	#	**	11	"	u	**	
Trichlorofluoromethane	ND	25.0	**	**	**	"	11	Ħ	
1,2,4-Trimethylbenzene	ND	25.0	11	H	**	"	H	Ħ	
1,3,5-Trimethylbenzene	ND	25.0	**	#	**	*	**	11	*
Vinyl chloride	ND	25.0	**	11	"	*	n	н	
Total Xylenes	ND	25.0	"	н			"	11	
Surrogate: Dibromofluoromethane		173 %	24.5	-178	"	n .	"	"	
Surrogate: 1,2-Dichloroethane-d4		163 %	16.7	-220	"	"	"	"	
Surrogate: Toluene-d8		145 %	33.1	-170	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %	20.5	-166	"	"	<i>n</i> ·	"	

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515
Project Manager: Jim Westerman

Reported: 11/28/01 15:04

WDNR Volatile Organic Compounds by Method 8260B

Great Lakes Analytical

		Reporting	,						
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 2-4' (W111082-01) Soil (WI)	Sampled: 11/09/0	1 00:00	Received:	11/12/01 0	7:46				G3,G4,G19
Benzene	ND	25.0	ug/kg dry	50	1110319	11/16/01	11/16/01	EPA 8260B	-
Bromobenzene	ND	25.0	H	11	"	"	Ħ	11 -	
Bromodichloromethane	ND	25.0	**	11	11	11	H	"	
n-Butylbenzene	ND	25.0	**	н	**	11	**	**	
sec-Butylbenzene	ND	25.0	"	**	"	"	"	**	
tert-Butylbenzene	ND	25.0	"	11	**	"	**	"	
Carbon tetrachloride	ND	25.0	**	11	**	11		Ħ	
Chlorobenzene	ND	25.0	**	**	**	"	**	"	
Chloroethane	ND	25.0	It	11	**	11	11	n	
Chloroform	ND	25.0	11	"	**	11	11	**	
Chloromethane	ND	25.0	11	11	11	11	**	"	
2-Chlorotoluene	ND	25.0	11	Ħ	11	11	11	i	
4-Chlorotoluene	ND	25.0	**	*	11	11	11	11	
Dibromochloromethane	ND	25.0	"		11	н	u	н	
1,2-Dibromo-3-chloropropane	ND	25.0	**	"	**	H	tt	**	
1,2-Dibromoethane	ND	25.0	#	II	н	"	tt.	**	
1,2-Dichlorobenzene	ND	25.0	11	н	Ħ	11	**	11	
1,3-Dichlorobenzene	ND	25.0	Ħ	n	11	11	11	**	
1,4-Dichlorobenzene	ND	25.0	n	"	11	#	11	11	
Dichlorodifluoromethane	ND	25.0	Ħ	"	tt	**	Ħ	11	
1,1-Dichloroethane	ND	25.0	**	**	**	**	"	"	
1,2-Dichloroethane	ND	25.0	"	**	**	**	"	11	
1,1-Dichloroethene	ND	25.0	**	**	11	**	"	*	
cis-1,2-Dichloroethene	ND	25.0	**	**	н	"	Ħ	"	
trans-1,2-Dichloroethene	ND	25.0	**	11	tt	**		#	
1,2-Dichloropropane	ND	25.0	"	**	ti	Ħ	11	Ħ	
1,3-Dichloropropane	ND	25.0	11	н	"	11		Ħ	
2,2-Dichloropropane	ND	25.0	11	H	"	11	#	#	
Di-isopropyl ether	ND	25.0	tt		**	11	н	н	
Ethylbenzene	ND	25.0	**	**	**	Ħ	**	н	
Hexachlorobutadiene	ND	25.0	**	11	H	**	**	H .	
Isopropylbenzene	ND	25.0	11	н	tf	**	19	11	
p-Isopropyltoluene	ND	25.0	H	11	**	н	11	18	
Methylene chloride	ND	100	11	•	**	Ħ	11	II	
Methyl tert-butyl ether	ND	25.0	**	"	**	н	11	н	
Naphthalene	ND	25.0	**	"	"	11	п	н	
n-Propylbenzene	ND	25.0	**	•	#	н	H	tt	
1,1,2,2-Tetrachloroethane	ND	25.0	"	"	**	"	11	**	
Tetrachloroethene	173	25.0	11	ıı	n	"	"	**	
e e se ex erci na a company de la company de									

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515 Project Manager: Jim Westerman

Reported: 11/28/01 15:04

WDNR Volatile Organic Compounds by Method 8260B

Great Lakes Analytical

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 2-4' (W111082-01) Soil (WI)	Sampled: 11/09/	01 00:00	Received:	11/12/01 0	7:46				G3,G4,G19
Toluene	ND	25.0	ug/kg dry	50	1110319	11/16/01	11/16/01	EPA 8260B	
1,2,3-Trichlorobenzene	ND	25.0	**	**		n	"	tf	
1,2,4-Trichlorobenzene	ND	25.0	**	**		u	"	**	
1,1,1-Trichloroethane	ND	25.0	11	**	"	. "	11	. "	
1,1,2-Trichloroethane	ND	25.0	"	**	н	u	11	**	
Trichloroethene	ND	25.0	**		н	u	**	Ħ	
Trichlorofluoromethane	ND	25.0		"	"	11		11	
1,2,4-Trimethylbenzene	ND	25.0	**	**	"	Ħ	"	· · ·	
1,3,5-Trimethylbenzene	ND	25.0	**	11	**	H	"	**	
Vinyl chloride	ND	25.0	**	11	Ħ	"	"	н	
Total Xylenes	ND.	25.0	"	11	**	**	"	et .	
Surrogate: Dibromofluoromethane		131 %	24.5	-178	"	"	"	,,	
Surrogate: 1,2-Dichloroethane-d4		121 %	16.7·	-220	"	H	"	" .	
Surrogate: Toluene-d8		111 %	<i>33.1</i> -	-170	"	"	"	rr .	
Surrogate: 4-Bromofluorobenzene		89.4 %	20.5	-166	"	"	"	"	
MW-1 6-8' (W111082-02) Soil (WI)	Sampled: 11/09/	01 00:00 I	Received:	11/12/01 0	7:46				G3,G4,G19
Benzene	ND	25.0	ug/kg dry	50	1110319	11/16/01	11/16/01	EPA 8260B	
Bromobenzene	ND	25.0	Ħ	"	(1)	**	"	**	
Bromodichloromethane	ND	25.0	H	"	н	11	**	**	
n-Butylbenzene	ND	25.0	**	**	**	**	**	u	
sec-Butylbenzene	ND	25.0	**	**	**	11	"		
tert-Butylbenzene	ND	25.0	"	**	**	"	"	11	
Carbon tetrachloride	ND	25.0	**	#	Ħ	"	**	**	
Chlorobenzene	ND	25.0	**	н	11	. "	**	н	
Chloroethane	ND	25.0	#	"	**	"	**	Ħ	
Chloroform	ND	25.0	Ħ	**	Ħ	**	"	Ħ	
Chloromethane	75.0	25.0	11	**	Ħ	**		Ħ	В
Chioromethane	75.0				11	,,	u	#	
2-Chlorotoluene	ND	25.0	"	11	• •				
			"	"	"	11	11	н	
2-Chlorotoluene	ND	25.0				# #	11	н	
2-Chlorotoluene 4-Chlorotoluene	ND ND	25.0 25.0	**	"	н			H H :	
2-Chlorotoluene 4-Chlorotoluene Dibromochloromethane	ND ND ND	25.0 25.0 25.0	"	"	11	**	п	н н н	
2-Chlorotoluene 4-Chlorotoluene Dibromochloromethane 1,2-Dibromo-3-chloropropane	ND ND ND ND	25.0 25.0 25.0 25.0	11 11	11 11	H H	11	11	11 11	
2-Chlorotoluene 4-Chlorotoluene Dibromochloromethane 1,2-Dibromo-3-chloropropane 1,2-Dibromoethane	ND ND ND ND ND	25.0 25.0 25.0 25.0 25.0	11 11 11	11 11 11	11 11 11	11 11	11 11	# # # #	
2-Chlorotoluene 4-Chlorotoluene Dibromochloromethane 1,2-Dibromo-3-chloropropane 1,2-Dibromoethane 1,2-Dichlorobenzene	ND ND ND ND ND	25.0 25.0 25.0 25.0 25.0 25.0	11 11 11	11 11 11	H H H	11 11 11	11 11 11	11 11 11 11	
2-Chlorotoluene 4-Chlorotoluene Dibromochloromethane 1,2-Dibromo-3-chloropropane 1,2-Dibromoethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene	ND ND ND ND ND ND	25.0 25.0 25.0 25.0 25.0 25.0 25.0	" " " " " " " " " " " " " " " " " " " "	11 11 11	11 11 11	11 11 11	11 11 11	11 11 11 11 11	
2-Chlorotoluene 4-Chlorotoluene Dibromochloromethane 1,2-Dibromo-3-chloropropane 1,2-Dibromoethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene	ND ND ND ND ND ND ND	25.0 25.0 25.0 25.0 25.0 25.0 25.0 25.0	11 11 11 11	11 11 11 11	11 11 11 11	11 11 11 11	11 11 11 11	# # # # # # # # # # # # # # # # # # #	

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515 Project Manager: Jim Westerman Reported: 11/28/01 15:04

WDNR Volatile Organic Compounds by Method 8260B

Great Lakes Analytical

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 6-8' (W111082-02) Soil (WI)	Sampled: 11/09/	01 00:00 I	Received: 1	1/12/01 0	7:46				G3,G4,G19
1,1-Dichloroethene	ND	25.0	ug/kg dry	50	1110319	11/16/01	11/16/01	EPA 8260B	
cis-1,2-Dichloroethene	ND	25.0	11	**	**	Ħ	*1	11	
trans-1,2-Dichloroethene	ND	25.0	"	**	Ħ	Ħ	11	ti	
1,2-Dichloropropane	ND	25.0	**	"	**	н	**	н	
1,3-Dichloropropane	ND	25.0	**	**	#1	. #	**	Ħ	
2,2-Dichloropropane	ND	25.0	**	**	**	н	11	11	
Di-isopropyl ether	ND	25.0	Ħ	**	11	Ħ	11	**	
Ethylbenzene	ND	25.0	H	11	#1	tt	н	**	
Hexachlorobutadiene	ND	25.0	"	11	11	ŧŧ	"	"	
Isopropylbenzene	ND	25.0	11	**	#	11	"	"	
p-Isopropyltoluene	ND	25.0	11	11	#	ŧŧ.	**	"	
Methylene chloride	ND	100	11	"	"	**	**	· ·	
Methyl tert-butyl ether	ND	25.0	"	**	tt	**	**	**	
Naphthalene	ND	25.0	11	*1	tt	**	"	**	
n-Propylbenzene	ND	25.0	#	н	41	11	"	11	
1,1,2,2-Tetrachloroethane	ND	25.0	**	*1	**	11	"	11	
Tetrachloroethene	ND	25.0	**	"	**	17	**	"	
Toluene	ND	25.0	**	11	11	н	н	"	
1,2,3-Trichlorobenzene	ND	25.0	**	. 11	11	Ħ	н	"	
1,2,4-Trichlorobenzene	ND	25.0	11	#1	11	H	tt	11	
1,1,1-Trichloroethane	ND	25.0	11	11	11	**	**	Ħ	
1,1,2-Trichloroethane	ND	25.0	11	11	**	H	**	11	
Trichloroethene	ND	25.0	11	11	11	**	11	11	
Trichlorofluoromethane	ND	25.0	11	#	tt		**	**	
1,2,4-Trimethylbenzene	ND	25.0	н	ŧI	н	11	**	н	
1,3,5-Trimethylbenzene	ND	25.0	11	11	**	**	**	**	
Vinyl chloride	ND	25.0	Ħ	11	"	Ħ	11	**	
Total Xylenes	ND	25.0	#	tt .	**	**	11	**	
Surrogate: Dibromofluoromethane		144 %	24.5	-178	n .	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		136 %	16.7-		"	"	"	"	
Surrogate: Toluene-d8		120 %	33.1		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.0 %	20.5		"	"	"	"	

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 11/28/01 15:04

WDNR Volatile Organic Compounds by Method 8260B

Great Lakes Analytical

	,, <u> </u>	Reporting	Lakes A	<u>v</u>					
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-6 4-6' (W111082-03) Soil (WI)	Sampled: 11/09/0	1 00:00 R	eceived: 1	1/12/01 07	:46				G3,G4,G19
Benzene	ND	25.0	ug/kg dry	50	1110319	11/16/01	11/16/01	EPA 8260B	
Bromobenzene	ND	25.0	11	**	"	**	11	"	
Bromodichloromethane	ND	25.0	Ħ	**	11	. #	**	"	
n-Butylbenzene	ND	25.0	н	**	H	tt	**	"	
sec-Butylbenzene	ND	25.0	11	11	11	Ħ		"	
tert-Butylbenzene	ND	25.0	н	**	**	Ħ	"	"	
Carbon tetrachloride	ND	25.0	11	**	и	11	"	"	
Chlorobenzene	ND	25.0	Ħ	"	H	11	**	"	
Chloroethane	ND	25.0	Ħ	11	11	**	**	"	
Chloroform	ND	25.0	H	11	"	**	**	**	
Chloromethane	69.6	25.0	н	**	**	**	11	"	В
2-Chlorotoluene	ND	25.0	ti ti	99	**	tt	11	ń.	
4-Chlorotoluene	ND	25.0	Ħ	**	11	"	"	Ħ	
Dibromochloromethane	ND	25.0	"	"	11	"	H	jt.	
1,2-Dibromo-3-chloropropane	ND	25.0	"	Ħ	н	"	"	**	
1,2-Dibromoethane	ND	25.0	**	11	"	11	**	**	
1,2-Dichlorobenzene	ND	25.0	**	**	**	ŧŧ	11	**	
1,3-Dichlorobenzene	ND	25.0	**		**	tt	**	**	
1,4-Dichlorobenzene	ND	25.0	"	**	**	"	11	**	
Dichlorodifluoromethane	ND	25.0	**	**	n	11	**	11	
1,1-Dichloroethane	ND	25.0	11	**	11	11	**	11	
1,2-Dichloroethane	ND	25.0	**	**	**	**	"	11	
1,1-Dichloroethene	ND	25.0	H	11	11	n	11	**	
cis-1,2-Dichloroethene	ND	25.0	**	**	н	**	**	Ħ	
trans-1,2-Dichloroethene	ND	25.0	n	Ħ	"	**	**	11	
1,2-Dichloropropane	ND	25.0	**	н	"		n	11	
1,3-Dichloropropane	ND	25.0	**	н	"	ŧŧ	н	**	
2,2-Dichloropropane	ND	25.0		11	**	tf	"	11	
Di-isopropyl ether	ND	25.0	"	н	H		**	11	
Ethylbenzene	ND	25.0	"	"	11	11		Ħ	
Hexachlorobutadiene	ND	25.0	•	. "	"	**	**	#	
Isopropylbenzene	ND	25.0	**	**	**	"	u	11	
p-Isopropyltoluene	ND	25.0	**	**	**	"	**	**	
Methylene chloride	ND	100	"	n	"	"	11	11	
Methyl tert-butyl ether	ND	25.0	•	"	11	"	"	11	
Naphthalene	ND	25.0	**	"	11	11	11	**	
n-Propylbenzene	ND	25.0	11	"	п	tt	**	"	
1,1,2,2-Tetrachloroethane	ND	25.0	Ħ	**	н	tt		It	
Tetrachloroethene	140	25.0	u	11	"	**		**	

