

**WISCONSIN DEPARTMENT OF TRANSPORTATION (WisDOT)
FACILITIES DEVELOPMENT MANUAL
CHAPTER 21, SECTION 35, SUBJECT 10
PHASE 2 SUBSURFACE INVESTIGATION**

WAUSAUKEE LAUNDROMAT

**816 NORTH AVENUE
VILLAGE OF WAUSAUKEE, MARINETTE COUNTY, WISCONSIN**

WISDOT PROJECT I.D. 1491-12-00

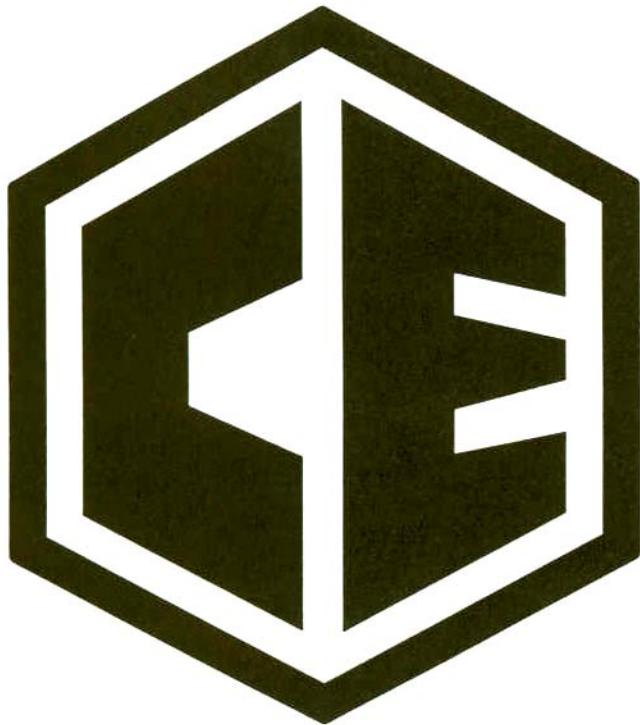
May 2012

Prepared for: Prime Engineer

Prime Design Engineer
Coleman Engineering Company
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**Coleman
Engineering**

Civil Engineering • Environmental Engineering
Geotechnical Engineering • Land Surveying • Test Drilling
Construction Quality Control • Materials Laboratory Testing

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Project #EE-08049O

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ACRONYMS

bgs	Below ground surface
BRRTS	Bureau of Remediation and Redevelopment Tracking System
CEC	Coleman Engineering Company
DRO	Diesel Range Organics
FDM	Facilities Development Manual
GRO	Gasoline Range Organics
HMA	Hazardous Material Assessment
PAH	Polynuclear Aromatic Hydrocarbons
PID	Photoionization Detector
PVOC	Petroleum Volatile Organic Compounds
RCL	Recommended Contaminant Levels
ROW	Right-of-way
STH	State Trunk Highway
USEPA	United States Environmental Protection Agency
USH	United States Highway
VOC	Volatile Organic Compounds
WDNR	Wisconsin Department of Natural Resources
WisDOT	Wisconsin Department of Transportation

1.0 PROJECT DESCRIPTION

Project 1491-12-00 is classified as an urban reconstruction project with intersection studies and possible improvements. The street name for United States Highway (USH) 141 in the Village of Wausaukeee is Main Street. The State of Wisconsin proposes to reconstruct 1.3 miles of roadway on USH 141 in the Village of Wausaukeee and to replace Structure B-38-0513 over the Wausaukeee River. The projects begin at the State Trunk Highway (STH) 180 / USH 141 intersection and end at the USH 141 / Division Street intersection. The projects are located in Sections 25 and 36, Town 34 North, Range 20 East, Town of Wausaukeee and Section 1, Town 33 North, Range 20 East, Town of Wausaukeee.

The roadway project will involve reconstructing the roadway along its current alignment. This includes removing the existing pavement and base with the elimination of the downtown parking. The rural roadway section at the north and south ends of the project will be replaced with an urban cross-section. The existing storm sewer will be replaced. The bridge project will involve replacing the existing structure with a single span structure. The new structure identification will be B-38-0133.

USH 141 will be open to northbound traffic during the staged construction operations. Southbound USH 141 traffic will be detoured via Division Street, Tyler Avenue, and 1st Street. It is anticipated that minor grading will be required at the sharp corners along Division Street and Tyler Street in order to widen the road to accommodate large trucks during construction. The project is scheduled for the year 2015 construction season using Federal and State monies. Refer to Appendix A for project location information.

2.0 SITE HISTORY

Coleman Engineering Company (CEC) is the design engineer for the Wisconsin Department of Transportation (WisDOT). WisDot retained CEC to perform a Phase 2 Subsurface Investigation at the Wausaukeee Laundromat property located at 816 North Avenue as per the WisDOT Facilities Development Manual (FDM) Chapter 21, Section 35, Subject 10. The Phase 2 Subsurface Investigation was requested based upon the findings of a recently completed Phase 1 Hazardous Materials Assessment (HMA). The Phase 1 HMA was completed by CEC.

The site is the location of a closed Laundromat and is an open spill site as noted in the CEC Phase I. The Laundromat also served as a drycleaner which involved use of chlorinated solvents and is a listed Bureau of Remediation and Redevelopment Tracking System (BRRTS) (02-38-549224). Marinette County currently owns the property.

3.0 PHASE 2 SUBSURFACE INVESTIGATION METHODOLOGY

The field activities included completion of four (4) borings (EP-15, EP-16, EP-17 and EP-18) using a hydraulically powered hammer (earthprobe) with 5-foot long macro cores along the USH 141 corridor to a maximum estimated depth of 5 feet below ground surface (bgs) on February 17, 2012. An investigation depth of 5 feet bgs was determined based upon the road design depth of

2 feet bgs and WisDOT requires the depth of investigation to extend 2 feet below the maximum depth of excavation on the project. Refer to Appendix A for a boring location map and Appendix B for soil boring logs.

At each boring, soil samples were visually observed and logged for texture, consistency, color, relative moisture; apparent petroleum odor; and field screened with a photoionization detector (PID). Samples for laboratory analyses were selected based upon field PID screening results, and/or observed soil staining. Groundwater was not encountered at the Wausaukee Laundromat property to a depth of 5 feet bgs.

Once collected, the soil samples were packaged according to laboratory protocol and placed on ice in an insulated cooler. The samples were then delivered to ESC Laboratory of Mt. Joliet, Tennessee by common courier under chain-of-custody protocol. The soil samples from the Wausaukee Laundromat were analyzed for petroleum volatile organic compounds (PVOCs), Polynuclear Aromatic Hydrocarbons (PAHs), Gasoline Range Organics (GRO), and Diesel Range Organics (DRO) parameters. Refer to Appendix C for laboratory analysis summary data tables.

4.0 SOILS CHARACTERIZATION

The Phase 2 Subsurface Investigation was completed in conjunction with five (5) other sites. The findings of the five (5) other sites are presented under separate cover. The four (4) borings that pertain to this investigation include EP-15, EP-16, EP-17, and EP-18. Each of the borings were completed along the USH 141 corridor.

The borings were advanced to 5 feet bgs in order to characterize the soils to 2 feet below the design depth of the highway. The borings were advanced in the right-of way (ROW) as shown on Figure 2A labeled "Soil Boring Location Map" presented in Appendix A. At each boring location the subsurface soils were gravel overlaying fine to very fine sand.

5.0 ANALYTICAL RESULTS

5.1 Field Screening

At each location, the boring was accomplished by advancing the macro cores and collecting soil samples. Soil samples were logged and monitored with a PID. No elevated PID readings were observed. Boring logs, including soil descriptions and PID, are presented in Appendix B.

5.2 Sampling and Analytical Results

The samples were analyzed for volatile organic compounds (VOCs) using United States Environmental Protection Agency (USEPA) Method 8260. The soil results are tabulated in Table 1, Appendix C. Refer to Appendix D to review the actual laboratory reports and chain-of-custody record. Laboratory results indicated VOCs were not detected at or above their respective method detection limits.

6.0 CONCLUSIONS

CEC completed this Phase 2 Subsurface Investigation of the Wausauke Laundromat for the proposed USH 141 corridor in the Village of Wausauke, Marinette County, Wisconsin in general accordance with the WisDOT Facilities Development Manual Chapter 21, Section 35, Subject 10. The purpose of a Phase 2 Subsurface Investigation is to assess if there is or is not soil or groundwater contamination that will be encountered during construction activities on a WisDOT project. The following conclusions are:

- The results also indicate that the area of VOC contamination associated with the site has not migrated into the right-of-way (ROW) at depths relative to the construction project.

7.0 RECOMMENDATIONS

Consistent with the WisDOT FDM Chapter 21, Section 35, Subject 10 procedure, it is recommended that the WDNR District Office be notified of the contamination in the ROW adjacent to the project. A copy of the Phase 2 Subsurface Investigation should be provided to perspective contractors as part of the bid process.

8.0 LIMITATIONS

There are limitations inherent to any environmental assessment. When dealing with natural conditions, and especially natural conditions that are hidden from view, even the most accomplished investigator can only deal in probabilities. Environmental conditions are also affected by time due to the mobility of contaminants, change in state and other characteristics of materials.

The conclusions and recommendations of this assessment were derived based upon generally accepted professional engineering practice at the time and location of this writing and no other warranty is implied or intended. No assessment can wholly eliminate uncertainty regarding the environmental condition of the site. This assessment is intended to reduce, but not eliminate, uncertainty regarding the environmental condition of the subject study area.

A WisDOT Phase 2 Subsurface Investigation does not constitute an exhaustive assessment. There is a point at which the cost of information gathered and/or the time required to gather it outweighs the usefulness of the information and, in fact, may be a material detriment to the orderly completion of transactions. The Client must be comfortable that a balance between the competing goals of reasonable and practical assessment and the reduction in unknown conditions resulting from additional information has been attempted. Additional Limitations are included in Appendix F.

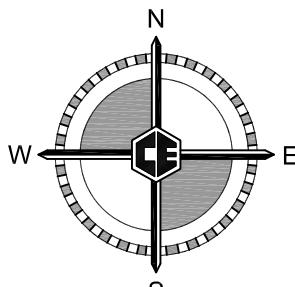
9.0 REFERENCES

CEC Phase I HMA, March 2011

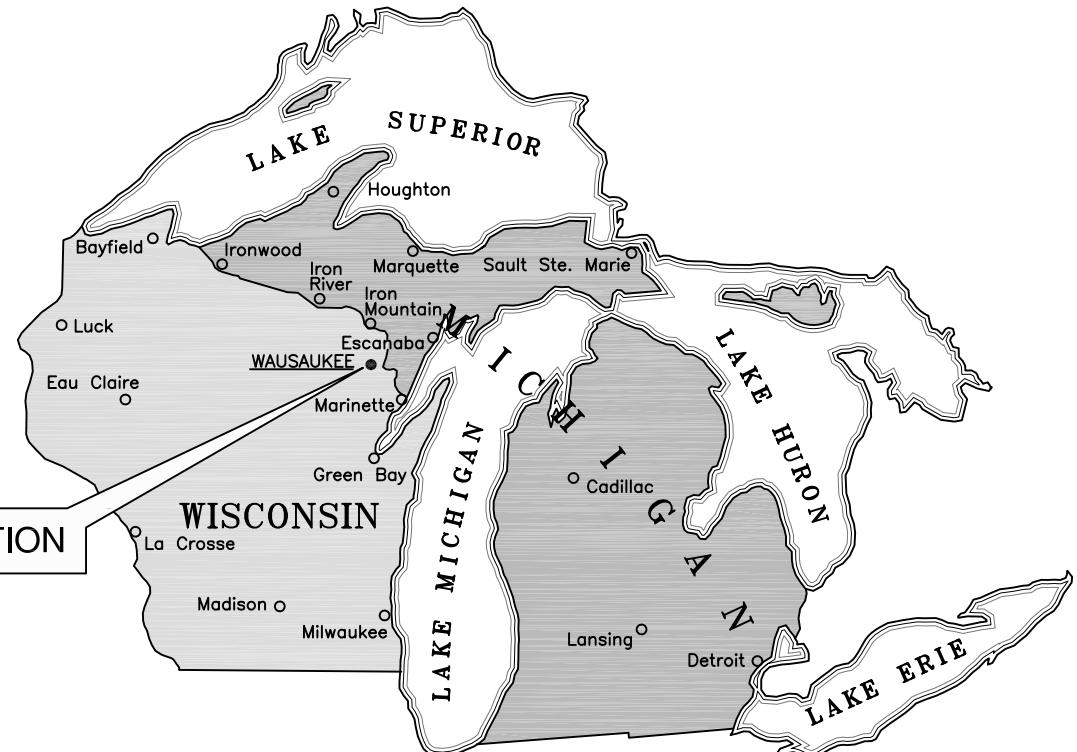
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APPENDIX A

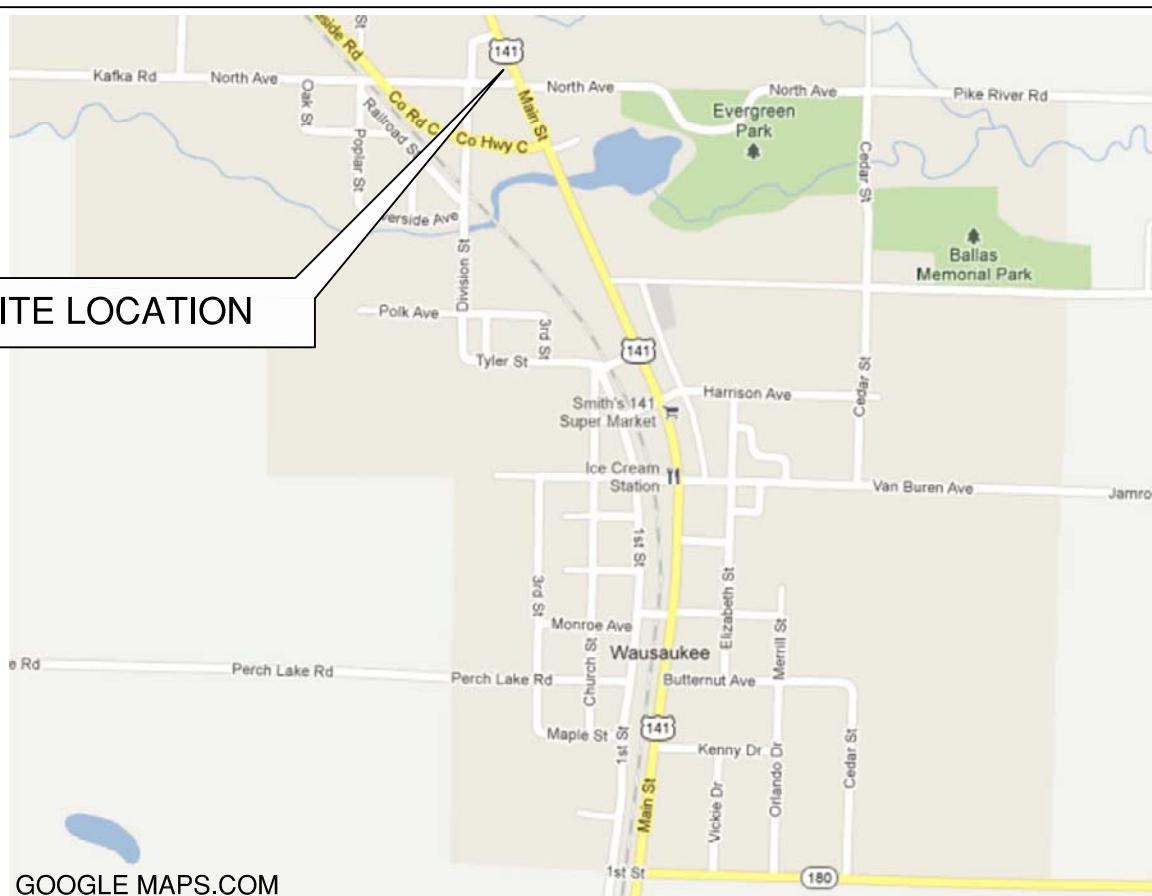
FIGURES



PROJECT LOCATION



SITE LOCATION



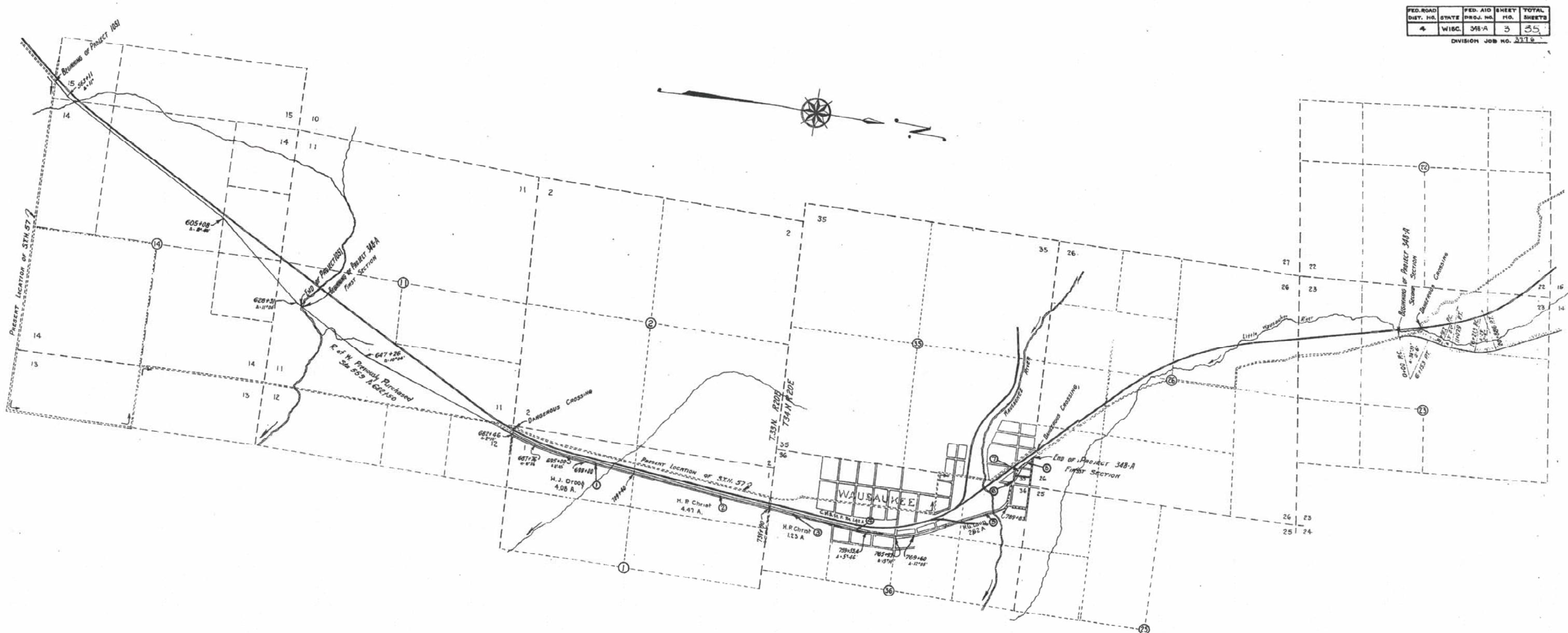
GOOGLE MAPS.COM

FIGURE 1 - PROJECT LOCATION MAP
WAUSAUKEE LAUNDROMAT
816 NORTH AVENUE
WAUSAUKEE, WI



COLEMAN ENGINEERING COMPANY
 635 CIRCLE DRIVE - IRON MOUNTAIN, MICHIGAN 49801 (906) 774-3440
 200 EAST AYER STREET - IRONWOOD, MICHIGAN 49938 (906) 932-5048

DATE 3/28/12
 JOB NO 08049-O
 CADD FILE 08049-O-WIW.DWG
 PDF FILE 08049-O-WIW.PDF



NUMBER	LOCATION	OWNER	ACR.
1	W½ SW¼ Sec 1	H. J. Drood	4.0
2	W½ NW¼ Sec 1	H. P. Christ	4.4
3	S½ SW¼ Sec 36	H. P. Christ	1.2
4	SW¼ Sec 36	C.M. & St. P. Ry.	1.4
5	W½ NW¼ Sec 36	H. G. Loun	2.0
6	Lot 6 - Blk 3.	Clarence Cottrell	0.1
7	lots 18, 19, Blk 3	Myrtle Thompson	0.1
8	Lots 123 Blk 4	Ed Shirkey	0.