Great Lakes Analytical--Oak Creek

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Andrea Stathas, Project Manager

Page 9 of 39



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

Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515 Project Manager: Jim Westerman

Reported: 11/28/01 15:04

WDNR Volatile Organic Compounds by Method 8260B

Great Lakes Analytical

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-6 4-6' (W111082-03) Soil (WI)	Sampled: 11/09/	01 00:00 R	Received: 1	1/12/01 07	7:46				G3,G4,G19
Toluene	ND	25.0	ug/kg dry	50	1110319	11/16/01	11/16/01	EPA 8260B	
1,2,3-Trichlorobenzene	ND	25.0	.,	**	"	11	u	н	
1,2,4-Trichlorobenzene	ND	25.0	"	**	"	**	"	**	
1,1,1-Trichloroethane	ND	25.0	11	**	**	**	Ħ	**	
1,1,2-Trichloroethane	ND	25.0	**	**	**	H	**	Ħ	
Trichloroethene	ND	25.0	**	**	11	"	**	n	
Trichlorofluoromethane	ND	25.0	11	**	**	**	**	**	
1,2,4-Trimethylbenzene	ND	25.0	**	**	"	H	**	11	
1,3,5-Trimethylbenzene	ND	25.0	11	**	"	tt	**	W .	
Vinyl chloride	ND	25.0	Ħ	Ħ	"	Ħ		"	
Total Xylenes	ND	25.0	**	н	"	***	**	**	
Surrogate: Dibromofluoromethane		117 %	24.5-	- <i>178</i>	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		111 %	16.7-	-220	"	"	"	"	
Surrogate: Toluene-d8		101 %	33.I-	-170	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		75.3 %	20.5	-166	"	"	"	"	
MW-6 8-10' (W111082-04) Soil (WI	Sampled: 11/09	0/01 00:00	Received:	11/12/01 0	7:46				G3,G4,G19
Benzene	ND	25.0	ug/kg dry	50	1110319	11/16/01	11/16/01	EPA 8260B	
Bromobenzene	ND	25.0	11	"	11	11	H	"	
Bromodichloromethane	ND	25.0	tf .	11	**	11	**	**	
n-Butylbenzene	ND	25.0	n	н		н	**	•	
sec-Butylbenzene	ND	25.0	ŧr	11		11	**	"	
tert-Butylbenzene	ND	25.0	n	ti		н	**	"	
Carbon tetrachloride	ND	25.0	17	n		H	**	"	
Chlorobenzene	ND	25.0	**	**	11	n	**	Ħ	
Chloroethane	ND	25.0	**	**	11	#	**	H	
Chloroform	ND	25.0	11	**	**	**	**	н	
Chloromethane	ND	25.0	**	**	11	н	11	н .	
2-Chlorotoluene	ND	25.0	**	"	#1	"	п		
4-Chlorotoluene	ND	25.0	п	**	**	"	**	11	
Dibromochloromethane	ND	25.0	11	**		11	"	11	
1,2-Dibromo-3-chloropropane	ND	25.0	11	11		11	11	11	
1,2-Dibromoethane	ND	25.0	"	11	**	**	н	**	
1,2-Dichlorobenzene	ND ND	25.0	"		11		н	"	
1,3-Dichlorobenzene	ND	25.0	"	"	· n	11	u	•	
1,4-Dichlorobenzene	ND ND	25.0	11	"	#1	11	**	"	
Dichlorodifluoromethane	ND	25.0	11	**	11	#1	"	н	
1,1-Dichloroethane	ND ND	25.0	4	"	n	11	"	11	
1,2-Dichloroethane	ND ND	25.0	n n	"	**	н	**	11	
1,2-Dichloroculatio	ND	25.0							

Great Lakes Analytical--Oak Creek

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Andrea Stathas, Project Manager

Page 10 of 39



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

Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 11/28/01 15:04

WDNR Volatile Organic Compounds by Method 8260B

Great Lakes Analytical

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-6 8-10' (W111082-04) Soil (WI)	Sampled: 11/09	/01 00:00	Received:	11/12/01 0	7:46				G3,G4,G19
1,1-Dichloroethene	ND	25.0	ug/kg dry	50	1110319	11/16/01	11/16/01	EPA 8260B	
cis-1,2-Dichloroethene	ND	25.0	**	"	**	"		"	
trans-1,2-Dichloroethene	ND	25.0	"		"	n	11	"	
1,2-Dichloropropane	ND	25.0	**	11	**	**	· · · · · · · · · · · · · · · · · · ·	"	
1,3-Dichloropropane	ND -	25.0	**	u	11	11	. 11	"	
2,2-Dichloropropane	ND	25.0	**	**	"	"	**	**	
Di-isopropyl ether	ND	25.0	**	11	11	II.	н	"	
Ethylbenzene	ND	25.0	**	11	н	н	"	11	
Hexachlorobutadiene	ND	25.0	11	н	**	"		**	
Isopropylbenzene	ND	25.0	14	н	tt	**	•	11	
p-Isopropyltoluene	ND	25.0	11	H	#	11			
Methylene chloride	ND	100	н	H	**	11	11	i	
Methyl tert-butyl ether	ND	25.0	tt.	**	**	u	11	II .	
Naphthalene	ND	25.0	H	"	"	tt	**	"	
n-Propylbenzene	ND	25.0		**	**	**	. "	**	
1,1,2,2-Tetrachloroethane	ND	25.0	**	11	11	11		11	
Tetrachloroethene	159	25.0	11	11	II	11	11	"	
Toluene	ND	25.0	."	н	11	11	Ħ	"	
1,2,3-Trichlorobenzene	ND	25.0	11	**	**	11	Ħ		
1,2,4-Trichlorobenzene	ND	25.0	**	н		11	**	**	
1,1,1-Trichloroethane	ND	25.0	"	"	11	u	**	Ħ	
1,1,2-Trichloroethane	ND	25.0	Ħ	"	11	**	11	н	
Trichloroethene	ND	25.0	**	"	17	11	11	u	
Trichlorofluoromethane	ND	25.0	н	u	11	n	ŧt	#	
1,2,4-Trimethylbenzene	ND	25.0		**	17	ŧŧ	11	н	
1,3,5-Trimethylbenzene	ND	25.0	**	**	11	H	11	18	
Vinyl chloride	ND	25.0		**	**	H	u	**	
Total Xylenes	ND	25.0	н	11		11	11	- 11	
Surrogate: Dibromofluoromethane		154 %	24.5-	178	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		145 %	16.7-	220	"	"	"	"	
Surrogate: Toluene-d8		129 %	33.1-	170	"	"		"	
Surrogate: 4-Bromofluorobenzene		98.5 %	20.5-	166	"	"	"	"	

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515
Project Manager: Jim Westerman

Reported: 11/28/01 15:04

WDNR Volatile Organic Compounds by Method 8260B

Great Lakes Analytical

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-5 4-6' (W111082-05) Soil (WI)	Sampled: 11/09/0	1 00:00 R	eceived: 1	1/12/01 07	:46				G3,G4,G19
Benzene	37.0	25.0	ug/kg dry	50	1110319	11/16/01	11/16/01	EPA 8260B	
Bromobenzene	ND	25.0	11	**	**	"	"	ш	-
Bromodichloromethane	ND	25.0	**	**	"	#1	**	11	
n-Butylbenzene	6220	25.0	Ħ	**	Ħ	"	#	11	
sec-Butylbenzene	6710	25.0	**	11	#	**	11	11	
tert-Butylbenzene	132	25.0	"	11	"	**	11	**	
Carbon tetrachloride	ND	25.0	"	11	11	Ħ	tt	tt	
Chlorobenzene	ND	25.0	**	**	**	н	**	er	
Chloroethane	ND	25.0	**	11	11	Ħ	11	**	
Chloroform	ND	25.0	**	н	11	Ħ	**	11	
Chloromethane	87.0	25.0	"	**	**	H	"	••	B
2-Chlorotoluene	ND	25.0	Ħ	**	11	н	11	"	
4-Chlorotoluene	ND	25.0	н	Ħ	н	**	n	11	
Dibromochloromethane	ND	25.0	**	н	11	**	u	**	
1,2-Dibromo-3-chloropropane	ND	25.0	Ħ	11	н	"	tt .	Ħ	
1,2-Dibromoethane	ND	25.0	**	"	**	11	Ħ	**	
1,2-Dichlorobenzene	ND	25.0	"	**	**	tt	"	**	
1,3-Dichlorobenzene	ND	25.0	· ·	"	**	tt	**	**	
1,4-Dichlorobenzene	ND	25.0	11	11	11	tr	11	31	
Dichlorodifluoromethane	ND	25.0	**	Ħ	*1	**	11	**	
1,1-Dichloroethane	ND	25.0	Ħ	"	11	11	H	**	
1,2-Dichloroethane	ND	25.0	"	**	**	11	"	**	
1,1-Dichloroethene	ND	25.0	11	#	н	11	**	11	
cis-1,2-Dichloroethene	ND	25.0	•	**	11	H	11	**	
trans-1,2-Dichloroethene	ND	25.0	11	11	11	H	11	11	
1,2-Dichloropropane	ND	25.0	11*	Ħ	n	"	*1	n	
1,3-Dichloropropane	ND	25.0	H	"	11	"	"	11	
2,2-Dichloropropane	ND	25.0	II	н	#1	u		•	
Di-isopropyl ether	ND	25.0	**	11	**	и	н	**	
Ethylbenzene	75.4	25.0	11	н	**	**	H	н	
Hexachlorobutadiene	ND	25.0	11	11	"	"	n	"	
Isopropylbenzene	2700	25.0	"	Ħ	н	11	**	"	
p-Isopropyltoluene	ND	25.0	"	**	н	Ħ	н	n	
Methylene chloride	ND	100	**	**	н	11	U	Ħ	
Methyl tert-butyl ether	ND	25.0	**	**	**	n	Ħ	n .	
Naphthalene	ND	25.0	11	11	11	**	**	**	
n-Propylbenzene	4700	25.0	н	Ħ	II	"	**	11	
1,1,2,2-Tetrachloroethane	ND	25.0	tt	11	н	**	11	11	
Tetrachloroethene	ND	25.0	**	"	ıı	11	н	н	

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 11/28/01 15:04

WDNR Volatile Organic Compounds by Method 8260B

Great Lakes Analytical

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-5 4-6' (W111082-05) Soil (WI)	Sampled: 11/09/01	00:00 R	leceived: 1	1/12/01 07	':46				G3,G4,G19
Toluene	ND	25.0	ug/kg dry	50	1110319	11/16/01	11/16/01	EPA 8260B	
1,2,3-Trichlorobenzene	ND	25.0	**	11	**	Ħ	**	**	
1,2,4-Trichlorobenzene	ND	25.0	11	11	н	n	"	**	
1,1,1-Trichloroethane	ND	25.0	11	"	"	, н	**	Ħ	
1,1,2-Trichloroethane	ND	25.0	"	H	#	17	"	#	
Trichloroethene	ND	25.0	**	11	**	H	11	ŧŧ	
Trichlorofluoromethane	ND	25.0	If	**	11	#	44	Ħ	
1,2,4-Trimethylbenzene	ND	25.0	**	11	н	n	Ħ	11	
1,3,5-Trimethylbenzene	97.3	25.0	#1	11	**	**	11	11	
Vinyl chloride	ND	25.0	11	**	**	"	. н	tt	
Total Xylenes	48.6	25.0	1f	u,	"	**	"	Ħ	
Surrogate: Dibromofluoromethane		124 %	24.5-	-178	"	"	"	."	
Surrogate: 1,2-Dichloroethane-d4		121 %	16.7-	220	"	"	н	"	
Surrogate: Toluene-d8		107 %	33.1-	-170	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.2 %	20.5	166	"	. "	"	#	
MW-5 10-12' (W111082-06) Soil (WI)) Sampled: 11/09/	01 00:00	Received	: 11/12/01	07:46				G3,G4,G19
Benzene	ND	25.0	ug/kg dry	50	1110319	11/16/01	11/16/01	EPA 8260B	· · · · · · · · · · · · · · · · · · ·
Bromobenzene	ND	25.0	11	**	11		n	11	
Bromodichloromethane	ND	25.0	IJ	**	**	**	**	tt	
n-Butylbenzene	527	25.0	н		"	Ħ	н	н	
sec-Butylbenzene	463	25.0	н	11	ti	tt	н	11	
tert-Butylbenzene	ND	25.0	н	и	#	н	11	н	
Carbon tetrachloride	ND	25.0	н	н	11	Ħ	n	Ħ	
Chlorobenzene	ND	25.0	Ħ	11	**	11	•	Ħ	
Chloroethane	ND	25.0	11	m	11	"	11	Ħ	
Chloroform	ND	25.0	**	și	**	11	"	tt	
Chloromethane	67.2	25.0	н	"	*1	**	11	11	В
2-Chlorotoluene	ND	25.0	"	**	11	"	11	Ħ	
4-Chlorotoluene	ND	25.0	"	**	н	"	Ħ	Ħ	
Dibromochloromethane	ND	25.0	**	***	**	"	**	н	
	ND	25.0	**	**	**	**	"	н	
1.2-Dibromo-3-chioropropane			19	11	"	**	"	н	
1,2-Dibromo-3-chloropropane 1.2-Dibromoethane	ND	25.0	•-						
1,2-Dibromoethane	ND ND	25.0 25.0	11	ч	"	11		11	
1,2-Dibromoethane 1,2-Dichlorobenzene				"	"	t1 H	"	# #	
1,2-Dibromoethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene	ND	25.0	"					"	
1,2-Dibromoethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene	ND ND	25.0 25.0	11	"	**	н	**	11 11 11	
1,2-Dibromoethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene	ND ND ND	25.0 25.0 25.0	11 11	"	. 11	n n	19 19	11 11 11	