PLAT
OF
PROPOSED RELOCATION
STILES JCT. - MICHIGAN STATE LINE ROAD
BETWEEN
MIDDLE INLET AND WADSWORTH

FIGURE 2 - PROJECT OVERVIEW MAP

WISCONSIN DEPARTMENT OF TRANSPORTATION

WAUSAUKEE, WI



COLEMAN ENGINEERING COMPANY
635 CIRCLE DRIVE - IRON MOUNTAIN, MICHIGAN 49801 (906) 774-3440
200 EAST AYER STREET - IRONWOOD, MICHIGAN 49938 (906) 932-5048

DATE 3/7/12
JOB NO 08049-O
CADD FILE 08049-O-OVERVIEW.DWG
PDF FILE 08049-O-OVERVIEW.PDF

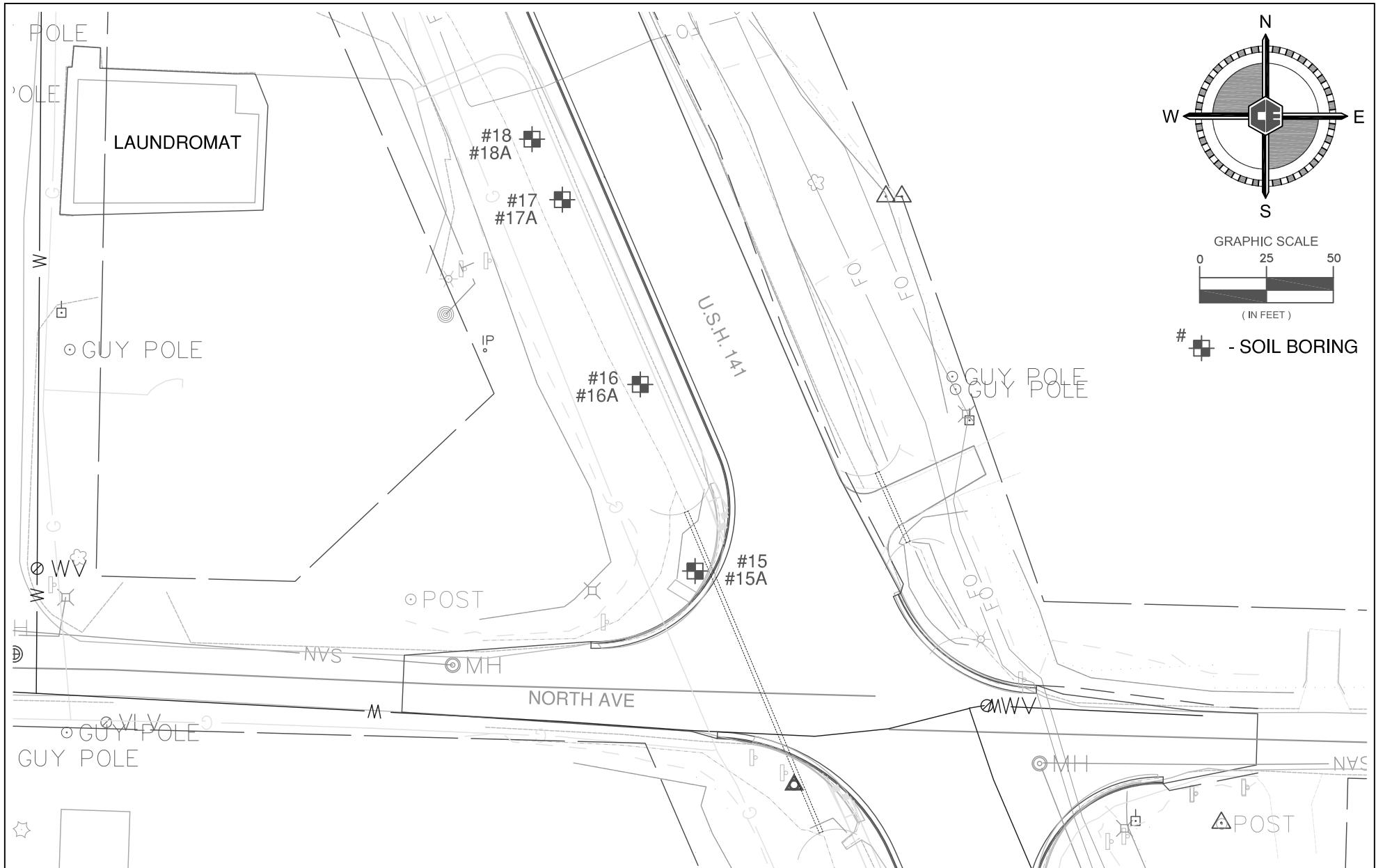


FIGURE 2A - SOIL BORING LOCATION MAP
WAUSAUKEE LAUNDROMAT
816 NORTH AVENUE
WAUSAUKEE, WI



COLEMAN ENGINEERING COMPANY
 635 CIRCLE DRIVE - IRON MOUNTAIN, MICHIGAN 49801 (906) 774-3440
 200 EAST AYER STREET - IRONWOOD, MICHIGAN 49938 (906) 932-5048

DATE 4/18/12
 JOB NO 08049-O
 CADD FILE 08049-O-SAMPLE.DWG
 PDF FILE 08049-O-SAMPLE.PDF

APPENDIX B

BORING LOGS



COLEMAN ENGINEERING COMPANY

635 CIRCLE DRIVE

IRON MOUNTAIN, MICHIGAN 49801

Telephone: (906)-774-3440 Fax: (906)-774-7776

PROJECT: USH-141 - Village of Wausaukee

JOB NO.: 08049-O.GPJ

CLIENT: Wisconsin Department of Transportation

1 OF 4

1 OF 1

BORING LOCATION: As Staked

EI EV

BIG TYPE: Geoprobe 66DT

DRILL CREW: G. Donahue / J. Alderton

DRILLING METHOD: 5" Solid Stem Auger

BORING DEPTH: 5.0

DATE STARTED: Feb 17, 12

REVIEWED BY: C. Saari

HOLE CLOSURE: Soil cuttings

HOLE CLOSURE: Soil cuttings

HOLE CLOSURE: Soil cuttings



COLEMAN ENGINEERING COMPANY
635 CIRCLE DRIVE
IRON MOUNTAIN, MICHIGAN 49801
Telephone: (906)-774-3440 Fax: (906)-774-7776

JOB NO.: 08049-O.GPJ

BORING NO.: EP-16

1 OF 1

PROJECT: USH-141 - Village of Wausaukee

CLIENT: Wisconsin Department of Transportation

BORING LOCATION: As Staked

ELEV.:

RIG TYPE: Geoprobe 66DT

DRILL CREW: G. Donahue / J. Alderton

DRILLING METHOD: 5" Solid Stem Auger

BORING DEPTH: 5.0

DATE STARTED: Feb 17, 12 DATE COMPLETED: Feb 17, 12 REVIEWED BY: C. Saari

DATE: 2/28/12

HOLE CLOSURE: Soil cuttings

NUMBER	SPT VALUES BLOWS/6"(N)	RECOVERY	LEGEND	DEPTH (FT)	SOIL DESCRIPTION	WATER TABLE	ELEV. (FT)	COMMENTS	TEST RESULTS				
									+4 -4 -200	MOISTURE CONTENT (%)	LL PL	T (tsf)	qa (tsf)
				0	ORGANICS								
				1	GRAVEL, brown to black, with sand, frozen	± 1.0'							
				2									
				3	SAND, light to dark brown, fine to medium, some gravel	± 3.0'							
				4									
				5	End of Boring	5.0'							
				6									
				7									
				8									
				9									
				10									
				11									
				12									
				13									
				14									
				15									
				16									
				17									
				18									
				19									
				20									
<input checked="" type="checkbox"/> AS-Auger Sample <input checked="" type="checkbox"/> GS-Grab Sample <input checked="" type="checkbox"/> 3SS-3" Split Spoon <input checked="" type="checkbox"/> 2ST-2" Shelby Tube <input checked="" type="checkbox"/> BS-Bag Sample <input checked="" type="checkbox"/> PI-PS-Piston Tube <input checked="" type="checkbox"/> 2SS-2" Split Spoon <input checked="" type="checkbox"/> 3ST-3" Shelby Tube <input checked="" type="checkbox"/> RC-Rock-Core				<input checked="" type="checkbox"/> while drilling <input checked="" type="checkbox"/> after drilling <input checked="" type="checkbox"/> after				hours BORING NO.: EP-16					



COLEMAN ENGINEERING COMPANY

635 CIRCLE DRIVE

IRON MOUNTAIN, MICHIGAN 49801

Telephone: (906)-774-3440 Fax: (906)-774-7776

JOB NO.: 08049-O.GPJ

BORING NO.: EP-17

1 OF 1

PROJECT: USH-141 - Village of Wausaukeee

CLIENT: Wisconsin Department of Transportation

BORING LOCATION: As Staked ELEV.:

RIG TYPE: Geoprobe 66DT DRILL CREW: G. Donahue / J. Alderton

DRILLING METHOD: 5" Solid Stem Auger BORING DEPTH: 5.0

DATE STARTED: Feb 17, 12 DATE COMPLETED: Feb 17, 12 REVIEWED BY: C. Saari DATE: 2/28/12

HOLE CLOSURE: Soil cuttings

NUMBER	SAMPLE			SOIL DESCRIPTION	WATER TABLE	ELEV. (FT)	COMMENTS	TEST RESULTS					
	SPT VALUES BLOWS/6"(N)	RECOVERY	DEPTH (FT) LEGEND					+4 -4 -200	MOISTURE CONTENT (%)	LL	PL	T (tsf)	q _a (tsf)
			0	ORGANICS			Wausaukeee Laundromat						
			1	GRAVEL, brown to black, with sand, some organics, frozen	± 1.0'								
			2				PID: 0						
			3	SAND, brown, fine to medium, with gravel	± 3.0'								
			4				PID: 0						
			5		5.0'		PID: Photo Ionization Detector						
			6	End of Boring									
			7										
			8										
			9										
			10										
			11										
			12										
			13										
			14										
			15										
			16										
			17										
			18										
			19										
			20										
<input type="checkbox"/> AS-Auger Sample <input type="checkbox"/> BS-Bag Sample <input type="checkbox"/> RC-Rock-Core			<input type="checkbox"/> GS-Grab Sample <input type="checkbox"/> PS-Piston Tube <input type="checkbox"/> 2SS-2" Split Spoon			<input type="checkbox"/> 3SS-3" Split Spoon <input type="checkbox"/> 2ST-2" Shelby Tube <input type="checkbox"/> 2-3ST-3" Shelby Tube			<input type="checkbox"/> while drilling <input checked="" type="checkbox"/> after drilling		<input type="checkbox"/> after hours		BORING NO.: EP-17



COLEMAN ENGINEERING COMPANY

635 CIRCLE DRIVE

IRON MOUNTAIN, MICHIGAN 49801

Telephone: (906)-774-3440 Fax: (906)-774-7776

JOB NO.: 08049-O.GPJ

BORING NO.: EP-18

1 OF 1

PROJECT: USH-141 - Village of Wausaukee

CLIENT: Wisconsin Department of Transportation

BORING LOCATION: As Staked

ELEV.:

RIG TYPE: Geoprobe 66DT

DRILL CREW: G. Donahue / J. Alderton

DRILLING METHOD: 5" Solid Stem Auger

BORING DEPTH: 5.0

DATE STARTED: Feb 17, 12 DATE COMPLETED: Feb 17, 12 REVIEWED BY: C. Saari DATE: 2/28/12

HOLE CLOSURE: Soil cuttings

NUMBER	SAMPLE			SOIL DESCRIPTION	WATER TABLE	ELEV. (FT)	COMMENTS	TEST RESULTS					
	SPT VALUES BLOWS/6"(N)	RECOVERY	DEPTH (FT)					+4 -4 -200	MOISTURE CONTENT (%)	LL	PL	T (tsf)	q _a (tsf)
			0	ORGANICS			Wausaukee Laundromat						
			1	GRAVEL, dark brown to black, with sand, some organics, frozen	± 1.0'								
			2	SAND, light brown to dark brown, very fine to medium, with gravel	± 2.0'		PID: 0						
			3										
			4				PID: 0						
			5	End of Boring	5.0'		PID: Photo Ionization Detector						
			6										
			7										
			8										
			9										
			10										
			11										
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			20										
<input checked="" type="checkbox"/> AS-Auger Sample <input checked="" type="checkbox"/> BS-Bag Sample <input checked="" type="checkbox"/> RC-Rock-Core			<input checked="" type="checkbox"/> GS-Grab Sample <input checked="" type="checkbox"/> PS-Piston Tube <input checked="" type="checkbox"/> 2SS-2" Split Spoon			<input checked="" type="checkbox"/> 3SS-3" Split Spoon <input checked="" type="checkbox"/> 2ST-2" Shelby Tube <input checked="" type="checkbox"/> 3ST-3" Shelby Tube			<input checked="" type="checkbox"/> while drilling <input checked="" type="checkbox"/> after drilling		<input checked="" type="checkbox"/> after hours		BORING NO.: EP-18

APPENDIX C

TABLES

Table 1 . Summary of Soil Sample Laboratory Results

Wausaukee Laundromat
Wausaukee, Wisconsin

SAMPLE ID:	Chemical Abstract Service Number	RCLs - Protection of Groundwater (Non-Industrial)	RCLs - Groundwater Pathway	RCLs - Direct Contact Pathway (Non-Industrial)	Indicator of Residual Petroleum Product in Pores	Direct Contact with Contaminated Soil	EP-15	EP-16	EP-17	EP-18						
Sample Depth (feet)							0.0-2.0	0.0-2.0	0.0-2.0	0.0-2.0						
SAMPLE DATE:							2/17/2012	2/17/2012	2/17/2012	2/17/2012						
Source of Data																
Volatiles (ug/Kg)																
Benzene	71432	5.5	NA	NA	8,500	1,100	<4.9	<8.2	<8.2	<9.0						
Toluene	108883	1,500	NA	NA	38,000	NA	<4.5	<7.5	<7.5	<8.3						
Ethylbenzene	100414	2,900	NA	NA	4,600	NA	<5.4	<9.0	<9.0	<9.9						
Total Xylenes	1330207	4,100	NA	NA	42,000	NA	<6.7	<11	<11	<12						
Methyl-tert-butyl ether (MTBE)	1634044	NS	NA	NA	NA	NA	<4.7	<7.8	<8.3	<8.6						
1,3,5-Trimethylbenzene	108678	NS	NA	NA	11,000	NA	<5.0	<8.3	<8.3	<9.2						
1,2,4-Trimethylbenzene	95636	NS	NA	NA	83,000	NA	<5.6	<9.2	<9.2	<10						
Tetrachloroethene							<5.8	<9.6	<9.6	<10						
Trichloroethylene							<4.8	<8.0	<8.0	<8.8						
Gasoline Range Organics (GRO)	NA	100,000	NA	NA	NA	NA	*	*	*	*						
Diesel Range Organics (DRO)	NA	50,000	NA	NA	NA	NA	*	*	*	*						

Criteria Footnotes

Notes:

RCL = Residual Contaminant Level

< = Results are less than the LOD

Bolded results exceed Chapter NR 720 Soil Cleanup Standards

NS = No Chapter NR720 Soil Cleanup Standard

* = Not analyzed or no data available.

NA - Not Applicable

Laboratory Footnotes:

LOD = Limit of Detection

LOQ = Limit of Quantification

J = Analyte detected between LOD and LOQ.

Q = The analyte has been detected between the limit of detection (LOD) and the limit of quantification (LOQ). The results are qualified due to the uncertainty of the analyte concentrations within this range.

Source of Data:

WisDOT - Wisconsin Department of Transportation

CEC - Coleman Engineering Company

APPENDIX D

LABORATORY REPORTS AND CHAIN-OF-CUSTODY RECORD



YOUR LAB OF CHOICE

12065 Lebanon Rd.
Mt. Juliet, TN 37122
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1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Charles A. Saari
Coleman Engineering Company
635 Circle Drive
Iron Mountain, MI 49801

Report Summary

Wednesday February 29, 2012

Report Number: L561429

Samples Received: 02/21/12

Client Project: EE-08049-0

Description: Site Investigation

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

John Hawkins
John Hawkins, ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,
FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016,
NC - ENV375/DW21704/BIO041, ND - R-140, NJ - TN002, NJ NELAP - TN002,
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,
TX - T104704245-11-3, OK - 9915, PA - 68-02979

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

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YOUR LAB OF CHOICE

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Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Charles A. Saari
Coleman Engineering Company
635 Circle Drive
Iron Mountain, MI 49801

February 29, 2012

Date Received : February 21, 2012
Description : Site Investigation
Sample ID : EP-15 0-2 FT
Collected By : Charles Saari
Collection Date : 02/17/12 11:40

ESC Sample # : L561429-15
Site ID : WAUSAUKEE, WI
Project # : EE-08049-0

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Total Solids	82.7	0.0330	0.100	%		2540G	02/28/12	1
Volatile Organics								
Acetone	U	0.34	0.88	mg/kg	J4	8260B	02/22/12	14.5
Acrylonitrile	U	0.045	0.18	mg/kg		8260B	02/22/12	14.5
Allyl chloride	U	0.024	0.088	mg/kg		8260B	02/22/12	14.5
Benzene	U	0.0049	0.018	mg/kg		8260B	02/22/12	14.5
Bromobenzene	U	0.0049	0.018	mg/kg		8260B	02/22/12	14.5
Bromodichloromethane	U	0.0045	0.018	mg/kg		8260B	02/22/12	14.5
Bromoform	U	0.0052	0.018	mg/kg		8260B	02/22/12	14.5
Bromomethane	U	0.026	0.088	mg/kg		8260B	02/22/12	14.5
n-Butylbenzene	U	0.0050	0.018	mg/kg		8260B	02/22/12	14.5
sec-Butylbenzene	U	0.0046	0.018	mg/kg		8260B	02/22/12	14.5
tert-Butylbenzene	U	0.0045	0.018	mg/kg		8260B	02/22/12	14.5
Carbon tetrachloride	U	0.0054	0.018	mg/kg		8260B	02/22/12	14.5
Chlorobenzene	U	0.0047	0.018	mg/kg		8260B	02/22/12	14.5
Chlorodibromomethane	U	0.0052	0.018	mg/kg		8260B	02/22/12	14.5
Chloroethane	U	0.017	0.088	mg/kg		8260B	02/22/12	14.5
2-Chloroethyl vinyl ether	U	0.025	0.88	mg/kg		8260B	02/22/12	14.5
Chloroform	U	0.0062	0.088	mg/kg		8260B	02/22/12	14.5
Chloromethane	U	0.010	0.044	mg/kg		8260B	02/22/12	14.5
2-Chlorotoluene	U	0.0046	0.018	mg/kg		8260B	02/22/12	14.5
4-Chlorotoluene	U	0.0041	0.018	mg/kg		8260B	02/22/12	14.5
1,2-Dibromo-3-Chloropropane	U	0.029	0.088	mg/kg		8260B	02/22/12	14.5
1,2-Dibromoethane	U	0.0054	0.018	mg/kg		8260B	02/22/12	14.5
Dibromomethane	U	0.0051	0.018	mg/kg		8260B	02/22/12	14.5
1,2-Dichlorobenzene	U	0.0051	0.018	mg/kg		8260B	02/22/12	14.5
1,3-Dichlorobenzene	U	0.0048	0.018	mg/kg		8260B	02/22/12	14.5
1,4-Dichlorobenzene	U	0.0047	0.018	mg/kg		8260B	02/22/12	14.5
Dichlorodifluoromethane	U	0.011	0.088	mg/kg		8260B	02/22/12	14.5
Dichlorofluoromethane	U	0.0046	0.088	mg/kg		8260B	02/22/12	14.5
1,1-Dichloroethane	U	0.0057	0.018	mg/kg		8260B	02/22/12	14.5
1,2-Dichloroethane	U	0.0058	0.018	mg/kg		8260B	02/22/12	14.5
1,1-Dichloroethene	U	0.0091	0.018	mg/kg		8260B	02/22/12	14.5
cis-1,2-Dichloroethene	U	0.0052	0.018	mg/kg		8260B	02/22/12	14.5
trans-1,2-Dichloroethene	U	0.0057	0.018	mg/kg		8260B	02/22/12	14.5
1,2-Dichloropropane	U	0.0094	0.018	mg/kg		8260B	02/22/12	14.5
1,1-Dichloropropene	U	0.0056	0.018	mg/kg		8260B	02/22/12	14.5
1,3-Dichloropropene	U	0.0049	0.018	mg/kg		8260B	02/22/12	14.5
cis-1,3-Dichloropropene	U	0.0056	0.018	mg/kg		8260B	02/22/12	14.5
trans-1,3-Dichloropropene	U	0.0049	0.018	mg/kg		8260B	02/22/12	14.5
2,2-Dichloropropane	U	0.0058	0.018	mg/kg		8260B	02/22/12	14.5
Di-isopropyl ether	U	0.0052	0.018	mg/kg		8260B	02/22/12	14.5

Results listed are dry weight basis.

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD

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REPORT OF ANALYSIS

Charles A. Saari
Coleman Engineering Company
635 Circle Drive
Iron Mountain, MI 49801

February 29, 2012

Date Received : February 21, 2012
Description : Site Investigation
Sample ID : EP-15 0-2 FT
Collected By : Charles Saari
Collection Date : 02/17/12 11:40

ESC Sample # : L561429-15
Site ID : WAUSAUKEE, WI
Project # : EE-08049-0

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Ethylbenzene	U	0.0054	0.018	mg/kg		8260B	02/22/12	14.5
Ethyl ether	U	0.0056	0.018	mg/kg		8260B	02/22/12	14.5
Hexachloro-1,3-butadiene	U	0.0056	0.018	mg/kg		8260B	02/22/12	14.5
2-Hexanone	U	0.029	0.18	mg/kg		8260B	02/22/12	14.5
Isopropylbenzene	U	0.0046	0.018	mg/kg		8260B	02/22/12	14.5
p-Isopropyltoluene	U	0.0047	0.018	mg/kg		8260B	02/22/12	14.5
2-Butanone (MEK)	U	0.040	0.18	mg/kg		8260B	02/22/12	14.5
Methylene Chloride	U	0.019	0.088	mg/kg		8260B	02/22/12	14.5
4-Methyl-2-pentanone (MIBK)	U	0.041	0.18	mg/kg		8260B	02/22/12	14.5
Methyl tert-butyl ether	U	0.0047	0.018	mg/kg		8260B	02/22/12	14.5
Naphthalene	U	0.0080	0.088	mg/kg		8260B	02/22/12	14.5
n-Propylbenzene	U	0.0050	0.018	mg/kg		8260B	02/22/12	14.5
Styrene	U	0.0054	0.018	mg/kg		8260B	02/22/12	14.5
1,1,1,2-Tetrachloroethane	U	0.0058	0.018	mg/kg		8260B	02/22/12	14.5
1,1,2,2-Tetrachloroethane	U	0.0060	0.018	mg/kg		8260B	02/22/12	14.5
1,1,2-Trichlorotrifluoroethane	U	0.0055	0.018	mg/kg		8260B	02/22/12	14.5
Tetrachloroethene	U	0.0058	0.018	mg/kg		8260B	02/22/12	14.5
Tetrahydrofuran	U	0.046	0.088	mg/kg		8260B	02/22/12	14.5
Toluene	U	0.0045	0.088	mg/kg		8260B	02/22/12	14.5
1,2,3-Trichlorobenzene	U	0.0063	0.018	mg/kg		8260B	02/22/12	14.5
1,2,4-Trichlorobenzene	U	0.0043	0.018	mg/kg		8260B	02/22/12	14.5
1,1,1-Trichloroethane	U	0.0052	0.018	mg/kg		8260B	02/22/12	14.5
1,1,2-Trichloroethane	U	0.0051	0.018	mg/kg		8260B	02/22/12	14.5
Trichloroethene	U	0.0048	0.018	mg/kg		8260B	02/22/12	14.5
Trichlorofluoromethane	U	0.013	0.088	mg/kg		8260B	02/22/12	14.5
1,2,3-Trichloropropane	U	0.016	0.044	mg/kg		8260B	02/22/12	14.5
1,2,4-Trimethylbenzene	U	0.0056	0.018	mg/kg		8260B	02/22/12	14.5
1,2,3-Trimethylbenzene	U	0.0042	0.018	mg/kg	J4	8260B	02/22/12	14.5
1,3,5-Trimethylbenzene	U	0.0050	0.018	mg/kg		8260B	02/22/12	14.5
Vinyl chloride	U	0.0055	0.018	mg/kg		8260B	02/22/12	14.5
Xylenes, Total	U	0.0067	0.052	mg/kg		8260B	02/22/12	14.5
Surrogate Recovery								
Toluene-d8	105.			% Rec.		8260B	02/22/12	14.5
Dibromofluoromethane	115.			% Rec.		8260B	02/22/12	14.5
a,a,a-Trifluorotoluene	104.			% Rec.		8260B	02/22/12	14.5
4-Bromofluorobenzene	83.5			% Rec.		8260B	02/22/12	14.5

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REPORT OF ANALYSIS

Charles A. Saari
Coleman Engineering Company
635 Circle Drive
Iron Mountain, MI 49801

February 29, 2012

Date Received : February 21, 2012
Description : Site Investigation
Sample ID : EP-16 0-2 FT
Collected By : Charles Saari
Collection Date : 02/17/12 11:55

ESC Sample # : L561429-16
Site ID : WAUSAUKEE, WI
Project # : EE-08049-0

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Total Solids	83.9	0.0330	0.100	%		2540G	02/28/12	1
Volatile Organics								
Acetone	U	0.56	1.4	mg/kg	J4	8260B	02/22/12	24
Acrylonitrile	U	0.075	0.29	mg/kg		8260B	02/22/12	24
Allyl chloride	U	0.040	0.14	mg/kg		8260B	02/22/12	24
Benzene	U	0.0082	0.029	mg/kg		8260B	02/22/12	24
Bromobenzene	U	0.0081	0.029	mg/kg		8260B	02/22/12	24
Bromodichloromethane	U	0.0075	0.029	mg/kg		8260B	02/22/12	24
Bromoform	U	0.0087	0.029	mg/kg		8260B	02/22/12	24
Bromomethane	U	0.042	0.14	mg/kg		8260B	02/22/12	24
n-Butylbenzene	U	0.0082	0.029	mg/kg		8260B	02/22/12	24
sec-Butylbenzene	U	0.0077	0.029	mg/kg		8260B	02/22/12	24
tert-Butylbenzene	U	0.0075	0.029	mg/kg		8260B	02/22/12	24
Carbon tetrachloride	U	0.0090	0.029	mg/kg		8260B	02/22/12	24
Chlorobenzene	U	0.0078	0.029	mg/kg		8260B	02/22/12	24
Chlorodibromomethane	U	0.0085	0.029	mg/kg		8260B	02/22/12	24
Chloroethane	U	0.028	0.14	mg/kg		8260B	02/22/12	24
2-Chloroethyl vinyl ether	U	0.042	1.4	mg/kg	J3	8260B	02/22/12	24
Chloroform	U	0.010	0.14	mg/kg		8260B	02/22/12	24
Chloromethane	U	0.017	0.072	mg/kg		8260B	02/22/12	24
2-Chlorotoluene	U	0.0076	0.029	mg/kg		8260B	02/22/12	24
4-Chlorotoluene	U	0.0068	0.029	mg/kg		8260B	02/22/12	24
1,2-Dibromo-3-Chloropropane	U	0.048	0.14	mg/kg		8260B	02/22/12	24
1,2-Dibromoethane	U	0.0089	0.029	mg/kg		8260B	02/22/12	24
Dibromomethane	U	0.0084	0.029	mg/kg		8260B	02/22/12	24
1,2-Dichlorobenzene	U	0.0084	0.029	mg/kg		8260B	02/22/12	24
1,3-Dichlorobenzene	U	0.0080	0.029	mg/kg		8260B	02/22/12	24
1,4-Dichlorobenzene	U	0.0078	0.029	mg/kg		8260B	02/22/12	24
Dichlorodifluoromethane	U	0.018	0.14	mg/kg		8260B	02/22/12	24
Dichlorofluoromethane	U	0.0076	0.14	mg/kg		8260B	02/22/12	24
1,1-Dichloroethane	U	0.0095	0.029	mg/kg		8260B	02/22/12	24
1,2-Dichloroethane	U	0.0095	0.029	mg/kg		8260B	02/22/12	24
1,1-Dichloroethene	U	0.015	0.029	mg/kg		8260B	02/22/12	24
cis-1,2-Dichloroethene	U	0.0085	0.029	mg/kg		8260B	02/22/12	24
trans-1,2-Dichloroethene	U	0.0094	0.029	mg/kg		8260B	02/22/12	24
1,2-Dichloropropane	U	0.016	0.029	mg/kg		8260B	02/22/12	24
1,1-Dichloropropene	U	0.0093	0.029	mg/kg		8260B	02/22/12	24
1,3-Dichloropropene	U	0.0082	0.029	mg/kg		8260B	02/22/12	24
cis-1,3-Dichloropropene	U	0.0092	0.029	mg/kg		8260B	02/22/12	24
trans-1,3-Dichloropropene	U	0.0082	0.029	mg/kg	J3	8260B	02/22/12	24
2,2-Dichloropropane	U	0.0095	0.029	mg/kg		8260B	02/22/12	24
Di-isopropyl ether	U	0.0087	0.029	mg/kg		8260B	02/22/12	24

Results listed are dry weight basis.

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REPORT OF ANALYSIS

Charles A. Saari
Coleman Engineering Company
635 Circle Drive
Iron Mountain, MI 49801

February 29, 2012

Date Received : February 21, 2012
Description : Site Investigation
Sample ID : EP-16 0-2 FT
Collected By : Charles Saari
Collection Date : 02/17/12 11:55

ESC Sample # : L561429-16
Site ID : WAUSAUKEE, WI
Project # : EE-08049-0

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Ethylbenzene	U	0.0090	0.029	mg/kg		8260B	02/22/12	24
Ethyl ether	U	0.0092	0.029	mg/kg		8260B	02/22/12	24
Hexachloro-1,3-butadiene	U	0.0092	0.029	mg/kg		8260B	02/22/12	24
2-Hexanone	U	0.048	0.29	mg/kg		8260B	02/22/12	24
Isopropylbenzene	U	0.0075	0.029	mg/kg		8260B	02/22/12	24
p-Isopropyltoluene	U	0.0077	0.029	mg/kg		8260B	02/22/12	24
2-Butanone (MEK)	U	0.067	0.29	mg/kg	J3	8260B	02/22/12	24
Methylene Chloride	U	0.031	0.14	mg/kg		8260B	02/22/12	24
4-Methyl-2-pentanone (MIBK)	U	0.067	0.29	mg/kg		8260B	02/22/12	24
Methyl tert-butyl ether	U	0.0078	0.029	mg/kg		8260B	02/22/12	24
Naphthalene	U	0.013	0.14	mg/kg	J3	8260B	02/22/12	24
n-Propylbenzene	U	0.0083	0.029	mg/kg		8260B	02/22/12	24
Styrene	U	0.0090	0.029	mg/kg		8260B	02/22/12	24
1,1,1,2-Tetrachloroethane	U	0.0096	0.029	mg/kg		8260B	02/22/12	24
1,1,2,2-Tetrachloroethane	U	0.0099	0.029	mg/kg		8260B	02/22/12	24
1,1,2-Trichlorotrifluoroethane	U	0.0091	0.029	mg/kg		8260B	02/22/12	24
Tetrachloroethene	U	0.0096	0.029	mg/kg		8260B	02/22/12	24
Tetrahydrofuran	U	0.076	0.14	mg/kg		8260B	02/22/12	24
Toluene	U	0.0075	0.14	mg/kg		8260B	02/22/12	24
1,2,3-Trichlorobenzene	U	0.010	0.029	mg/kg		8260B	02/22/12	24
1,2,4-Trichlorobenzene	U	0.0071	0.029	mg/kg		8260B	02/22/12	24
1,1,1-Trichloroethane	U	0.0086	0.029	mg/kg		8260B	02/22/12	24
1,1,2-Trichloroethane	U	0.0085	0.029	mg/kg		8260B	02/22/12	24
Trichloroethene	U	0.0080	0.029	mg/kg		8260B	02/22/12	24
Trichlorofluoromethane	U	0.021	0.14	mg/kg		8260B	02/22/12	24
1,2,3-Trichloropropane	U	0.027	0.072	mg/kg		8260B	02/22/12	24
1,2,4-Trimethylbenzene	U	0.0092	0.029	mg/kg		8260B	02/22/12	24
1,2,3-Trimethylbenzene	U	0.0069	0.029	mg/kg	J4	8260B	02/22/12	24
1,3,5-Trimethylbenzene	U	0.0083	0.029	mg/kg		8260B	02/22/12	24
Vinyl chloride	U	0.0092	0.029	mg/kg		8260B	02/22/12	24
Xylenes, Total	U	0.011	0.086	mg/kg		8260B	02/22/12	24
Surrogate Recovery								
Toluene-d8	104.			% Rec.		8260B	02/22/12	24
Dibromofluoromethane	110.			% Rec.		8260B	02/22/12	24
a,a,a-Trifluorotoluene	103.			% Rec.		8260B	02/22/12	24
4-Bromofluorobenzene	88.4			% Rec.		8260B	02/22/12	24