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road

Project Number: 6515
Project Manager: Jim Westerman

Reported: 11/28/01 15:04

Oak Creek WI, 53154

WDNR Volatile Organic Compounds by Method 8260B

Great Lakes Analytical

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-5 10-12' (W111082-06) Soil (WI)	Sampled: 11/0	9/01 00:00	Received	11/12/01	07:46				G3,G4,G19
1,1-Dichloroethene	ND	25.0	ug/kg dry	50	1110319	11/16/01	11/16/01	EPA 8260B	
cis-1,2-Dichloroethene	ND	25.0	н	11	**	**	**	"	
trans-1,2-Dichloroethene	ND	25.0	11	n	**	11	**	u	
1,2-Dichloropropane	ND	25.0	**	11	**	11	11		
1,3-Dichloropropane	ND	25.0	11	H	11	Ħ	**	"	
2,2-Dichloropropane	ND	25.0	"	11	H	**	11	"	
Di-isopropyl ether	ND	25.0	11	11	**	Ħ	tt	"	
Ethylbenzene	ND	25.0	H	u	**	11	**	**	
Hexachlorobutadiene	ND	25.0	**	**	"	11	**	**	
Isopropylbenzene	116	25.0	**	"	tt	11	"	**	
p-Isopropyltoluene	ND	25.0	H	11	Ħ	11	**	**	
Methylene chloride	ND	100	**	11	tr	11	11	ii ii	
Methyl tert-butyl ether	ND	25.0	n	11	Ħ	11	H	**	
Naphthalene	ND	25.0	"	11	**	н	п	11	
n-Propylbenzene	353	25.0	11	11	**	н	n	"	
1,1,2,2-Tetrachloroethane	ND	25.0	11	11	Ħ	tt	**	11	
Tetrachloroethene	94.0	25.0	#	n	W.	tt		n	
Toluene	ND	25.0	Ħ	n	"	**	**	**	
1,2,3-Trichlorobenzene	ND	25.0	tt	"	"	**	11	**	
1,2,4-Trichlorobenzene	ND	25.0	**	"	**	11	41	**	
1,1,1-Trichloroethane	ND	25.0	"	11	**	11	н	**	
1,1,2-Trichloroethane	ND	25.0	"	"	**	11	н	"	
Trichloroethene	ND	25.0	**	11	н	11	**	11	
Trichlorofluoromethane	ND	25.0	"	H	**	11		11	
1,2,4-Trimethylbenzene	ND	25.0	**	н		н		#	
1,3,5-Trimethylbenzene	ND	25.0	#	н	"	**	**	н	
Vinyl chloride	ND	25.0	11	**	"	H	n	н	
Total Xylenes	ND	25.0	Ħ		"	Ħ	11	II	
Surrogate: Dibromofluoromethane		134 %	24.5-	178	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		139 %	16.7-		"	"	"	"	
Surrogate: Toluene-d8		124 %	33.1-		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	20.5-		"	"	"	"	

Great Lakes Analytical--Oak Creek

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

Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515
Project Manager: Jim Westerman

Reported: 11/28/01 15:04

WDNR Volatile Organic Compounds by Method 8260B

Great Lakes Analytical

Great Lakes Alialytical											
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes		
MW-4 0-2' (W111082-07) Soil (WI)	Sampled: 11/09/0	01 00:00 F	Received: 1	1/12/01 07	:46				G3,G4,G19		
Benzene	ND	25.0	ug/kg dry	50	1110319	11/16/01	11/17/01	EPA 8260B			
Bromobenzene	ND	25.0	"	**	"	**	**	**			
Bromodichloromethane	ND	25.0	**	11	**		**	**			
n-Butylbenzene	ND	25.0	"	**	**		Ħ	Ħ			
sec-Butylbenzene	ND	25.0	**	11	**		**	**			
tert-Butylbenzene	ND	25.0	**	, 11		"	**	11			
Carbon tetrachloride	ND	25.0	**	**	**	**	ñ .	"			
Chlorobenzene	ND	25.0	u	**	H	"	H	"			
Chloroethane	ND	25.0	. #	**	"	**	"	"			
Chloroform	ND	25.0	n n	11	н	**	**	"			
Chloromethane	ND	25.0		**	"		"	**			
2-Chlorotoluene	ND	25.0	"	11	, H	11	11	•			
4-Chlorotoluene	ND	25.0	Ħ	-11	**	11	11	"			
Dibromochloromethane	ND	25.0	н	11	**	**	"	"			
1,2-Dibromo-3-chloropropane	ND	25.0	"	11	#	"	11	*			
1,2-Dibromoethane	ND	25.0	**	19	11	. #	Ħ	"			
1,2-Dichlorobenzene	ND	25.0	**	19	11	**	**	"			
1,3-Dichlorobenzene	ND	25.0	**	tt	11	11	"	**			
1,4-Dichlorobenzene	ND	25.0	**	11	11	11		"			
Dichlorodifluoromethane	ND	25.0	**	11	***	Ħ	11	н			
1,1-Dichloroethane	ND	25.0	u .	. 11	H	n	**	**			
1,2-Dichloroethane	ND	25.0	u	и,	#1	"	II	n			
1,1-Dichloroethene	ND	25.0	tt .	11	**	**	11	"			
cis-1,2-Dichloroethene	ND	25.0	HT.	11	11	Ħ	11	19			
trans-1,2-Dichloroethene	ND	25.0	u u	11	41	***	**	**			
1,2-Dichloropropane	ND	25.0	"	11	Ħ	11	11	11			
1,3-Dichloropropane	ND	25.0	u	H	**	11	Ħ	**			
2,2-Dichloropropane	ND	25.0	**	н	tt	H	11	**			
Di-isopropyl ether	ND	25.0	**	ti	Ħ	**	н	**			
Ethylbenzene	ND	25.0	"	Ħ	"	**	Ħ	11			
Hexachlorobutadiene	ND	25.0	"	ŧı	"	**	Ħ	11	,		
Isopropylbenzene	ND	25.0	"	ŧŧ	u u	u	Ħ	11			
p-Isopropyltoluene	ND	25.0	"	Ħ		**	**	**			
Methylene chloride	ND	100	**	н		11	H	**			
Methyl tert-butyl ether	ND	25.0	u	n		**	11	11			
Naphthalene	ND	25.0	"	u u		**	W	**			
n-Propylbenzene	ND	25.0	**	**	"		**	11			
1,1,2,2-Tetrachloroethane	ND	25.0	**	"	11	m ·	"	11			
Tetrachloroethene	1830	25.0	11	**	11	"	11	**			

Great Lakes Analytical--Oak Creek

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

Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 11/28/01 15:04

WDNR Volatile Organic Compounds by Method 8260B

Great Lakes Analytical

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-4 0-2' (W111082-07) Soil (WI)	Sampled: 11/09/	01 00:00 R	eceived: 1	1/12/01 0	7:46				G3,G4,G19
Toluene	ND	25.0		50	1110319	11/16/01	11/17/01	EPA 8260B	
1,2,3-Trichlorobenzene	ND	25.0	"	#	**	**	"	Ħ	
1,2,4-Trichlorobenzene	ND	25.0	"	#		**	"	**	
1,1,1-Trichloroethane	ND	25.0	"	11	"	"	"	11	
1,1,2-Trichloroethane	ND	25.0	"	**	#1	**	H	11	
Trichloroethene	ND	25.0	"	"	11	tt	Ħ	u	
Trichlorofluoromethane	ND	25.0	"	11	**	11	It.	11	
1,2,4-Trimethylbenzene	ND	25.0	**	"	"	"	н	**	
1,3,5-Trimethylbenzene	ND	25.0	11	"	11	"	Ħ	"	
Vinyl chloride	ND	25.0	11	11	"	11	И	"	
Total Xylenes	ND	25.0	H :	11	**	"	11		
Surrogate: Dibromofluoromethane		143 %	24.5-	178	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		141 %	16.7-	220	"	"	"	"	
Surrogate: Toluene-d8		126 %	33.1-	170	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	20.5-	166	. "	"	"	"	
MW-4 6-8' (W111082-08) Soil (WI)	Sampled: 11/09/	′01 00:00 R	leceived: 1	1/12/01 07	7:46				G3,G4,G19
Benzene	ND	25.0	ug/kg dry	50	1110319	11/16/01	11/18/01	EPA 8260B	
Bromobenzene	ND	25.0	11	11	н	Ħ	#	11	
Bromodichloromethane	ND	25.0	11	н	**	**	••	11	
n-Butylbenzene	ND	25.0	11	**	11	Ħ	**	#	
sec-Butylbenzene	ND	25.0	11	**	11	11	**	**	
tert-Butylbenzene	ND	25.0	11	11	"	**	**	н	
Carbon tetrachloride									
	ND	25.0	11	"	**	**	**	**	
Chlorobenzene	ND ND	25.0 25.0	11	11	11	**	11	# #	
								## ## ##	
Chlorobenzene Chloroethane	ND ND	25.0 25.0	**	**	ŧı	**	"	# # #	
Chlorobenzene Chloroethane Chloroform	ND ND ND	25.0	11	11	11	11	"	# # #	В
Chlorobenzene Chloroethane	ND ND	25.0 25.0 25.0	H H	it tt	#1 #1	11 11	11 11	# # # #	В
Chlorobenzene Chloroethane Chloroform Chloromethane	ND ND ND 128	25.0 25.0 25.0 25.0	11 11	11 11 11	#1 #1	11 11	11 11 11	n n n n	Е
Chlorobenzene Chloroethane Chloroform Chloromethane 2-Chlorotoluene 4-Chlorotoluene	ND ND ND 128 ND	25.0 25.0 25.0 25.0 25.0 25.0	11 11 11	11 11 11	11 11 11	11 11 11	11 11 11	.,	В
Chlorobenzene Chloroethane Chloroform Chloromethane 2-Chlorotoluene 4-Chlorotoluene Dibromochloromethane	ND ND ND 128 ND ND	25.0 25.0 25.0 25.0 25.0	11 11 11 11	11 11 11	11 11 11 11 11 11 11 11 11	11 11 11 11 11 11 11 11 11 11 11 11 11	11 11 11	.,	В
Chlorobenzene Chloroethane Chloroform Chloromethane 2-Chlorotoluene 4-Chlorotoluene	ND ND ND 128 ND ND ND	25.0 25.0 25.0 25.0 25.0 25.0 25.0	11 11 11 11 11 11	11 11 11 11 11 11	11 11 11 11 11 11 11	11 11 11 11 11 11 11 11 11 11 11 11 11	11 11 11 11	.,	В
Chlorobenzene Chloroethane Chloroform Chloromethane 2-Chlorotoluene 4-Chlorotoluene Dibromochloromethane 1,2-Dibromo-3-chloropropane	ND ND 128 ND ND ND ND ND	25.0 25.0 25.0 25.0 25.0 25.0 25.0 25.0	11 11 11 11 11 11 11 11 11 11 11 11 11	11 11 11 11 11 11 11 11 11 11 11 11 11	11 11 11 11 11 11 11 11 11 11 11 11 11	11 11 11 11 11 11 11 11 11 11 11 11 11	11 11 11 11 11	# #	В
Chlorobenzene Chloroethane Chloroform Chloromethane 2-Chlorotoluene 4-Chlorotoluene Dibromochloromethane 1,2-Dibromo-3-chloropropane 1,2-Dibromoethane 1,2-Dichlorobenzene	ND ND 128 ND ND ND ND ND ND	25.0 25.0 25.0 25.0 25.0 25.0 25.0 25.0	11 11 11 11 11 11 11 11 11 11 11 11 11	11 11 11 11 11 11 11 11 11 11 11 11 11	11 11 11 11 11 11 11 11 11 11 11 11 11	0 0 11 11 11 11	11 11 11 11 11	# # #	Е
Chlorobenzene Chloroethane Chloroform Chloromethane 2-Chlorotoluene 4-Chlorotoluene Dibromochloromethane 1,2-Dibromo-3-chloropropane 1,2-Dibromoethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene	ND ND 128 ND ND ND ND ND ND ND ND ND	25.0 25.0 25.0 25.0 25.0 25.0 25.0 25.0	11 11 11 11 11 11 11 11 11 11 11 11 11	11 11 11 11 11 11 11 11 11 11 11 11 11	11 11 11 11 11 11 11 11 11 11 11 11 11	0 11 11 11 11 11	11 11 11 11 11 11 11 11 11	# # # # # # # # # # # # # # # # # # #	Е
Chlorobenzene Chloroethane Chloroform Chloromethane 2-Chlorotoluene 4-Chlorotoluene Dibromochloromethane 1,2-Dibromo-3-chloropropane 1,2-Dibromoethane 1,2-Dichlorobenzene	ND ND 128 ND	25.0 25.0 25.0 25.0 25.0 25.0 25.0 25.0	11 11 11 11 11 11 11 11 11 11 11 11 11	11 11 11 11 11 11 11 11 11 11 11 11 11		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	11 11 11 11 11 11 11 11 11	11 11 11	В
Chlorobenzene Chloroethane Chloroform Chloromethane 2-Chlorotoluene 4-Chlorotoluene Dibromochloromethane 1,2-Dibromo-3-chloropropane 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene	ND ND 128 ND	25.0 25.0 25.0 25.0 25.0 25.0 25.0 25.0	11 11 11 11 11 11 11 11 11 11 11 11 11	11 11 11 11 11 11 11 11 11 11 11 11 11	11 11 11 11 11 11 11 11 11 11 11 11 11	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	11 11 11 11 11 11 11 11 11 11 11 11 11	11 11 11 11	В