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REPORT OF ANALYSIS

Charles A. Saari
Coleman Engineering Company
635 Circle Drive
Iron Mountain, MI 49801

February 29, 2012

Date Received : February 21, 2012
Description : Site Investigation
Sample ID : EP-17 0-2 FT
Collected By : Charles Saari
Collection Date : 02/17/12 12:05

ESC Sample # : L561429-17
Site ID : WAUSAUKEE, WI
Project # : EE-08049-0

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Total Solids	85.1	0.0330	0.100	%		2540G	02/28/12	1
Volatile Organics								
Acetone	U	0.56	1.4	mg/kg	J4	8260B	02/22/12	24
Acrylonitrile	U	0.075	0.28	mg/kg		8260B	02/22/12	24
Allyl chloride	U	0.040	0.14	mg/kg		8260B	02/22/12	24
Benzene	U	0.0082	0.028	mg/kg		8260B	02/22/12	24
Bromobenzene	U	0.0081	0.028	mg/kg		8260B	02/22/12	24
Bromodichloromethane	U	0.0075	0.028	mg/kg		8260B	02/22/12	24
Bromoform	U	0.0087	0.028	mg/kg		8260B	02/22/12	24
Bromomethane	U	0.042	0.14	mg/kg		8260B	02/22/12	24
n-Butylbenzene	U	0.0082	0.028	mg/kg		8260B	02/22/12	24
sec-Butylbenzene	U	0.0077	0.028	mg/kg		8260B	02/22/12	24
tert-Butylbenzene	U	0.0075	0.028	mg/kg		8260B	02/22/12	24
Carbon tetrachloride	U	0.0090	0.028	mg/kg		8260B	02/22/12	24
Chlorobenzene	U	0.0078	0.028	mg/kg		8260B	02/22/12	24
Chlorodibromomethane	U	0.0085	0.028	mg/kg		8260B	02/22/12	24
Chloroethane	U	0.028	0.14	mg/kg		8260B	02/22/12	24
2-Chloroethyl vinyl ether	U	0.042	1.4	mg/kg	J3	8260B	02/22/12	24
Chloroform	U	0.010	0.14	mg/kg		8260B	02/22/12	24
Chloromethane	U	0.017	0.070	mg/kg		8260B	02/22/12	24
2-Chlorotoluene	U	0.0076	0.028	mg/kg		8260B	02/22/12	24
4-Chlorotoluene	U	0.0068	0.028	mg/kg		8260B	02/22/12	24
1,2-Dibromo-3-Chloropropane	U	0.048	0.14	mg/kg		8260B	02/22/12	24
1,2-Dibromoethane	U	0.0089	0.028	mg/kg		8260B	02/22/12	24
Dibromomethane	U	0.0084	0.028	mg/kg		8260B	02/22/12	24
1,2-Dichlorobenzene	U	0.0084	0.028	mg/kg		8260B	02/22/12	24
1,3-Dichlorobenzene	U	0.0080	0.028	mg/kg		8260B	02/22/12	24
1,4-Dichlorobenzene	U	0.0078	0.028	mg/kg		8260B	02/22/12	24
Dichlorodifluoromethane	U	0.018	0.14	mg/kg		8260B	02/22/12	24
Dichlorofluoromethane	U	0.0076	0.14	mg/kg		8260B	02/22/12	24
1,1-Dichloroethane	U	0.0095	0.028	mg/kg		8260B	02/22/12	24
1,2-Dichloroethane	U	0.0095	0.028	mg/kg		8260B	02/22/12	24
1,1-Dichloroethene	U	0.015	0.028	mg/kg		8260B	02/22/12	24
cis-1,2-Dichloroethene	U	0.0085	0.028	mg/kg		8260B	02/22/12	24
trans-1,2-Dichloroethene	U	0.0094	0.028	mg/kg		8260B	02/22/12	24
1,2-Dichloropropane	U	0.016	0.028	mg/kg		8260B	02/22/12	24
1,1-Dichloropropene	U	0.0093	0.028	mg/kg		8260B	02/22/12	24
1,3-Dichloropropene	U	0.0082	0.028	mg/kg		8260B	02/22/12	24
cis-1,3-Dichloropropene	U	0.0092	0.028	mg/kg		8260B	02/22/12	24
trans-1,3-Dichloropropene	U	0.0082	0.028	mg/kg	J3	8260B	02/22/12	24
2,2-Dichloropropane	U	0.0095	0.028	mg/kg		8260B	02/22/12	24
Di-isopropyl ether	U	0.0087	0.028	mg/kg		8260B	02/22/12	24

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REPORT OF ANALYSIS

Charles A. Saari
Coleman Engineering Company
635 Circle Drive
Iron Mountain, MI 49801

February 29, 2012

Date Received : February 21, 2012
Description : Site Investigation
Sample ID : EP-17 0-2 FT
Collected By : Charles Saari
Collection Date : 02/17/12 12:05

ESC Sample # : L561429-17
Site ID : WAUSAUKEE, WI
Project # : EE-08049-0

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Ethylbenzene	U	0.0090	0.028	mg/kg		8260B	02/22/12	24
Ethyl ether	U	0.0092	0.028	mg/kg		8260B	02/22/12	24
Hexachloro-1,3-butadiene	U	0.0092	0.028	mg/kg		8260B	02/22/12	24
2-Hexanone	U	0.048	0.28	mg/kg		8260B	02/22/12	24
Isopropylbenzene	U	0.0075	0.028	mg/kg		8260B	02/22/12	24
p-Isopropyltoluene	U	0.0077	0.028	mg/kg		8260B	02/22/12	24
2-Butanone (MEK)	U	0.067	0.28	mg/kg	J3	8260B	02/22/12	24
Methylene Chloride	U	0.031	0.14	mg/kg		8260B	02/22/12	24
4-Methyl-2-pentanone (MIBK)	U	0.067	0.28	mg/kg		8260B	02/22/12	24
Methyl tert-butyl ether	U	0.0078	0.028	mg/kg		8260B	02/22/12	24
Naphthalene	U	0.013	0.14	mg/kg	J3	8260B	02/22/12	24
n-Propylbenzene	U	0.0083	0.028	mg/kg		8260B	02/22/12	24
Styrene	U	0.0090	0.028	mg/kg		8260B	02/22/12	24
1,1,1,2-Tetrachloroethane	U	0.0096	0.028	mg/kg		8260B	02/22/12	24
1,1,2,2-Tetrachloroethane	U	0.0099	0.028	mg/kg		8260B	02/22/12	24
1,1,2-Trichlorotrifluoroethane	U	0.0091	0.028	mg/kg		8260B	02/22/12	24
Tetrachloroethene	U	0.0096	0.028	mg/kg		8260B	02/22/12	24
Tetrahydrofuran	U	0.076	0.14	mg/kg		8260B	02/22/12	24
Toluene	U	0.0075	0.14	mg/kg		8260B	02/22/12	24
1,2,3-Trichlorobenzene	U	0.010	0.028	mg/kg		8260B	02/22/12	24
1,2,4-Trichlorobenzene	U	0.0071	0.028	mg/kg		8260B	02/22/12	24
1,1,1-Trichloroethane	U	0.0086	0.028	mg/kg		8260B	02/22/12	24
1,1,2-Trichloroethane	U	0.0085	0.028	mg/kg		8260B	02/22/12	24
Trichloroethene	U	0.0080	0.028	mg/kg		8260B	02/22/12	24
Trichlorofluoromethane	U	0.021	0.14	mg/kg		8260B	02/22/12	24
1,2,3-Trichloropropane	U	0.027	0.070	mg/kg		8260B	02/22/12	24
1,2,4-Trimethylbenzene	U	0.0092	0.028	mg/kg		8260B	02/22/12	24
1,2,3-Trimethylbenzene	U	0.0069	0.028	mg/kg	J4	8260B	02/22/12	24
1,3,5-Trimethylbenzene	U	0.0083	0.028	mg/kg		8260B	02/22/12	24
Vinyl chloride	U	0.0092	0.028	mg/kg		8260B	02/22/12	24
Xylenes, Total	U	0.011	0.085	mg/kg		8260B	02/22/12	24
Surrogate Recovery								
Toluene-d8	107.			% Rec.		8260B	02/22/12	24
Dibromofluoromethane	111.			% Rec.		8260B	02/22/12	24
a,a,a-Trifluorotoluene	105.			% Rec.		8260B	02/22/12	24
4-Bromofluorobenzene	89.9			% Rec.		8260B	02/22/12	24

Results listed are dry weight basis.

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REPORT OF ANALYSIS

Charles A. Saari
Coleman Engineering Company
635 Circle Drive
Iron Mountain, MI 49801

February 29, 2012

Date Received : February 21, 2012
Description : Site Investigation
Sample ID : EP-18 0-2 FT
Collected By : Charles Saari
Collection Date : 02/17/12 12:15