Great Lakes Analytical--Oak Creek

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

Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 11/28/01 15:04

WDNR Volatile Organic Compounds by Method 8260B

Great Lakes Analytical

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-4 6-8' (W111082-08) Soil (WI)	Sampled: 11/09/0	1 00:00 R	eceived: 1	1/12/01 07	:46				G3,G4,G19
1,1-Dichloroethene	ND	25.0	ug/kg dry	50	1110319	11/16/01	11/18/01	EPA 8260B	
cis-1,2-Dichloroethene	ND	25.0	**	**	**	Ħ	"	"	
trans-1,2-Dichloroethene	43.4	25.0	**	11	#	H	**	**	
1,2-Dichloropropane	ND	25.0	11	"	"	Ħ	11	**	
1,3-Dichloropropane	ND	25.0	**	"	**	"	11	н	
2,2-Dichloropropane	ND	25.0	11	11	"	. "	11	**	
Di-isopropyl ether	ND	25.0	"	11	11	"	11	tt	
Ethylbenzene	ND	25.0	11		**	**	**	tt	
Hexachlorobutadiene	ND	25.0	11	**	"	11	11	Ħ	
Isopropylbenzene	ND	25.0	11	11	11	**	11	tt	
p-Isopropyltoluene	ND	25.0	Ħ	"	**	**	n	Ħ	
Methylene chloride	ND	100	11	**	11	Ħ	**	Ħ	
Methyl tert-butyl ether	ND	25.0	**	**	Ħ	tt	11	ti	
Naphthalene	ND	25.0	11	"	tf	#	11	11	
n-Propylbenzene	ND	25.0	**	**	11	tt	11	11	
1,1,2,2-Tetrachloroethane	ND	25.0	**	#1	Ħ	11	11	. #	
Tetrachloroethene	3080	25.0	II	**	Ħ	tt	"	Ħ	
Toluene	ND	25.0	u	11	11	н		"	
1,2,3-Trichlorobenzene	ND	25.0	Ħ	"	**	**	n	11	
1,2,4-Trichlorobenzene	ND	25.0	11	**	#1	11	**	"	
1,1,1-Trichloroethane	ND	25.0	н	n	"	**	n	"	
1,1,2-Trichloroethane	116	25.0	Ħ	н	**	- 11	· u	11	
Trichloroethene	131	25.0	н	Ħ	н	#		10	
Trichlorofluoromethane	ND	25.0	Ħ	**	"	11	u	**	
1,2,4-Trimethylbenzene	ND	25.0	**	**	t!	Ħ	**	11	
1,3,5-Trimethylbenzene	ND	25.0	**	ti .	**	#1	**	u	
Vinyl chloride	ND	25.0	11	**	"	11	#	11	
Total Xylenes	ND	25.0	11	,,		ft .	tt .	11	
Surrogate: Dibromofluoromethane		58.4 %	24.5-	178	"	"	"	n	
Surrogate: 1,2-Dichloroethane-d4		144 %	16.7-	220	"	"	"	"	
Surrogate: Toluene-d8		84.3 %	33.1-	170	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		60.1 %	20.5-	166	"	"	"	"	

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 11/28/01 15:04

WDNR Volatile Organic Compounds by Method 8260B

Great Lakes Analytical

	D l	Reporting	Y Y ! 4	Dilada	Datab	D 1	A1 1	36-4-1	
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 0-2' (W111082-09) Soil (WI)	Sampled: 11/09/	01 00:00 F	Received:	11/12/01 07	7:46				G3,G4,G19
Benzene	ND	25.0	ug/kg dry	50	1110319	11/16/01	11/17/01	EPA 8260B	
Bromobenzene	ND	25.0	**	**	"	tt	**	**	
Bromodichloromethane	ND	25.0	**	**	**	H	**	**	
n-Butylbenzene	ND	25.0	**	"	**	11	11	**	
sec-Butylbenzene	ND	25.0	**	11	**	**	**	11	
tert-Butylbenzene	ND	25.0	**	11	**	"	**	Ħ	
Carbon tetrachloride	ND	25.0	11	Ħ	**	**	11/18/01	11	
Chlorobenzene	ND	25.0	**	Ħ	н	"	11/17/01	n	
Chloroethane	ND	25.0	11	н	"	**	**	**	
Chloroform	ND	25.0	· 0	II .	"	**	**	н	
Chloromethane	ND	25.0	II .	tt	"	**	n	и	
2-Chlorotoluene	ND	25.0	н	H	**	11	**	ú	
4-Chlorotoluene	ND	25.0	u	**	**	11	"	H	
Dibromochloromethane	ND	25.0	**	**	"	11	**	**	
1,2-Dibromo-3-chloropropane	ND	25.0	**	11	11	ti	**	**	
1,2-Dibromoethane	ND	25.0	19	Ħ	Ħ	n	41	**	
1,2-Dichlorobenzene	ND	25.0	Ħ	11	н	"	**	Ħ	
1,3-Dichlorobenzene	ND	25.0	Ħ	**	u	**	"	"	
1,4-Dichlorobenzene	ND	25.0	**	**	11	и	"	11	
Dichlorodifluoromethane	ND	25.0	**	11	**	11	11	11	
1,1-Dichloroethane	ND	25.0	"	н	n	Ħ	11	11	
1,2-Dichloroethane	ND	25.0	н	н	11	11	н	11	
1,1-Dichloroethene	ND	25.0	н	н	**	"	•	tt.	
cis-1,2-Dichloroethene	ND	25.0	**	**	**	**	**	**	
trans-1,2-Dichloroethene	ND	25.0	н	"	•	**	"	**	
1,2-Dichloropropane	ND	25.0	**	**	•	11	**		
1,3-Dichloropropane	ND	25.0	"	11	**	11	11	**	
2,2-Dichloropropane	ND	25.0	"	u	**	11	**	"	
Di-isopropyl ether	ND	25.0	и	**	11	tt	#	н	
Ethylbenzene	ND	25.0	ti .	н	11			н	
Hexachlorobutadiene	ND	25.0	**	"	"	**	**		
Isopropylbenzene	ND	25.0	**	"		**	"		
p-Isopropyltoluene	ND	25.0	**	**	**	н	#	11	
Methylene chloride	ND	100	41	11	#1	11	11	"	
Methyl tert-butyl ether	ND ND	25.0	11	11	11	n	н	11	
Naphthalene	ND ND	25.0	n	n	11	н	,,	**	
n-Propylbenzene	ND ND	25.0	**	н	**	**		n	
1,1,2,2-Tetrachloroethane	ND ND	25.0	**	n	"	**	"	" .	
Tetrachloroethene	42200	25.0	н	500	**	11	11/18/01		G12

Great Lakes Analytical--Oak Creek

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Andrea Stathas, Project Manager

Page 18 of 39



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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515 Project Manager: Jim Westerman

Reported: 11/28/01 15:04

WDNR Volatile Organic Compounds by Method 8260B

Great Lakes Analytical

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 0-2' (W111082-09) Soil (WI)	Sampled: 11/09/0	1 00:00	Received:	11/12/01 0	7:46				G3,G4,G19
Toluene	ND	25.0	ug/kg dry	50	1110319	11/16/01	11/17/01	EPA 8260B	
1,2,3-Trichlorobenzene	ND	25.0	**	н	"	17	11	•	
1,2,4-Trichlorobenzene	ND	25.0	Ħ	Ħ	"	**	11	**	
1,1,1-Trichloroethane	ND	25.0	Ħ	ti	"	#	**		
1,1,2-Trichloroethane	ND	25.0	**	Ħ	**	#	11/18/01	11	
Trichloroethene	128	25.0	11	н	**	Ħ	11/17/01	**	
Trichlorofluoromethane	ND	25.0	n	**	11	u u		"	
1,2,4-Trimethylbenzene	ND	25.0	n	**	11	и	Ħ	**	
1,3,5-Trimethylbenzene	ND	25.0	u u	**	11	"		"	
Vinyl chloride	ND	25.0	Ħ	**	11	"	31	**	
Total Xylenes	ND	25.0	ti	**	**	"	n	"	
Surrogate: Dibromofluoromethane		116%	24.5-	178	"	rr .	"	"	
Surrogate: 1,2-Dichloroethane-d4		133 %	16.7-	220	"	"	"	"	
Surrogate: Toluene-d8		113 %	33.1-	170	"	#	"	"	
Surrogate: 4-Bromofluorobenzene		89.5 %	20.5-	166	"	"	"	"	
MW-3 6-8' (W111082-10) Soil (WI)	Sampled: 11/09/0	1 00.00 1	Pagairade 1	11/12/01 0	7.46			C2	G4,G19,G12
									G4,G19,G12
Benzene	ND	1000	ug/kg dry	2000	1110319	11/16/01	11/20/01	EPA 8260B	
Bromobenzene	ND	1000	**	11	"		"	**	
Bromodichloromethane	ND	1000	**		"		"	**	
n-Butylbenzene	ND	1000		11		**		**	
sec-Butylbenzene	ND	1000	**	#1	11	11	***	"	
tert-Butylbenzene	ND	1000	"	n	**	"		**	
Carbon tetrachloride	ND	1000	н	Ħ	н	"	Ħ	11	
Chlorobenzene	ND	1000	11	Ħ	H*	"	11	**	
Chloroethane	ND	1000	11	H	11	"	**	*	
Chloroform	ND	1000	11	#1	11	"	"	#	
Chloromethane	ND	1000	11	11	11	**	11	"	
2-Chlorotoluene	ND	1000	Ħ	"	#	11	"	11	
4-Chlorotoluene	ND	1000	11	**	#	ti	**	"	
Dibromochloromethane	ND	1000	*1	**	11	tt	81	"	
			11	**	**	H	#1	"	
1,2-Dibromo-3-chloropropane	ND	1000							
1,2-Dibromoethane	ND	1000	#	"	11	Ħ	n	"	
1,2-Dibromoethane 1,2-Dichlorobenzene				u.	"	#	"	"	
1,2-Dibromoethane	ND ND ND	1000	#1 #1	"	11	11	11	# #	
1,2-Dibromoethane 1,2-Dichlorobenzene	ND ND ND ND	1000 1000	11 11 11	H H	# #	11 11	# #	# # #	
1,2-Dibromoethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene	ND ND ND ND ND	1000 1000 1000	#1 #1	"	11	11	11	11 11 11	
1,2-Dibromoethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene	ND ND ND ND	1000 1000 1000 1000	11 11 11	H H	# #	11 11	# #	" " " " " "	

Great Lakes Analytical--Oak Creek

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Andrea Stathas, Project Manager

Page 19 of 39



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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515 Project Manager: Jim Westerman Reported: 11/28/01 15:04

WDNR Volatile Organic Compounds by Method 8260B

Great Lakes Analytical

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 6-8' (W111082-10) Soil (WI)	Sampled: 11/09/	01 00:00 I	Received: 1	1/12/01 0	7:46			G3,G	4,G19,G12
1,1-Dichloroethene	ND	1000	ug/kg dry	2000	1110319	11/16/01	11/20/01	EPA 8260B	
cis-1,2-Dichloroethene	ND	1000	n	#	**	**	n	er .	
trans-1,2-Dichloroethene	ND	1000	"	H	11	**	"	"	
1,2-Dichloropropane	ND	1000	"	11	#1	"	**	11	
1,3-Dichloropropane	ND	1000	"	H	"	n	11	11	
2,2-Dichloropropane	ND	1000	11	н	u	11	**	н	
Di-isopropyl ether	ND	1000	11	H	11	"	"	**	
Ethylbenzene	ND	1000	"	н	Ħ	**	Ħ	**	
Hexachlorobutadiene	ND	1000	**	H	"	**	Ħ	II	
Isopropylbenzene	ND	1000	"	II	"	**	H	"	
p-Isopropyltoluene	ND	1000	**	n	**	**	"	**	
Methylene chloride	ND	4000	**	н	"	"	"	ű	
Methyl tert-butyl ether	ND	1000	и	**	**	**	**	**	
Naphthalene	ND	1000	11	"	11	11	"	**	
n-Propylbenzene	ND	1000	**	"	tt	**	H	Ħ	
1,1,2,2-Tetrachloroethane	ND	1000	Ħ	**	tt	11	"	H	
Tetrachloroethene	348000	1000	**	11	**	H	**	Ħ	G12
Toluene	ND	1000	**	Ħ	"	11	**	H	
1,2,3-Trichlorobenzene	ND	1000	**	H	**	"	"	#	
1,2,4-Trichlorobenzene	ND	1000	11	**	11	"	11	#	
1,1,1-Trichloroethane	ND	1000	11	11	**	11	**	et .	
1,1,2-Trichloroethane	ND	1000	11	**	11	11	11	tt	
Trichloroethene	ND	1000	**	11	11	n	**	**	
Trichlorofluoromethane	ND	1000	**	11	11	11	**	H .	
1,2,4-Trimethylbenzene	ND	1000	"	**	1t	11	"	**	
1,3,5-Trimethylbenzene	ND	1000	"	11	н	II .	**	**	
Vinyl chloride	ND	1000	11	**	11	II	**	**	
Total Xylenes	ND	1000	11	**	11	"	H	**	
Surrogate: Dibromofluoromethane		129 %	24.5-	178	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		128 %	16.7-	220	"	n	"	"	
Surrogate: Toluene-d8		121 %	33.1-	170	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		109 %	20.5-	166	"	"	"	"	

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

Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 11/28/01 15:04

WDNR Volatile Organic Compounds by Method 8260B

Great Lakes Analytical

Reporting												
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes			
MW-2 6-8' (W111082-11) Soil (WI)	Sampled: 11/09/	01 00:00 F	Received: 1	1/12/01 0	7:46				G3,G4,G19			
Benzene	ND	25.0	ug/kg dry	50	1110319	11/16/01	11/18/01	EPA 8260B				
Bromobenzene	ND	25.0	ч	11	**	"	Ħ	11				
Bromodichloromethane	ND	25.0	11	**	"	Ħ	"	**				
n-Butylbenzene	ND	25.0	4	"	**	11	"	11				
sec-Butylbenzene	ND	25.0	**	**	11	**	"	"				
tert-Butylbenzene	ND	25.0	"	."	11	"	**	**				
Carbon tetrachloride	ND	25.0	11	."	1†	11	**	**				
Chlorobenzene	ND	25.0	11	"	v	Ħ	**	Ħ				
Chloroethane	ND	25.0	Ħ	**	**	tt		n				
Chloroform	ND	25.0	11	11	**	**	"	н				
Chloromethane	114	25.0	tı	11	tf.	11	**	Ħ	В			
2-Chlorotoluene	ND	25.0	Ħ	н		"	**	ri H				
4-Chlorotoluene	ND	25.0	Ħ	Ħ	**	"	11	ŧŧ				
Dibromochloromethane	ND	25.0	Ħ	tt	11	. "	11	#				
1,2-Dibromo-3-chloropropane	ND	25.0	tt	tr	11	"	н	tl				
1,2-Dibromoethane	ND ·	25.0	tr	**	11	11	11	11				
1,2-Dichlorobenzene	ND	25.0	"		11	11	"	tt				
1,3-Dichlorobenzene	ND	25.0	11	"	11	11	"	11				
1,4-Dichlorobenzene	ND	25.0	11	"		н	"	11				
Dichlorodifluoromethane	ND	25.0	"	н	**	**	11	11				
1,1-Dichloroethane	ND	25.0	**	"	**	**	11	Ħ				
1,2-Dichloroethane	ND	25.0	н .	н	"	**	**	u				
1,1-Dichloroethene	ND	25.0	11	Ħ	11	"	"	11				
cis-1,2-Dichloroethene	ND	25.0	н	**	11	16	"	н				
trans-1,2-Dichloroethene	ND	25.0	**	**	**	Ħ	**	н				
1,2-Dichloropropane	ND	25.0	11	**	**	**	Ħ	**				
1,3-Dichloropropane	ND	25.0	**	"	**	H	н	**				
2,2-Dichloropropane	ND	25.0	**	11		N	**	Ħ				
Di-isopropyl ether	ND	25.0	11	**	**	#		**				
Ethylbenzene	ND	25.0	**	**	**	"	"	n				
Hexachlorobutadiene	ND	25.0	ti	**	11	**	11	***				
Isopropylbenzene	ND	25.0	"	**	11	**	11	***				
p-Isopropyltoluene	ND	25.0	Ħ	11	**	11	#	n				
Methylene chloride	ND	100	11	н	98	**	11	**				
Methyl tert-butyl ether	ND	25.0	11	11	11	tr	н	**				
Naphthalene	ND	25.0	11	Ħ	11	ti	**	**				
n-Propylbenzene	ND	25.0	Ħ	#	**	tt	**	н				
1,1,2,2-Tetrachloroethane	ND	25.0	н	Ħ	**	n	**	II .				
Tetrachloroethene	1370	25.0	11	**	**	**	11	н				

Great Lakes Analytical--Oak Creek

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

Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 11/28/01 15:04

WDNR Volatile Organic Compounds by Method 8260B

Great Lakes Analytical

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-2 6-8' (W111082-11) Soil (WI)	Sampled: 11/09/	01 00:00 F	Received: 1	1/12/01 0	7:46	<u> </u>	<u>-</u>		G3,G4,G1
Toluene	ND	25.0	ug/kg dry	50	1110319	11/16/01	11/18/01	EPA 8260B	
1,2,3-Trichlorobenzene	ND	25.0	#	11	11	11	н	#	
1,2,4-Trichlorobenzene	ND	25.0	Ħ	11	11	Ħ	**	н	
1,1,1-Trichloroethane	ND	25.0	11	n .	н	н	u	11	
1,1,2-Trichloroethane	ND	25.0	**	Ħ	11	**	**	11	
Frichloroethene	ND	25.0	11	n	Ħ	н	11	H	
Frichlorofluoromethane	ND	25.0	11	Ħ	n	11	н	n	
1,2,4-Trimethylbenzene	ND	25.0	11	Ħ	11	н		H	
1,3,5-Trimethylbenzene	ND	25.0	n ·	n	"	ш	н	**	
Vinyl chloride	ND	25.0	**	н	Ħ	tt	H	**	
Total Xylenes	ND	25.0		н	,,	11	**	**	
Surrogate: Dibromofluoromethane		69.9 %	24.5-	178	"	"	"	"	-
Surrogate: 1,2-Dichloroethane-d4		143 %	16.7-		"	"	"	n	
Surrogate: T,2-Dictioroctiume u4 Surrogate: Toluene-d8		85.7 %	33.1-		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		62.0 %	20.5-		"	"	"	"	
•					0				G2 G4 G4
MW-2 12-14' (W111082-12) Soil (WI	Sampled: 11/0	9/01 00:00		1: 11/12/01	07:46				G3,G4,G1
Benzene	ND	25.0	ug/kg dry	50	1110319	11/16/01	11/17/01	EPA 8260B	
Bromobenzene	ND	25.0	н	""	**	**	•	**	
D	A III			11		**	11		
	ND	25.0	"					41	
	ND	25.0 25.0	"	н		**	"	n	
n-Butylbenzene			" "			**			
n-Butylbenzene sec-Butylbenzene	ND	25.0		н			"	n	
n-Butylbenzene sec-Butylbenzene sert-Butylbenzene	ND ND	25.0 25.0		n	"	"	**	n	
n-Butylbenzene sec-Butylbenzene tert-Butylbenzene Carbon tetrachloride	ND ND ND	25.0 25.0 25.0	11	21 21	" "	"	11	n	
n-Butylbenzene sec-Butylbenzene tert-Butylbenzene Carbon tetrachloride Chlorobenzene	ND ND ND ND	25.0 25.0 25.0 25.0	" "	11 11 11	" "	***	"	n	
n-Butylbenzene sec-Butylbenzene tert-Butylbenzene Carbon tetrachloride Chlorobenzene Chloroethane	ND ND ND ND ND	25.0 25.0 25.0 25.0 25.0	" "	11 11 11 11	" " " " " " " " " " " " " " " " " " " "	11 11 11	11 11 11	n	
n-Butylbenzene sec-Butylbenzene tert-Butylbenzene Carbon tetrachloride Chlorobenzene Chloroethane Chloroform	ND ND ND ND ND ND	25.0 25.0 25.0 25.0 25.0 25.0	11 11 11	11 11 11 11	" " " " " " " " " " " " " " " " " " " "	11 11 11 11 11 11 11 11 11 11 11 11	11 11 11 11	n	
n-Butylbenzene sec-Butylbenzene tert-Butylbenzene Carbon tetrachloride Chlorobenzene Chloroethane Chloroform Chloromethane	ND ND ND ND ND ND	25.0 25.0 25.0 25.0 25.0 25.0 25.0	11	11 11 11 11	11 11 11 11 11 11 11 11 11 11 11 11 11	11 11 11 11 11 11 11 11 11 11 11 11	11 11 11 11	11 11 11 11 11	
n-Butylbenzene sec-Butylbenzene tert-Butylbenzene Carbon tetrachloride Chlorobenzene Chloroethane Chloroform Chloromethane 2-Chlorotoluene	ND	25.0 25.0 25.0 25.0 25.0 25.0 25.0 25.0	" " " " " " " " " " " " " " " " " " " "	11 11 11 11	n n n n n n n n n n n n n n n n n n n	11 11 11	11 11 11 11 11	11 11 11 11 11	
n-Butylbenzene sec-Butylbenzene tert-Butylbenzene Carbon tetrachloride Chlorobenzene Chloroethane Chloroform Chloromethane 2-Chlorotoluene 4-Chlorotoluene	ND	25.0 25.0 25.0 25.0 25.0 25.0 25.0 25.0	11 11 11 11 11	11 11 11 11	11 11 11 11 11 11 11 11 11 11 11 11 11	11 11 11 11 11	11 11 11 11 11	11 11 11 11 11	
n-Butylbenzene sec-Butylbenzene tert-Butylbenzene Carbon tetrachloride Chlorobenzene Chloroethane Chloroform Chloromethane 2-Chlorotoluene 4-Chlorotoluene Dibromochloromethane	ND N	25.0 25.0 25.0 25.0 25.0 25.0 25.0 25.0	11 11 11 11 11 11	11 11 11 11 11 11 11 11 11 11 11 11 11	11 11 11 11 11 11 11 11 11 11 11 11 11	11 11 11 11 11 11 11 11 11 11 11 11 11	11 11 11 11 11 11 11 11 11 11 11 11 11	11 11 11 11 11	
n-Butylbenzene sec-Butylbenzene sert-Butylbenzene Carbon tetrachloride Chlorobenzene Chloroform Chloromethane 2-Chlorotoluene 4-Chlorotoluene Dibromochloromethane 1,2-Dibromo-3-chloropropane	ND N	25.0 25.0 25.0 25.0 25.0 25.0 25.0 25.0	11 11 11 11 11 11 11 11 11 11 11 11 11	11 11 11 11 11 11 11 11 11 11 11 11 11	11 11 11 11 11 11 11 11 11 11 11 11 11	11 11 11 11 11 11 11 11 11 11 11 11 11	11 11 11 11 11 11 11 11 11 11 11 11 11	11 11 11 11 11	
n-Butylbenzene sec-Butylbenzene tert-Butylbenzene Carbon tetrachloride Chlorobenzene Chloroethane Chloroform Chloromethane 2-Chlorotoluene 4-Chlorotoluene Dibromochloromethane 1,2-Dibromo-3-chloropropane 1,2-Dibromoethane	ND N	25.0 25.0 25.0 25.0 25.0 25.0 25.0 25.0	0 0 0 0 0 0 0 0 0	11 11 11 11 11 11 11 11 11 11 11 11 11	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	11 11 11 11 11 11 11 11 11 11 11 11 11	11 11 11 11 11 11 11 11 11 11 11 11 11	11 11 11 11 11	
n-Butylbenzene sec-Butylbenzene tert-Butylbenzene Carbon tetrachloride Chlorobenzene Chlorothane Chloromethane 2-Chlorotoluene 4-Chlorotoluene Dibromochloromethane 1,2-Dibromo-3-chloropropane 1,2-Dibromoethane 1,2-Dichlorobenzene	ND N	25.0 25.0 25.0 25.0 25.0 25.0 25.0 25.0	0 11 11 11 11 11 11 11	11 11 11 11 11 11 11 11 11 11 11 11 11		11 11 11 11 11 11 11 11 11 11 11 11 11		11 11 11 11 11	
n-Butylbenzene sec-Butylbenzene cert-Butylbenzene Carbon tetrachloride Chlorobenzene Chlorotomethane Chlorotoluene 4-Chlorotoluene Dibromochloromethane 1,2-Dibromo-3-chloropropane 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,3-Dichlorobenzene	ND ND ND ND ND ND 83.5 ND ND ND ND ND	25.0 25.0 25.0 25.0 25.0 25.0 25.0 25.0	0 17 10 11 11 11 11 11 11	# # # # # # # # # # # # # # # # # # #		11 11 11 11 11 11 11 11 11 11 11 11 11	11 11 11 11 11 11 11 11 11 11 11 11 11	11 11 11 11 11	
n-Butylbenzene sec-Butylbenzene cert-Butylbenzene Carbon tetrachloride Chlorobenzene Chloroethane Chloroform Chloromethane 2-Chlorotoluene 4-Chlorotoluene Dibromochloromethane 1,2-Dibromo-3-chloropropane 1,2-Dibromoethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene	ND N	25.0 25.0 25.0 25.0 25.0 25.0 25.0 25.0	0 10 10 10 10 10 10 10 10 10 10 10 10 10	# # # # # # # # # # # # # # # # # # #			11 11 11 11 11 11 11 11 11 11 11 11 11	11 11 11 11 11	
Bromodichloromethane n-Butylbenzene sec-Butylbenzene tert-Butylbenzene Carbon tetrachloride Chlorobenzene Chloroethane Chloroform Chloromethane 2-Chlorotoluene 4-Chlorotoluene Dibromochloromethane 1,2-Dibromo-3-chloropropane 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,4-Dichlorobenzene Dichlorodifluoromethane 1,1-Dichloroethane	ND N	25.0 25.0 25.0 25.0 25.0 25.0 25.0 25.0						11 11 11 11 11	

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road

Project Number: 6515

Oak Creek WI, 53154 Project Manager: Jim Westerman

Reported: 11/28/01 15:04

WDNR Volatile Organic Compounds by Method 8260B

Great Lakes Analytical

		eporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-2 12-14' (W111082-12) Soil (WI)	Sampled: 11/09/0	1 00:00	Received	: 11/12/01	07:46				G3,G4,G19
1,1-Dichloroethene	ND	25.0	ug/kg dry	50	1110319	11/16/01	11/17/01	EPA 8260B	
cis-1,2-Dichloroethene	ND	25.0	H	"	"	11	"	11	
trans-1,2-Dichloroethene	ND	25.0	Ħ	"	H	н	**		
1,2-Dichloropropane	ND	25.0	Ħ	**	11	. "	**	n .	
1,3-Dichloropropane	ND	25.0	**	"	"	#	**	**	
2,2-Dichloropropane	ND	25.0	н	. "	H	н	**	"	
Di-isopropyl ether	ND	25.0		"	"	Ħ	**	"	
Ethylbenzene	ND	25.0	н	"	**	łt	"	H	
Hexachlorobutadiene	ND	25.0	u	11	**	**	H	**	
Isopropylbenzene	ND	25.0	11	11	11	**	"	H	
p-Isopropyltoluene	ND	25.0	**	"	**	**	"	"	
Methylene chloride	ND	100	н.	**	**	**	"	н	
Methyl tert-butyl ether	ND	25.0	н	.11	"	**		II	
Naphthalene	ND	25.0	"	"	"	**	п	**	
n-Propylbenzene	ND	25.0	**	**	11	**	**	11	
1,1,2,2-Tetrachloroethane	ND	25.0	**	11	11	**	11	"	
Tetrachloroethene	118000	500	н	1000	11	11	11/18/01	"	G12
Toluene	ND	25.0	**	50	. 11	H	11/17/01	"	
1,2,3-Trichlorobenzene	ND	25.0	**	11	"	и	Ħ	11	
1,2,4-Trichlorobenzene	ND	25.0	**	н	ti.	**	11		
1,1,1-Trichloroethane	ND	25.0	et .	**	**	**	11	"	
1,1,2-Trichloroethane	ND	25.0	**	.**	11	11	11	"	
Trichloroethene	ND	25.0	**	**	**	**	**	11	
Trichlorofluoromethane	ND	25.0	.11	. 44	"	. 11	**	•	
1,2,4-Trimethylbenzene	ND	25.0	**	**	"	. "	**	**	
1,3,5-Trimethylbenzene	ND	25.0	11	**	44	"	n	**	
Vinyl chloride	ND	25.0	11	"	**	11	**	н	
Total Xylenes	ND	25.0	11,	"	#	11	11	11	
Surrogate: Dibromofluoromethane	- '	109 %	24.5-	178	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		140 %	16.7-	220	"	"	"	"	
Surrogate: Toluene-d8		120 %	33.1-	170	"	. 11	"	"	
Surrogate: 4-Bromofluorobenzene		92.8 %	20.5-	166	Ħ	u	"	#	