ESC Sample # : L561429-18
Site ID : WAUSAUKEE, WI
Project # : EE-08049-0

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Total Solids	80.8	0.0330	0.100	%		2540G	02/28/12	1
Volatile Organics								
Acetone	U	0.62	1.6	mg/kg	J4	8260B	02/22/12	26.5
Acrylonitrile	U	0.083	0.33	mg/kg		8260B	02/22/12	26.5
Allyl chloride	U	0.044	0.16	mg/kg		8260B	02/22/12	26.5
Benzene	U	0.0090	0.033	mg/kg		8260B	02/22/12	26.5
Bromobenzene	U	0.0089	0.033	mg/kg		8260B	02/22/12	26.5
Bromodichloromethane	U	0.0083	0.033	mg/kg		8260B	02/22/12	26.5
Bromoform	U	0.0096	0.033	mg/kg		8260B	02/22/12	26.5
Bromomethane	U	0.047	0.16	mg/kg		8260B	02/22/12	26.5
n-Butylbenzene	U	0.0091	0.033	mg/kg		8260B	02/22/12	26.5
sec-Butylbenzene	U	0.0085	0.033	mg/kg		8260B	02/22/12	26.5
tert-Butylbenzene	U	0.0083	0.033	mg/kg		8260B	02/22/12	26.5
Carbon tetrachloride	U	0.010	0.033	mg/kg		8260B	02/22/12	26.5
Chlorobenzene	U	0.0086	0.033	mg/kg		8260B	02/22/12	26.5
Chlorodibromomethane	U	0.0094	0.033	mg/kg		8260B	02/22/12	26.5
Chloroethane	U	0.031	0.16	mg/kg		8260B	02/22/12	26.5
2-Chloroethyl vinyl ether	U	0.046	1.6	mg/kg	J3	8260B	02/22/12	26.5
Chloroform	U	0.011	0.16	mg/kg		8260B	02/22/12	26.5
Chloromethane	U	0.018	0.082	mg/kg		8260B	02/22/12	26.5
2-Chlorotoluene	U	0.0084	0.033	mg/kg		8260B	02/22/12	26.5
4-Chlorotoluene	U	0.0076	0.033	mg/kg		8260B	02/22/12	26.5
1,2-Dibromo-3-Chloropropane	U	0.053	0.16	mg/kg		8260B	02/22/12	26.5
1,2-Dibromoethane	U	0.0098	0.033	mg/kg		8260B	02/22/12	26.5
Dibromomethane	U	0.0093	0.033	mg/kg		8260B	02/22/12	26.5
1,2-Dichlorobenzene	U	0.0092	0.033	mg/kg		8260B	02/22/12	26.5
1,3-Dichlorobenzene	U	0.0088	0.033	mg/kg		8260B	02/22/12	26.5
1,4-Dichlorobenzene	U	0.0086	0.033	mg/kg		8260B	02/22/12	26.5
Dichlorodifluoromethane	U	0.020	0.16	mg/kg		8260B	02/22/12	26.5
Dichlorofluoromethane	U	0.0083	0.16	mg/kg		8260B	02/22/12	26.5
1,1-Dichloroethane	U	0.010	0.033	mg/kg		8260B	02/22/12	26.5
1,2-Dichloroethane	U	0.010	0.033	mg/kg		8260B	02/22/12	26.5
1,1-Dichloroethene	U	0.016	0.033	mg/kg		8260B	02/22/12	26.5
cis-1,2-Dichloroethene	U	0.0094	0.033	mg/kg		8260B	02/22/12	26.5
trans-1,2-Dichloroethene	U	0.010	0.033	mg/kg		8260B	02/22/12	26.5
1,2-Dichloropropane	U	0.017	0.033	mg/kg		8260B	02/22/12	26.5
1,1-Dichloropropene	U	0.010	0.033	mg/kg		8260B	02/22/12	26.5
1,3-Dichloropropene	U	0.0090	0.033	mg/kg		8260B	02/22/12	26.5
cis-1,3-Dichloropropene	U	0.010	0.033	mg/kg		8260B	02/22/12	26.5
trans-1,3-Dichloropropene	U	0.0090	0.033	mg/kg	J3	8260B	02/22/12	26.5
2,2-Dichloropropane	U	0.010	0.033	mg/kg		8260B	02/22/12	26.5
Di-isopropyl ether	U	0.0096	0.033	mg/kg		8260B	02/22/12	26.5

Results listed are dry weight basis.

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REPORT OF ANALYSIS

Charles A. Saari
Coleman Engineering Company
635 Circle Drive
Iron Mountain, MI 49801

February 29, 2012

Date Received : February 21, 2012
Description : Site Investigation
Sample ID : EP-18 0-2 FT
Collected By : Charles Saari
Collection Date : 02/17/12 12:15

ESC Sample # : L561429-18
Site ID : WAUSAUKEE, WI
Project # : EE-08049-0

Parameter	Dry Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Ethylbenzene	U	0.0099	0.033	mg/kg		8260B	02/22/12	26.5
Ethyl ether	U	0.010	0.033	mg/kg		8260B	02/22/12	26.5
Hexachloro-1,3-butadiene	U	0.010	0.033	mg/kg		8260B	02/22/12	26.5
2-Hexanone	U	0.054	0.33	mg/kg		8260B	02/22/12	26.5
Isopropylbenzene	U	0.0083	0.033	mg/kg		8260B	02/22/12	26.5
p-Isopropyltoluene	U	0.0085	0.033	mg/kg		8260B	02/22/12	26.5
2-Butanone (MEK)	U	0.074	0.33	mg/kg	J3	8260B	02/22/12	26.5
Methylene Chloride	U	0.034	0.16	mg/kg		8260B	02/22/12	26.5
4-Methyl-2-pentanone (MIBK)	U	0.074	0.33	mg/kg		8260B	02/22/12	26.5
Methyl tert-butyl ether	U	0.0086	0.033	mg/kg		8260B	02/22/12	26.5
Naphthalene	U	0.015	0.16	mg/kg	J3	8260B	02/22/12	26.5
n-Propylbenzene	U	0.0092	0.033	mg/kg		8260B	02/22/12	26.5
Styrene	U	0.010	0.033	mg/kg		8260B	02/22/12	26.5
1,1,1,2-Tetrachloroethane	U	0.010	0.033	mg/kg		8260B	02/22/12	26.5
1,1,2,2-Tetrachloroethane	U	0.011	0.033	mg/kg		8260B	02/22/12	26.5
1,1,2-Trichlorotrifluoroethane	U	0.010	0.033	mg/kg		8260B	02/22/12	26.5
Tetrachloroethene	U	0.010	0.033	mg/kg		8260B	02/22/12	26.5
Tetrahydrofuran	U	0.084	0.16	mg/kg		8260B	02/22/12	26.5
Toluene	U	0.0083	0.16	mg/kg		8260B	02/22/12	26.5
1,2,3-Trichlorobenzene	U	0.012	0.033	mg/kg		8260B	02/22/12	26.5
1,2,4-Trichlorobenzene	U	0.0078	0.033	mg/kg		8260B	02/22/12	26.5
1,1,1-Trichloroethane	U	0.0095	0.033	mg/kg		8260B	02/22/12	26.5
1,1,2-Trichloroethane	U	0.0094	0.033	mg/kg		8260B	02/22/12	26.5
Trichloroethene	U	0.0088	0.033	mg/kg		8260B	02/22/12	26.5
Trichlorofluoromethane	U	0.024	0.16	mg/kg		8260B	02/22/12	26.5
1,2,3-Trichloropropane	U	0.030	0.082	mg/kg		8260B	02/22/12	26.5
1,2,4-Trimethylbenzene	U	0.010	0.033	mg/kg		8260B	02/22/12	26.5
1,2,3-Trimethylbenzene	U	0.0076	0.033	mg/kg	J4	8260B	02/22/12	26.5
1,3,5-Trimethylbenzene	U	0.0092	0.033	mg/kg		8260B	02/22/12	26.5
Vinyl chloride	U	0.010	0.033	mg/kg		8260B	02/22/12	26.5
Xylenes, Total	U	0.012	0.098	mg/kg		8260B	02/22/12	26.5
Surrogate Recovery								
Toluene-d8	106.			% Rec.		8260B	02/22/12	26.5
Dibromofluoromethane	112.			% Rec.		8260B	02/22/12	26.5
a,a,a-Trifluorotoluene	105.			% Rec.		8260B	02/22/12	26.5
4-Bromofluorobenzene	90.2			% Rec.		8260B	02/22/12	26.5

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Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L561429-01	WG579593	SAMP	Benzene	R2045493	J
	WG579593	SAMP	Toluene	R2045493	J
	WG579593	SAMP	Ethylbenzene	R2045493	J
	WG579593	SAMP	m&p-Xylene	R2045493	J
	WG579593	SAMP	o-Xylene	R2045493	J
	WG579593	SAMP	Naphthalene	R2045493	J
	WG579593	SAMP	1,2,4-Trimethylbenzene	R2045493	J
L561429-02	WG579550	SAMP	Benzo(g,h,i)perylene	R2047873	J
	WG579550	SAMP	Chrysene	R2047873	J
	WG579550	SAMP	Fluoranthene	R2047873	J
	WG579550	SAMP	Phenanthrene	R2047873	J
	WG579550	SAMP	Pyrene	R2047873	J
	WG579593	SAMP	Benzene	R2045493	J
	WG579593	SAMP	Toluene	R2045493	J
	WG579593	SAMP	Ethylbenzene	R2045493	J
	WG579593	SAMP	m&p-Xylene	R2045493	J
	WG579593	SAMP	o-Xylene	R2045493	J
	WG579593	SAMP	Naphthalene	R2045493	J
L561429-03	WG579593	SAMP	Toluene	R2045493	J
	WG579593	SAMP	Ethylbenzene	R2045493	J
	WG579593	SAMP	m&p-Xylene	R2045493	J
	WG579593	SAMP	o-Xylene	R2045493	J
	WG579593	SAMP	Methyl tert-butyl ether	R2045493	J
	WG579593	SAMP	Naphthalene	R2045493	J
	WG579593	SAMP	1,3,5-Trimethylbenzene	R2045493	J
	WG579593	SAMP	1,2,4-Trimethylbenzene	R2045493	J
L561429-04	WG579550	SAMP	Fluoranthene	R2047873	J
	WG579550	SAMP	Pyrene	R2047873	J
	WG579593	SAMP	Benzene	R2045493	J
	WG579593	SAMP	Toluene	R2045493	J
	WG579593	SAMP	Ethylbenzene	R2045493	J
	WG579593	SAMP	m&p-Xylene	R2045493	J
	WG579593	SAMP	Naphthalene	R2045493	J
	WG579593	SAMP	1,3,5-Trimethylbenzene	R2045493	J
	WG579593	SAMP	1,2,4-Trimethylbenzene	R2045493	J
L561429-05	WG579550	SAMP	Naphthalene	R2047873	J
	WG579550	SAMP	Phenanthrene	R2047873	J
	WG579593	SAMP	Methyl tert-butyl ether	R2045493	J
L561429-06	WG579907	SAMP	Anthracene	R2047972	J
	WG579907	SAMP	Acenaphthene	R2047972	J4
	WG579907	SAMP	Benzo(a)anthracene	R2047972	J
	WG579907	SAMP	Naphthalene	R2047972	J
	WG579907	SAMP	Phenanthrene	R2047972	J
	WG579593	SAMP	Benzene	R2045493	J
	WG579593	SAMP	Toluene	R2045493	J
	WG579593	SAMP	Ethylbenzene	R2045493	J
	WG579593	SAMP	m&p-Xylene	R2045493	J
	WG579593	SAMP	o-Xylene	R2045493	J
L561429-07	WG579593	SAMP	Naphthalene	R2045493	J
	WG579907	SAMP	Acenaphthene	R2047972	J4
	WG579593	SAMP	Benzene	R2045493	J
	WG579593	SAMP	Toluene	R2045493	J
	WG579593	SAMP	Ethylbenzene	R2045493	J
	WG579593	SAMP	Naphthalene	R2045493	J
L561429-08	WG579907	SAMP	Acenaphthene	R2047972	J4
	WG579593	SAMP	Toluene	R2045493	J
	WG579593	SAMP	Methyl tert-butyl ether	R2045493	J
	WG579593	SAMP	Naphthalene	R2045493	J
	WG579593	SAMP	Gasoline (C6-C10)	R2045493	J
L561429-09	WG579907	SAMP	Acenaphthene	R2047972	J4
	WG579593	SAMP	Benzene	R2045493	J
	WG579593	SAMP	Toluene	R2045493	J
	WG579593	SAMP	Ethylbenzene	R2045493	J
	WG579593	SAMP	m&p-Xylene	R2045493	J
	WG579593	SAMP	o-Xylene	R2045493	J
	WG579593	SAMP	Naphthalene	R2045493	J
	WG579593	SAMP	1,3,5-Trimethylbenzene	R2045493	J
	WG579593	SAMP	1,2,4-Trimethylbenzene	R2045493	J
L561429-10	WG579540	SAMP	TPH (GC/FID) High Fraction	R2047592	J