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 11/28/01 15:04

Polynuclear Aromatic Compounds by EPA Method 8310

Great Lakes Analytical

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-6 4-6' (W111082-03) Soil (WI)	Sampled: 11/09/0	1 00:00 R	eceived: 1	1/12/01 07	': 46				G1
Acenaphthene	ND	116	ug/kg dry	1	1110289	11/15/01	11/16/01	EPA 8310	
Acenaphthylene	ND	232	"	**	tř	"	11	***	
Anthracene	ND	116	Ħ	"	**	"	11	11	
Benz (a) anthracene	ND	57.9	11	**	te	"	"	11	
Benzo (a) pyrene	ND	5.79	H	**	tt	"	**	11	
Benzo (b) fluoranthene	ND	57.9	H	"	1f	"	**	11	
Benzo (ghi) perylene	ND	116	**	**		**	#	**	
Benzo (k) fluoranthene	ND	116	H	Ħ	11:	"	"	***	
Chrysene	ND	116	II	H	11	tt	**	11	
Dibenz (a,h) anthracene	ND	5.79	#	n	łf	н	**	11	
Fluoranthene	ND	116	H	tt .	#	n	**	n	
Fluorene	ND	116	"	u	11		н	ii	
Indeno (1,2,3-cd) pyrene	ND	57.9	n	"	ti	"	**	11	
1-Methylnaphthalene	ND	116	11	"	11	"	11	11	
2-Methylnaphthalene	ND	116	Ħ	**	tr	11	11	11	
Naphthalene	ND	116	**	"	Ħ	**	**	H	
Phenanthrene	ND	116	"	11	rr.	11	11	н	
Pyrene	ND	116	11		"	11	"	"	
Surrogate: Carbazole		30.4 %	29-1	132	"	"	n .	"	
MW-6 8-10' (W111082-04) Soil (WI)	Sampled: 11/09/	01 00:00	Received:	11/12/01 0	7:46				G1

Sampica: 11/05/	71 00.00	ACCCITCUI I.	1/12/01	07110				
ND	117	ug/kg dry	1	1110289	11/15/01	11/16/01	EPA 8310	
ND	233	**	**	u	#	н	"	
ND	117	**	"	11	11	41	"	
ND	58.3	11	**	11	O O	tt	"	
ND	5.83	**	**	10	H	Ħ	u	
ND	58.3	n	**	16	tt .	tt.	"	
ND	117	**	"	19	11	11	11	
ND	117	u u	"	11	**	n	**	
ND	117	H		"	**	**	u	
ND	5.83	**	"	H	"	**	H	
ND	117	11	"	"	11	41	"	
ND	117	**	11	H	11	**	"	
ND	58.3	H	**	n	н	**	**	
ND	117	**	н	н	H	11	11	
ND	117	11	**	н	n	11	ŧI	
ND	117	н	**	Ħ	"	н	ŧI	
ND	117	н	**	n	"	"	ŧI	
	ND N	ND 117 ND 233 ND 117 ND 58.3 ND 5.83 ND 58.3 ND 117	ND 117 ug/kg dry ND 233 " ND 117 " ND 58.3 " ND 58.3 " ND 58.3 " ND 117 " ND 5.83 " ND 117 " ND 5.83 " ND 117 "	ND 117 ug/kg dry 1 ND 233 " ND 117 " ND 58.3 " ND 58.3 " ND 58.3 " ND 117 " ND 5.83 " ND 117 " ND 5.83 " ND 117 "	ND 233 " " " " ND 117 " " " ND 117 " " " ND 117 " " ND 117 " " " " " ND 117 " " " " " " ND 117 " " " " " " " ND 117 " " " " " " " " ND 117 " " " " " " " " " " " ND 117 " " " " " " " " " " " " " " " " " "	ND 117 ug/kg dry 1 1110289 11/15/01 ND 233 " " " " " ND 117 " " " " ND 58.3 " " " " " ND 58.3 " " " " " ND 117 " " " " " " ND 117 " " " " " " ND 117 " " " " " " " ND 117 " " " " " " " ND 117 " " " " " " " " ND 117 " " " " " " " " " ND 117 " " " " " " " " " " " " " " " " " "	ND 117 ug/kg dry 1 1110289 11/15/01 11/16/01 ND 233 " " " " " " ND 117 " " " " " " ND 58.3 " " " " " " " ND 58.3 " " " " " " " ND 117 " " " " " " " ND 117 " " " " " " " ND 117 " " " " " " " ND 117 " " " " " " " ND 5.83 " " " " " " " " " ND 117 " " " " " " " " " " ND 117 " " " " " " " " " " " " " " " " " "	ND 117 ug/kg dry 1 1110289 11/15/01 11/16/01 EPA 8310 ND 233 " " " " " " " " ND 117 " " " " " " " ND 58.3 " " " " " " " " ND 58.3 " " " " " " " " " ND 117 " " " " " " " " " ND 117 " " " " " " " " " " ND 117 " " " " " " " " " " " ND 117 " " " " " " " " " " " " " " " " " "

117

ND

Great Lakes Analytical--Oak Creek

Pyrene

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andre Stull



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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 11/28/01 15:04

Polynuclear Aromatic Compounds by EPA Method 8310

Great Lakes Analytical

Analyte	Result	Reporting Limit		Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-6 8-10' (W111082-04) Soil (WI)	Sampled: 11/09/0	1 00:00	Received:	11/12/01 0	7:46				G
Surrogate: Carbazole	······································	83.5 %	29-1	132	1110289	11/15/01	11/16/01	EPA 8310	
MW-5 4-6' (W111082-05) Soil (WI)	Sampled: 11/09/01	00:00 F	Received: 1	1/12/01 07	7:4 6			<u> </u>	Gi
Acenaphthene	ND	129	ug/kg dry	1	1110289	11/15/01	11/16/01	EPA 8310	
Acenaphthylene	1350	258	**	11	**	11	"	*	
Anthracene	713	129	"	11	**	**	"	II	
Benz (a) anthracene	611	64.5	"	11	**	11	"	tt	
Benzo (a) pyrene	ND	6.45	"	"	11	11	**	Ħ	
Benzo (b) fluoranthene	ND	64.5	"	**	tf	**	**	11	
Benzo (ghi) perylene	ND	129	H.	**	11	11	11	**	
Benzo (k) fluoranthene	ND	129	**	**	tt	11	**	#	
Chrysene	181	129	"	11	er	11	"	и .	
Dibenz (a,h) anthracene	ND	6.45	"	*1	**	"	**	н	
Fluoranthene	3190	2580	**	20	"	H	11/19/01	н,	G12
Fluorene	1700	129	11	1	**	11	11/16/01	"	
Indeno (1,2,3-cd) pyrene	ND	64.5	Ħ	н	**		ti	H	•
1-Methylnaphthalene	8320	2580	n	20	11	и	11/19/01	**	G12
2-Methylnaphthalene	7680	2580	11	Ħ	11	"	"	н	G12
Naphthalene	1020	129	**	1	#	**	11/16/01	H	
Phenanthrene	5220	2580	Ħ	20	11	11	11/19/01	н	G12
Pyrene	12400	2580	Ħ	11	11	u	**	н	G12
Surrogate: Carbazole		772 %	29-1	132	"	. "	11/16/01	"	05
MW-5 10-12' (W111082-06) Soil (WI	() Sampled: 11/09/	/01 00:00	Received	11/12/01	07:46				G1
Acenaphthene	ND	117	ug/kg dry	1	1110289	11/15/01	11/16/01	EPA 8310	
Acenaphthylene	ND	234	11	. 11	#1	11	**	Ħ	
Anthracene	ND	117	11	"		"	"	n	
Benz (a) anthracene	ND	58.4	"	11	**	11	*	ti .	
Benzo (a) pyrene	6.68	5.84	tr	11	"	**	**	11	
Benzo (b) fluoranthene	ND	58.4	11.	11	Ħ	, H	**	II.	
Benzo (ghi) perylene	ND	117	**	11	"	**	"	11	
Benzo (k) fluoranthene	ND	117	**	"	"	**	**	**	
Chrysene	ND	117	**	11	"	**	11	**	
CIII VSCIIC		5.84		11	"	"	11	"	
	ND	3.84							
Dibenz (a,h) anthracene	ND ND		"	11	*	"	Ħ	н	
Dibenz (a,h) anthracene Fluoranthene	ND	117	"	"	"	"	11	н	
Dibenz (a,h) anthracene									

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 11/28/01 15:04

Polynuclear Aromatic Compounds by EPA Method 8310

Great Lakes Analytical

Analyte Result		Units	Dilution	Batch	Prepared	Analyzed	3.5.4.1	
		Received			-	7 mary 2.cu	Method	Notes
MW-5 10-12' (W111082-06) Soil (WI) Sampled: 11/09/01		1tcccived.	11/12/01	07:46				G1
2-Methylnaphthalene ND	117	ug/kg dry	1	1110289	11/15/01	11/16/01	EPA 8310	
Naphthalene ND	117	**	11	**	11	11	"	
Phenanthrene ND	117	**	**	"	"	Ħ	"	
Pyrene 217	117	11		"	11	11	н	
Surrogate: Carbazole	08 %	29-1	32	"	#	"	"	
MW-4 0-2' (W111082-07) Soil (WI) Sampled: 11/09/01 00:	00 R	Received: 1	1/12/01 07	':46				G1
Acenaphthene 163	125	ug/kg dry	1	1110289	11/15/01	11/16/01	EPA 8310	
Acenaphthylene ND	249	**	"	"	Ħ	Ħ	11	
Anthracene ND	125		**	"	11	41	11	
Benz (a) anthracene ND	62.3		**	**	Ħ	11	**	
Benzo (a) pyrene 68.2	6.23	**	ii.	**	"	n	11	
Benzo (b) fluoranthene 70.1	62.3	**	**	**	11	#	11	
Benzo (ghi) perylene ND	125	**	**	"	11	**	11	
Benzo (k) fluoranthene ND	125	•	**	"	11	н	11	
Chrysene ND	125	**	**	"	11	**	н	
Dibenz (a,h) anthracene 35.0	6.23	11	11	"	Ħ	**	TI TI	
Fluoranthene 406	125	н	11	11	11	"	tt	
Fluorene ND	125	11	11	"	**	11	ŧr	
Indeno (1,2,3-cd) pyrene ND	62.3	н	11	11	u	11		
1-Methylnaphthalene ND	125	**	**	Ħ	tr .	"	**	
2-Methylnaphthalene ND	125	Ħ	11	Ħ	n	11	11	
Naphthalene ND	125	н	11	**	"	u	tt.	
Phenanthrene ND	125	Ħ	11	11	tt	11	н	
Pyrene 185	125	**	n	tt	#	11	· ·	
Surrogate: Carbazole 66	6.0 %	29-1	32	"	"	"	"	

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 11/28/01 15:04

Polynuclear Aromatic Compounds by EPA Method 8310

Great Lakes Analytical

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-4 6-8' (W111082-08) Soil (WI)	Sampled: 11/09/0	01 00:00 R	eceived: 1	1/12/01 07	7:46				G
Acenaphthene	ND	117	ug/kg dry	1	1110289	11/15/01	11/16/01	EPA 8310	
Acenaphthylene	ND	233	H	H	**	u	**		
Anthracene	ND	117	11	Ħ	11	н	tt .	"	
Benz (a) anthracene	ND	58.3	11	H	Ħ	**	**	и.	
Benzo (a) pyrene	ND	5.83	11	11	. #	*1	11	**	
Benzo (b) fluoranthene	ND	58.3	n	Ħ	n	**	#	**	
Benzo (ghi) perylene	ND	117	(1	н	tt	H	"	n	
Benzo (k) fluoranthene	ND	117	11	It	l†	**	"	"	
Chrysene	ND	117	11	н	Ħ	11	**	**	
Dibenz (a,h) anthracene	ND	5.83	Ħ	**	Ħ	11	"	H	
Fluoranthene	ND	117	11	n	**	11	"	"	
Fluorene	ND	117	11	**	11	11	"		
Indeno (1,2,3-cd) pyrene	ND	58.3	**	ii	**	n	**	"	
1-Methylnaphthalene	ND	117	II .	**	" "	11	н .	"	
2-Methylnaphthalene	ND	117	Ħ	**	**	11	tt	•	
Naphthalene	ND	117	н	**	11	TT .	If	***	
Phenanthrene	ND	117	н	**	11		**	•	
Pyrene	ND	117	Ħ	11	#	11	н	u ;	
Surrogate: Carbazole		77.6 %	29-1	32	"	"	"	"	

Great Lakes Analytical--Oak Creek

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Andrea Stathas, Project Manager

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 11/28/01 15:04

Percent Solids

Great Lakes Analytical

			Reporting							
Analyte		Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1	2-4' (W111082-01) Soil (WI)	Sampled: 11/09/0)1 00:00 R	eceived:	11/12/01 0	7:46				
% Solids	S	81.8	0.100	%	1	1110267	11/15/01	11/16/01	Balance	
MW-1	6-8' (W111082-02) Soil (WI)	Sampled: 11/09/0	01 00:00 R	eceived:	11/12/01 0	7:46				
% Solids	S	84.7	0.100	%	1	1110267	11/15/01	11/16/01	Balance	
MW-6	4-6' (W111082-03) Soil (WI)	Sampled: 11/09/0	1 00:00 Re	eceived:	11/12/01 07	':4 6				-
% Solids	s	86.3	0.100	%	1	1110267	11/15/01	11/15/01	Balance	
MW-6	8-10' (W111082-04) Soil (WI)	Sampled: 11/09/	01 00:00 F	Received	: 11/12/01 0	7:46				
% Solids	s	85.7	0.100	%	1	1110267	11/15/01	11/15/01	Balance	
MW-5	4-6' (W111082-05) Soil (WI)	Sampled: 11/09/0	1 00:00 Re	eceived:	11/12/01 07	':4 6				
% Solids	s	77.5	0.100	%	1	1110267	11/15/01	11/15/01	Balance	
MW-5	10-12' (W111082-06) Soil (WI)	Sampled: 11/09	9/01 00:00	Receive	d: 11/12/01	07:46				
% Solids	S	85.6	0.100	%	1	1110267	11/15/01	11/15/01	Balance	
MW-4	0-2' (W111082-07) Soil (WI)	Sampled: 11/09/0	1 00:00 Re	eceived:	11/12/01 07	': 46				
% Solids	S	80.3	0.100	%	1	1110267	11/15/01	11/15/01	Balance	·
MW-4	6-8' (W111082-08) Soil (WI)	Sampled: 11/09/0	1 00:00 R	eceived:	11/12/01 07	7:46				
% Solids	s	85.8	0.100	%	1	1110267	11/15/01	11/15/01	Balance	
MW-3	0-2' (W111082-09) Soil (WI)	Sampled: 11/09/	01 00:00 R	eceived:	11/12/01 0	7:46				
% Solids	s	80.1	0.100	%	1	1110267	11/15/01	11/16/01	Balance	

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

220 E. Ryan Road Oak Creek WI, 53154 Project: 6515

Project Number: 6515

Project Manager: Jim Westerman

Reported: 11/28/01 15:04

Percent Solids

Great Lakes Analytical

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 6-8' (W111082-10) Soil (WI)	Sampled: 11/09/	01 00:00 R	Received:	11/12/01 0	7:46				
% Solids	87.1	0.100	%	1	1110267	11/15/01	11/16/01	Balance	
MW-2 6-8' (W111082-11) Soil (WI)	Sampled: 11/09/	01 00:00 R	Received:	11/12/01 0	7:46				÷ .
% Solids	86.0	0.100	%	1	1110267	11/15/01	11/16/01	Balance	
MW-2 12-14' (W111082-12) Soil (WI)	Sampled: 11/0	9/01 00:00	Receive	d: 11/12/01	07:46				
% Solids	89.9	0.100	%	1	1110267	11/15/01	11/16/01	Balance	

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 11/28/01 15:04

Diesel Range Organics (DRO) by WDNR DRO - Quality Control Great Lakes Analytical--Oak Creek

Analyte	Result	Reporting Limit U	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Analyte	Result	Dimit (011113	Devel	Result	70100	Limits		Limit	Tioles
Batch 1110037 - EPA 3550B					 					
Blank (1110037-BLK1)				Prepared	& Analyze	ed: 11/12/0	01			
Diesel Range Organics (DRO)	ND	5.00 mg	/kg wet							
LCS (1110037-BS1)				Prepared	& Analyze	ed: 11/12/0	01			
Diesel Range Organics (DRO)	35.2	5.00 mg	/kg wet	40.0		88.0	70-120			
LCS Dup (1110037-BSD1)				Prepared	& Analyze	ed: 11/12/0	01			
Diesel Range Organics (DRO)	34.6	5.00 mg	/kg wet	40.0		86.5	70-120	1.72	20	

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 11/28/01 15:04

WDNR Volatile Organic Compounds by Method 8260B - Quality Control Great Lakes Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1110319 - EPA 5030B [MeOH]										
Blank (1110319-BLK1)				Prepared	: 11/16/01	Analyzed	: 11/17/01		, ,,,,,,	
Benzene	ND	25.0	ug/kg wet							
Bromobenzene	ND	25.0	11							
Bromodichloromethane	ND	25.0								
n-Butylbenzene	ND	25.0	"							
sec-Butylbenzene	ND	25.0	111							
tert-Butylbenzene	ND	25.0	11							
Carbon tetrachloride	ND	25.0	11							
Chlorobenzene	ND	25.0	Ħ							
Chloroethane	ND	25.0	11							
Chloroform	ND	25.0	11							
Chloromethane	62.5	25.0	H							
2-Chlorotoluene	ND	25.0	**							
4-Chlorotoluene	ND	25.0	"							
Dibromochloromethane	ND	25.0	Ħ							
1,2-Dibromo-3-chloropropane	ND	25.0	11							
1,2-Dibromoethane	ND	25.0								
1,2-Dichlorobenzene	ND	25.0	**							
1,3-Dichlorobenzene	ND	25.0	"							
1,4-Dichlorobenzene	ND	25.0	н							
Dichlorodifluoromethane	ND	25.0	"							
1,1-Dichloroethane	ND	25.0	n							
1,2-Dichloroethane	ND	25.0	"							
1,1-Dichloroethene	ND	25.0	n							
cis-1,2-Dichloroethene	ND	25.0	**							
rans-1,2-Dichloroethene	ND	25.0	11							
1,2-Dichloropropane	ND	25.0	11							
1,3-Dichloropropane	ND	25.0	11							
2,2-Dichloropropane	ND	25.0	н							
Di-isopropyl ether	ND	25.0	11							
Ethylbenzene	ND	25.0	н							
Hexachlorobutadiene	ND	25.0	н							
sopropylbenzene	ND	25.0	u							
p-Isopropyltoluene	ND	25.0	н							
Methylene chloride	ND	100	#							

Great Lakes Analytical--Oak Creek

Methyl tert-butyl ether

ND

25.0

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Andrea Stathas, Project Manager

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515 Project Manager: Jim Westerman Reported: 11/28/01 15:04

WDNR Volatile Organic Compounds by Method 8260B - Quality Control Great Lakes Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1110319 - EPA 5030B [MeOH]		··								
Blank (1110319-BLK1)				Prepared:	11/16/01	Analyzed	: 11/17/01			
Naphthalene	ND	25.0	ug/kg wet							
n-Propylbenzene	ND	25.0	**							
1,1,2,2-Tetrachloroethane	ND	25.0	11							
Tetrachloroethene	ND	25.0	**							
Toluene	ND	25.0	11							
1,2,3-Trichlorobenzene	ND	25.0	11							
1,2,4-Trichlorobenzene	ND	25.0	11							
1,1,1-Trichloroethane	ND	25.0	11							
1,1,2-Trichloroethane	ND	25.0	11							
Trichloroethene	ND	25.0	11							
Trichlorofluoromethane	ND	25.0	**							
1,2,4-Trimethylbenzene	ND	25.0	ti							
1,3,5-Trimethylbenzene	ND	25.0	u							
Vinyl chloride	ND	25.0	11							
Total Xylenes	ND	25.0	"							
Surrogate: Dibromofluoromethane	53.7		"	500		10.7	24.5-178			
Surrogate: 1,2-Dichloroethane-d4	62.1		"	500		12.4	16.7-220			
Surrogate: Toluene-d8	<i>52.8</i>		"	500		10.6	33.1-170			
Surrogate: 4-Bromofluorobenzene	40.3		**	500		8.06	20.5-166			
LCS (1110319-BS1)		·		Prepared:	11/16/01	Analyzed	1: 11/17/01			
Benzene	59.8	0.500	ug/kg wet	50.0		120	79.5-123			
Bromobenzene	47.6	0.500	**	50.0		95.2	83.3-121			
Bromodichloromethane	61.6	0.500	**	50.0		123	72.6-147			
n-Butylbenzene	43.1	0.500	#	50.0		86.2	37.9-143			
sec-Butylbenzene	45.3	0.500	11	50.0		90.6	63.8-131			
tert-Butylbenzene	48.8	0.500	11	50.0		97.6	69.5-125			
Carbon tetrachloride	54.6	0.500	11	50.0		109	56.6-150			
Chlorobenzene	52.4	0.500	11	50.0		105	86.6-115			
Chloroethane	40.5	0.500	11	50.0		81.0	10-282			
Chloroform	64.0	0.500	н	50.0		128	81.1-127			
Chloromethane	40.5	0.500	ŧŧ	50.0		81.0	48.8-131			
2-Chlorotoluene	44.1	0.500	u	50.0		88.2	82.7-121			
4-Chlorotoluene	44.4	0.500	tt .	50.0		88.8	65-120			
Dibromochloromethane	48.8	0.500	"	50.0		97.6	24.4-161			

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 11/28/01 15:04

WDNR Volatile Organic Compounds by Method 8260B - Quality Control Great Lakes Analytical

	75. 1.	Reporting	** *.	Spike	Source	0/770	%REC	D.D.D.	RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 1110319 - EPA 5030B [MeOH]		····								
LCS (1110319-BS1)				Prepared:	11/16/01	Analyzed	l: 11/17/01			
1,2-Dibromo-3-chloropropane	40.0	0.500	ug/kg wet	50.0		80.0	26.4-170			
1,2-Dibromoethane	51.3	0.500	**	50.0		103	56-124			
,2-Dichlorobenzene	47.3	0.500	"	50.0		94.6	72.6-117			
,3-Dichlorobenzene	49.7	0.500	11	50.0		99.4	75-117			
,4-Dichlorobenzene	45.9	0.500	11	50.0		91.8	77.1-115			
Dichlorodifluoromethane	18.4	0.500	11	50.0		36.8	10-148			
,1-Dichloroethane	44.8	0.500	11	50.0		89.6	72.4-120			
,2-Dichloroethane	62.7	0.500	11	50.0		125	67.2-132			
,1-Dichloroethene	49.5	0.500	11	50.0		99.0	52.1-134			
is-1,2-Dichloroethene	55.5	0.500	11	50.0		111	64.4-130			
rans-1,2-Dichloroethene	54.9	0.500	**	50.0		110	64.7-127			
,2-Dichloropropane	60.4	0.500	11	50.0		121	81.1-113			
,3-Dichloropropane	49.8	0.500	tt	50.0		99.6	75.4-122			
,2-Dichloropropane	45.0	0.500	и ,	50.0		90.0	10-186			
pi-isopropyl ether	103	0.500	**	100		103	10-220			
thylbenzene	51.4	0.500	"	50.0		103	86.1-118			
lexachlorobutadiene	42.9	0.500	**	50.0		85.8	51.5-153			
sopropylbenzene	48.8	0.500	**	50.0		97.6	71.4-127			
-Isopropyltoluene	51.3	0.500	**	50.0		103	62.1-125			
Methylene chloride	59.9	2.00	11	50.0		120	71.6-121			
Methyl tert-butyl ether	60.0	0.500	Ħ	50.0		120	61.8-132			
Iaphthalene	46.9	0.500	11	50.0		93.8	10-170			
-Propylbenzene	44.2	0.500	**	50.0		88.4	65.7-127			
,1,2,2-Tetrachloroethane	11.0	0.500	Ħ	50.0		22.0	10-182			
etrachloroethene	55.9	0.500	11	50.0		112	73.5-130			
°oluene	61.2	0.500	**	50.0		122	84.1-126			
,2,3-Trichlorobenzene	43.2	0.500	11	50.0		86.4	10-232			
,2,4-Trichlorobenzene	43.3	0.500	tt	50.0		86.6	24.3-154			
,1,1-Trichloroethane	64.4	0.500	**	50.0		129	72.6-134			
,1,2-Trichloroethane	59.9	0.500		50.0		120	74.2-129			
richloroethene	94.5	0.500	**	50.0		189	51.3-170			
richlorofluoromethane	4.82	0.500		50.0		9.64	10-298			
,2,4-Trimethylbenzene	49.6	0.500		50.0		99.2	52.3-142			
,3,5-Trimethylbenzene	48.9	0.500	**	50.0		97.8	59.6-132			
Vinyl chloride	38.8	0.500	11	50.0		77.6	50.7-138			

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515 Project Manager: Jim Westerman

Reported: 11/28/01 15:04

WDNR Volatile Organic Compounds by Method 8260B - Quality Control Great Lakes Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1110319 - EPA 5030B [MeOH]					11/1/101					
LCS (1110319-BS1)	150	0.500			11/16/01		1: 11/17/01			
Total Xylenes	159	0.500	ug/kg wet	150		106	53.9-138			
Surrogate: Dibromofluoromethane	48.0		"	500	,	9.60	24.5-178			
Surrogate: 1,2-Dichloroethane-d4	65.0		"	500		13.0	16.7-220			
Surrogate: Toluene-d8	57.3		"	500		11.5	33.1-170			
Surrogate: 4-Bromofluorobenzene	45.9		"	500		9.18	20.5-166			
LCS Dup (1110319-BSD1)				Prepared:	11/16/01	Analyzed	i: 11/17/01			
Benzene	61.4	0.500	ug/kg wet	50.0		123	79.5-123	2.64	14.8	
Bromobenzene	48.0	0.500	ŧi	50.0		96.0	83.3-121	0.837	. 15	
Bromodichloromethane	61.0	0.500	11	50.0		122	72.6-147	0.979	14.6	
n-Butylbenzene	44.8	0.500	u	50.0		89.6	37.9-143	3.87	31.9	
sec-Butylbenzene	46.8	0.500	tt	50.0		93.6	63.8-131	3.26	31.8	
tert-Butylbenzene	51.5	0.500	Ħ	50.0		103	69.5-125	5.38	23.3	
Carbon tetrachloride	56.4	0.500	**	50.0		113	56.6-150	3.24	38.5	
Chlorobenzene	53.4	0.500	11	50.0		107	86.6-115	1.89	11.4	
Chloroethane	43.4	0.500	11	50.0		86.8	10-282	6.91	74.6	
Chloroform	66.5	0.500	**	50.0		133	81.1-127	3.83	21.2	
Chloromethane	40.4	0.500	tt	50.0		80.8	48.8-131	0.247	30.7	
2-Chlorotoluene	44.0	0.500	Ħ	50.0		88.0	82.7-121	0.227	17	
4-Chlorotoluene	43.9	0.500	H	50.0		87.8	65-120	1.13	15.5	
Dibromochloromethane	49.9	0.500	"	50.0		99.8	24.4-161	2.23	18.8	
1,2-Dibromo-3-chloropropane	42.5	0.500	"	50.0		85.0	26.4-170	6.06	31.6	
1,2-Dibromoethane	52.5	0.500	11	50.0		105	56-124	2.31	45.5	
1,2-Dichlorobenzene	48.0	0.500	"	50.0		96.0	72.6-117	1.47	14.4	
1,3-Dichlorobenzene	50.5	0.500	11	50.0		101	75-117	1.60	12.3	
1,4-Dichlorobenzene	46.6	0.500	н	50.0		93.2	77.1-115	1.51	14.1	
Dichlorodifluoromethane	18.6	0.500	tt	50.0		37.2	10-148	1.08	95.4	
1,1-Dichloroethane	55.6	0.500	n	50.0		111	72.4-120	21.5	20.1	
1,2-Dichloroethane	62.5	0.500	**	50.0		125	67.2-132	0.319	18.2	
1,1-Dichloroethene	49.5	0.500	**	50.0		99.0	52.1-134	0.00	34.8	
cis-1,2-Dichloroethene	64.9	0.500	11	50.0		130	64.4-130	15.6	18.4	
trans-1,2-Dichloroethene	61.4	0.500	**	50.0		123	64.7-127	11.2	28.6	
1,2-Dichloropropane	60.0	0.500	11	50.0		120	81.1-113	0.664	12.3	
1,3-Dichloropropane	51.1	0.500	u	50.0		102	75.4-122	2.58	22.5	
2,2-Dichloropropane	44.3	0.500	n	50.0		88.6	10-186	1.57	128	

Great Lakes Analytical--Oak Creek

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Andrea Stathas, Project Manager

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

Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 11/28/01 15:04

WDNR Volatile Organic Compounds by Method 8260B - Quality Control Great Lakes Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
	Acoun	Limit	Oiito	Devel	Rosult	- ANCEC	Lillia	10 0	Lillit	140162
Batch 1110319 - EPA 5030B [MeOH]										
LCS Dup (1110319-BSD1)				Prepared:	1/16/01	Analyzed	1: 11/17/01			
Di-isopropyl ether	102	0.500	ug/kg wet	100		102	10-220	0.976	16.3	
Ethylbenzene	52.2	0.500	Ħ	50.0		104	86.1-118	1.54	16.7	
Hexachlorobutadiene	48.4	0.500	Ħ	50.0		96.8	51.5-153	12.0	37.4	
Isopropylbenzene	49.6	0.500	11	50.0		99.2	71.4-127	1.63	19.6	
p-Isopropyltoluene	53.1	0.500	**	50.0		106	62.1-125	3.45	26.5	
Methylene chloride	57.5	2.00	**	50.0		115	71.6-121	4.09	17.8	
Methyl tert-butyl ether	60.5	0.500	**	50.0		121	61.8-132	0.830	35.9	
Naphthalene	52.4	0.500	**	50.0		105	10-170	11.1	58.4	**
n-Propylbenzene	45.0	0.500	**	50.0		90.0	65.7-127	1.79	22.5	
1,1,2,2-Tetrachloroethane	9.66	0.500	"	50.0		19.3	10-182	13.0	111	
Tetrachloroethene	55.9	0.500	11	50.0		112	73.5-130	0.00	27.2	
Toluene	62.5	0.500	**	50.0		125	84.1-126	2.10	14.3	
1,2,3-Trichlorobenzene	47.1	0.500	"	50.0		94.2	10-232	8.64	151	
1,2,4-Trichlorobenzene	45.6	0.500	**	50.0		91.2	24.3-154	5.17	38.1	
1,1,1-Trichloroethane	64.4	0.500	**	50.0		129	72.6-134	0.00	33.2	
1,1,2-Trichloroethane	59.3	0.500	н	50.0		119	74.2-129	1.01	23.7	
Trichloroethene	94.9	0.500	# "	50.0		190	51.3-170	0.422	48	
Trichlorofluoromethane	3.85	0.500	**	50.0		7.70	10-298	22.4	97.2	
1,2,4-Trimethylbenzene	50.3	0.500	**	50.0		101	52.3-142	1.40	17.4	
1,3,5-Trimethylbenzene	49.2	0.500	#	50.0		98.4	59.6-132	0.612	20.3	
Vinyl chloride	39.0	0.500	Ħ	50.0		78.0	50.7-138	0.514	40	
Total Xylenes	163	0.500	**	150		109	53.9-138	2.48	31.7	
Surrogate: Dibromofluoromethane	49.3		"	500		9.86	24.5-178			
Surrogate: 1,2-Dichloroethane-d4	64.2		"	500		12.8	16.7-220			
Surrogate: Toluene-d8	58.3		"	500		11.7	33.1-170			
Surrogate: 4-Bromofluorobenzene	46.2		"	500		9.24	20.5-166			

Great Lakes Analytical--Oak Creek

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Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515
Project Manager: Jim Westerman

Reported: 11/28/01 15:04

Polynuclear Aromatic Compounds by EPA Method 8310 - Quality Control Great Lakes Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1110289 - EPA 3550B										
Blank (1110289-BLK1)				Prepared:	11/15/01	Analyzed	l: 11/16/01			
Acenaphthene	ND	100	ug/kg wet							
Acenaphthylene	ND	200	Ħ							
Anthracene	ND	100								
Benz (a) anthracene	ND	50.0	11							
Benzo (a) pyrene	5.40	5.00	"							
Benzo (b) fluoranthene	ND	50.0	"							
Benzo (ghi) perylene	ND	100	, tt							
Benzo (k) fluoranthene	ND	100	tt							
Chrysene	ND	100	"						•	
Dibenz (a,h) anthracene	ND	5.00	"							
Fluoranthene	ND	100								
Fluorene	ND	100	Ħ							
Indeno (1,2,3-cd) pyrene	ND	50.0	11							
1-Methylnaphthalene	ND	100	**							
2-Methylnaphthalene	ND	100	**							
Naphthalene	ND	100	11							
Phenanthrene	ND	100	н							
Pyrene	ND	100	"							
Surrogate: Carbazole	15.5		"	16.8		92.3	29-132			
LCS (1110289-BS1)					11/15/01	Analyzed	l: 11/16/01			
Acenaphthene	46.5	1.00		65.7		70.8	30.8-120			
Acenaphthylene	88.1	2.00	11	65.7		134	38.9-158			
Anthracene	55.7	1.00	11	65.7		84.8	32.9-122			
Benz (a) anthracene	54.9	0.500	Ħ	65.7		83.6	40.5-125			
Benzo (a) pyrene	41.5	0.0500	tt	65.7		63.2	31.2-128			
Benzo (b) fluoranthene	61.2	0.500	**	65.7		93.2	45-132			
Benzo (ghi) perylene	38.3	1.00	11	65.7		58.3	38.7-137			
Benzo (k) fluoranthene	81.9	1.00	11	65.7		125	53.4-125			
Chrysene	52.1	1.00	H	65.7		79.3	46.5-129			
Dibenz (a,h) anthracene	52.5	0.0500	Ħ	65.7		79.9	42.8-134			
Fluoranthene	48.9	1.00	**	65.7		74.4	37.1-116			
Fluorene	59.8	1.00	**	65.7		91.0	40.8-108			
Indeno (1,2,3-cd) pyrene	70.1	0.500	**	65.7		107	51-115			
1-Methylnaphthalene	37.9	1.00	н	65.7		57.7	28.9-99.1			

Great Lakes Analytical--Oak Creek

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

Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 11/28/01 15:04

Polynuclear Aromatic Compounds by EPA Method 8310 - Quality Control Great Lakes Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1110289 - EPA 3550B										
LCS (1110289-BS1)			,	Prepared:	11/15/01	Analyze	1: 11/16/01			
2-Methylnaphthalene	43.0	1.00	ug/kg wet	65.7		65.4	28.9-102			
Naphthalene	52.0	1.00	**	65.7		79.1	22.7-116			
Phenanthrene	60.6	1.00	n	65.7		92.2	29.5-123			
Pyrene	44.8	1.00	"	65.7		68.2	44.5-118			
Surrogate: Carbazole	13.7		"	16.4		83.5	29-132			
Matrix Spike (1110289-MS1)	So	urce: B1111	76-04	Prepared:	11/15/01	Analyzed	i: 11/17/01			
Acenaphthene	32.9	1.18	ug/kg dry	80.7	ND	40.8	10-154			
Acenaphthylene	89.2	2.36	"	80.7	34.7	67.5	10-176			
Anthracene	38.8	1.18	"	80.7	ND	48.1	10-114			
Benz (a) anthracene	33.1	0.591	"	80.7	1.07	39.7	10-118			
Benzo (a) pyrene	28.8	0.0591	"	80.7	ND	35.7	10-133			
Benzo (b) fluoranthene	36.6	0.591	**	80.7	ND	45.4	10-126			
Benzo (ghi) perylene	20.7	1.18	**	80.7	ND	25.7	10-103			
Benzo (k) fluoranthene	42.6	1.18	**	80.7	ND	52.8	10-112			
Chrysene	31.0	1.18	**	80.7	ND	38.4	10-121			
Dibenz (a,h) anthracene	30.5	0.0591	11	80.7	ND	37.8	13.9-101			
Fluoranthene	30.7	1.18	"	80.7	ND	38.0	10-123			
Fluorene	38.7	1.18	**	80.7	ND	48.0	10-144			
ndeno (1,2,3-cd) pyrene	39.1	0.591	11	80.7	ND	48.5	10-103			
-Methylnaphthalene	33.8	1.18	"	80.7	ND	41.9	10-113			
2-Methylnaphthalene	30.0	1.18	**	80.7	ND	37.2	10.6-108			
Naphthalene	37.2	1.18	**	80.7	ND	45.1	10-132			
Phenanthrene	148	1.18	"	80.7	ND	183	10-130			
Pyrene	27.5	1.18	"	80.7	1.64	32.0	10-145			
Surrogate: Carbazole	9.57		"	20.2		47.4	29-132			
Matrix Spike Dup (1110289-MSD1)	Sor	urce: B1111	76-04	Prepared:	11/15/01	Analyze	i: 11/17/01			
Acenaphthene	38.5	1.18	ug/kg dry	80.2	ND	48.0	10-154	15.7	66.4	
Acenaphthylene	81.7	2.36	**	80.2	34.7	58.6	10-176	8.78	65.7	
Anthracene	45.4	1.18	**	80.2	ND	56.6	10-114	15.7	67.1	
Benz (a) anthracene	38.6	0.591	11	80.2	1.07	46.8	10-118	15.3	57.8	
Benzo (a) pyrene	35.1	0.0591	11	80.2	ND	43.8	10-133	19.7	54.5	
Benzo (b) fluoranthene	43.0	0.591	н	80.2	ND	53.6	10-126	16.1	51.9	
Benzo (ghi) perylene	23.2	1.18	п	80.2	ND	28.9	10-103	11.4	65.9	

Great Lakes Analytical--Oak Creek

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Andrea Stathas, Project Manager

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

Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road Oak Creek WI, 53154 Project Number: 6515

Project Manager: Jim Westerman

Reported: 11/28/01 15:04

Polynuclear Aromatic Compounds by EPA Method 8310 - Quality Control Great Lakes Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1110289 - EPA 3550B		· · · · · · · · · · · · · · · · · · ·					·			
Matrix Spike Dup (1110289-MSD1)	So	urce: B1111	76-04	Prepared:	11/15/01	Analyze	d: 11/17/01			
Benzo (k) fluoranthene	51.9	1.18	ug/kg dry	80.2	ND	64.7	10-112	19.7	59.3	
Chrysene	40.4	1.18	"	80.2	ND	50.4	10-121	26.3	65.2	
Dibenz (a,h) anthracene	35.9	0.0591	"	80.2	ND	44.8	13.9-101	16.3	49.8	
Fluoranthene	41.1	1.18	**	80.2	ND	51.2	10-123	29.0	58.7	
Fluorene	45.6	1.18	**	80.2	ND	56.9	10-144	16.4	53.9	
Indeno (1,2,3-cd) pyrene	58.9	0.591	"	80.2	ND	73.4	10-103	40.4	55.8	
1-Methylnaphthalene	33.1	1.18	**	80.2	ND	41.3	10-113	2.09	75.1	
2-Methylnaphthalene	34.6	1.18	**	80.2	ND	43.1	10.6-108	14.2	94.5	
Naphthalene	43.6	1.18	**	80.2	ND	53.4	10-132	15.8	62.5	
Phenanthrene	94.2	1.18	**	80.2	ND	117	10-130	44.4	57.4	
Pyrene	32.0	1.18	н	80.2	1.64	37.9	10-145	15.1	56.6	
Surrogate: Carbazole	10.2		"	20.0		51.0	29-132			

Great Lakes Analytical--Oak Creek

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

Sigma Environmental Services, Inc.

Project: 6515

220 E. Ryan Road

Project Number: 6515

Oak Creek WI, 53154 Project Manager: Jim Westerman

Reported: 11/28/01 15:04

Notes and Definitions

B The method blank associated with this sample contains 62.5 ug/kg of this analyte.	В	The method blank associated with this sample contains 62.5 ug/kg of this analyte.
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G1 The recovery of one or more analytes in the matrix QC (MS/MSD) associated with this sample is above the laboratory's established acceptance criteria. Refer to the included QC reports for more detail.

G12 The reporting limit of this sample/analyte is elevated due to sample matrix and/or other effects.

G19 The relative percent difference (RPD) of one or more analytes in the laboratory control QC (BS/BSD) associated with this sample is above the laboratory's established acceptance limits. Refer to the included QC reports for more detail.

G3 The recovery of one or more analytes in the laboratory control QC (BS/BSD) associated with this sample is above the laboratory's established acceptance criteria. Refer to the included QC reports for more detail.

G4 The recovery of one or more analytes in the laboratory control QC (BS/BSD) associated with this sample is below the laboratory's established acceptance criteria. Refer to the included QC reports for more detail.

O5 The recovery for this analyte is above the laboratory's established acceptance criteria.

T10 Diesel Range

T11 Motor Oil Range

T15 Late Elevated Baseline

T2 Late Peaks

T6 Early Peaks

T8 Diesel Pattern

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

Great Lakes Analytical--Oak Creek

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Andrea Stathas, Project Manager

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1380 Busch Parkway Buffalo Grove, IL 60089-4505 (847) 808-7766 FAX (847) 808-7772 140 E. Ryan Road Oak Creek, WI 53154 (414) 570-9460 FAX (414) 570-9461

2

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1380 Busch Parkway Buffalo Grove, IL 60089-4505 (847) 808-7766 FAX (847) 808-7772 140 E. Ryan Road Oak Creek, WI 53154 (414) 570-9460 FAX (414) 570-9461

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1380 Busch Parkway Buffalo Grove, IL 60089-4505 (847) 808-7766 FAX (847) 808-7772

140 E. Ryan Road Oak Creek, WI 53154 (414) 570-9460 FAX (414) 570-9461

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