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L561429-11		WG579907	SAMP Acenaphthene	R2047972	J4
		WG579907	SAMP Acenaphthylene	R2047972	J
		WG579907	SAMP Benzo(a)pyrene	R2047972	J
		WG579907	SAMP Benzo(b)fluoranthene	R2047972	J
		WG579907	SAMP Benzo(g,h,i)perylene	R2047972	J
		WG579907	SAMP Benzo(k)fluoranthene	R2047972	J
		WG579907	SAMP Indeno(1,2,3-cd)pyrene	R2047972	J
		WG579907	SAMP Naphthalene	R2047972	J
		WG579593	SAMP Benzene	R2045493	J
		WG579593	SAMP Toluene	R2045493	J
		WG579593	SAMP Ethylbenzene	R2045493	J
		WG579593	SAMP m&p-Xylene	R2045493	J
		WG579593	SAMP o-Xylene	R2045493	J
		WG579593	SAMP Naphthalene	R2045493	J
		WG579593	SAMP 1,3,5-Trimethylbenzene	R2045493	J
		WG579593	SAMP 1,2,4-Trimethylbenzene	R2045493	J
		WG579907	SAMP Acenaphthene	R2047972	J4
		WG579907	SAMP Acenaphthylene	R2047972	J
		WG579907	SAMP Benzo(a)pyrene	R2047972	J
		WG579907	SAMP Benzo(g,h,i)perylene	R2047972	J
		WG579907	SAMP Chrysene	R2047972	J
		WG579907	SAMP Fluoranthene	R2047972	J
		WG579907	SAMP Naphthalene	R2047972	J
		WG579907	SAMP Phenanthrene	R2047972	J
		WG579593	SAMP Benzene	R2045493	J
		WG579593	SAMP Toluene	R2045493	J
		WG579593	SAMP Ethylbenzene	R2045493	J
		WG579593	SAMP m&p-Xylene	R2045493	J
		WG579593	SAMP o-Xylene	R2045493	J
		WG579593	SAMP Methyl tert-butyl ether	R2045493	J
		WG579593	SAMP Naphthalene	R2045493	J
		WG579593	SAMP 1,3,5-Trimethylbenzene	R2045493	J
		WG579593	SAMP 1,2,4-Trimethylbenzene	R2045493	J
		WG579907	SAMP Anthracene	R2047972	J
		WG579907	SAMP Acenaphthene	R2047972	JJ4
		WG579907	SAMP Acenaphthylene	R2047972	J
		WG579907	SAMP Benzo(a)pyrene	R2047972	JV3
		WG579907	SAMP Benzo(g,h,i)perylene	R2047972	JV3
		WG579907	SAMP Chrysene	R2047972	J
		WG579907	SAMP Fluoranthene	R2047972	J
		WG579907	SAMP Pyrene	R2047972	J
		WG579593	SAMP Benzene	R2045493	J
		WG579593	SAMP Toluene	R2045493	J
		WG579593	SAMP Ethylbenzene	R2045493	J
		WG579593	SAMP m&p-Xylene	R2045493	J
		WG579593	SAMP o-Xylene	R2045493	J
		WG579593	SAMP Naphthalene	R2045493	J
		WG579593	SAMP 1,2,4-Trimethylbenzene	R2045493	J
		WG579593	SAMP Gasoline (C6-C10)	R2045493	J
		WG579907	SAMP Anthracene	R2047972	J
		WG579907	SAMP Acenaphthene	R2047972	JJ4
		WG579907	SAMP Acenaphthylene	R2047972	J
		WG579907	SAMP Benzo(a)pyrene	R2047972	J
		WG579907	SAMP Benzo(g,h,i)perylene	R2047972	J
		WG579907	SAMP Benzo(k)fluoranthene	R2047972	J
		WG579907	SAMP Dibenz(a,h)anthracene	R2047972	J
		WG579907	SAMP Fluoranthene	R2047972	J
		WG579907	SAMP Indeno(1,2,3-cd)pyrene	R2047972	J
		WG579907	SAMP Phenanthrene	R2047972	J
		WG579907	SAMP Pyrene	R2047972	J
		WG579593	SAMP Toluene	R2045493	J
		WG579593	SAMP Ethylbenzene	R2045493	J
		WG579593	SAMP m&p-Xylene	R2045493	J
		WG579593	SAMP o-Xylene	R2045493	J
		WG579593	SAMP Methyl tert-butyl ether	R2045493	J
		WG579593	SAMP Naphthalene	R2045493	J
		WG579593	SAMP 1,3,5-Trimethylbenzene	R2045493	J
		WG579540	SAMP TPH (GC/FID) High Fraction	R2047592	J
		WG579907	SAMP Acenaphthene	R2047972	J4
		WG579907	SAMP Naphthalene	R2047972	J

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L561429-15	WG579593	SAMP	Toluene	R2045493	J
	WG579593	SAMP	Methyl tert-butyl ether	R2045493	J
	WG579593	SAMP	Naphthalene	R2045493	J
	WG579542	SAMP	Acetone	R2045056	J4
	WG579542	SAMP	1,2,3-Trimethylbenzene	R2045056	J4
	WG579542	SAMP	Acetone	R2045056	J4
	WG579542	SAMP	2-Chloroethyl vinyl ether	R2045056	J3
	WG579542	SAMP	trans-1,3-Dichloropropene	R2045056	J3
	WG579542	SAMP	2-Butanone (MEK)	R2045056	J3
	WG579542	SAMP	Naphthalene	R2045056	J3
L561429-17	WG579542	SAMP	1,2,3-Trimethylbenzene	R2045056	J4
	WG579542	SAMP	Acetone	R2045056	J4
	WG579542	SAMP	2-Chloroethyl vinyl ether	R2045056	J3
	WG579542	SAMP	trans-1,3-Dichloropropene	R2045056	J3
	WG579542	SAMP	2-Butanone (MEK)	R2045056	J3
	WG579542	SAMP	Naphthalene	R2045056	J3
	WG579542	SAMP	1,2,3-Trimethylbenzene	R2045056	J4
L561429-18	WG579542	SAMP	Acetone	R2045056	J4
	WG579542	SAMP	2-Chloroethyl vinyl ether	R2045056	J3
	WG579542	SAMP	trans-1,3-Dichloropropene	R2045056	J3
	WG579542	SAMP	2-Butanone (MEK)	R2045056	J3
	WG579542	SAMP	Naphthalene	R2045056	J3
	WG579542	SAMP	1,2,3-Trimethylbenzene	R2045056	J4

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J	(EPA) - Estimated value below the lowest calibration point. Confidence correlates with concentration.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
V3	(ESC) - Additional QC Info: The internal standard exhibited poor recovery due to sample matrix interference. The analytical results will be biased high. BDL results will be unaffected.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
02/29/12 at 08:36:59

TSR Signing Reports: 341
R5 - Desired TAT

Per Jean Freeman (A/P contact) individual p.o #'s needed for each job. mb 7-21-06

Sample: L561429-01 Account: COLENGMI Received: 02/21/12 09:00 Due Date: 02/28/12 00:00 RPT Date: 02/29/12 08:35

Sample: L561429-02 Account: COLENGMI Received: 02/21/12 09:00 Due Date: 02/28/12 00:00 RPT Date: 02/29/12 08:35

Sample: L561429-03 Account: COLENGMI Received: 02/21/12 09:00 Due Date: 02/28/12 00:00 RPT Date: 02/29/12 08:35

Sample: L561429-04 Account: COLENGMI Received: 02/21/12 09:00 Due Date: 02/28/12 00:00 RPT Date: 02/29/12 08:35

Sample: L561429-05 Account: COLENGMI Received: 02/21/12 09:00 Due Date: 02/28/12 00:00 RPT Date: 02/29/12 08:35

Sample: L561429-06 Account: COLENGMI Received: 02/21/12 09:00 Due Date: 02/28/12 00:00 RPT Date: 02/29/12 08:35

Sample: L561429-07 Account: COLENGMI Received: 02/21/12 09:00 Due Date: 02/28/12 00:00 RPT Date: 02/29/12 08:35

Sample: L561429-08 Account: COLENGMI Received: 02/21/12 09:00 Due Date: 02/28/12 00:00 RPT Date: 02/29/12 08:35

Sample: L561429-09 Account: COLENGMI Received: 02/21/12 09:00 Due Date: 02/28/12 00:00 RPT Date: 02/29/12 08:35

Sample: L561429-10 Account: COLENGMI Received: 02/21/12 09:00 Due Date: 02/28/12 00:00 RPT Date: 02/29/12 08:35

Sample: L561429-11 Account: COLENGMI Received: 02/21/12 09:00 Due Date: 02/28/12 00:00 RPT Date: 02/29/12 08:35

Sample: L561429-12 Account: COLENGMI Received: 02/21/12 09:00 Due Date: 02/28/12 00:00 RPT Date: 02/29/12 08:35

Sample: L561429-13 Account: COLENGMI Received: 02/21/12 09:00 Due Date: 02/28/12 00:00 RPT Date: 02/29/12 08:35

Sample: L561429-14 Account: COLENGMI Received: 02/21/12 09:00 Due Date: 02/28/12 00:00 RPT Date: 02/29/12 08:35

Sample: L561429-15 Account: COLENGMI Received: 02/21/12 09:00 Due Date: 02/28/12 00:00 RPT Date: 02/29/12 08:35

Sample: L561429-16 Account: COLENGMI Received: 02/21/12 09:00 Due Date: 02/28/12 00:00 RPT Date: 02/29/12 08:35

Sample: L561429-17 Account: COLENGMI Received: 02/21/12 09:00 Due Date: 02/28/12 00:00 RPT Date: 02/29/12 08:35

Sample: L561429-18 Account: COLENGMI Received: 02/21/12 09:00 Due Date: 02/28/12 00:00 RPT Date: 02/29/12 08:35



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Tax I.D. 62-0814289

Est. 1970

February 29, 2012

Analyte	Result	Laboratory Blank Units	% Rec	Limit	Batch	Date Analyzed
1,1,1,2-Tetrachloroethane	< .001	mg/kg			WG579542	02/21/12 23:52
1,1,1-Trichloroethane	< .001	mg/kg			WG579542	02/21/12 23:52
1,1,2,2-Tetrachloroethane	< .001	mg/kg			WG579542	02/21/12 23:52
1,1,2-Trichloroethane	< .001	mg/kg			WG579542	02/21/12 23:52
1,1,2-Trichlorotrifluoroethane	< .001	mg/kg			WG579542	02/21/12 23:52
1,1-Dichloroethane	< .001	mg/kg			WG579542	02/21/12 23:52
1,1-Dichloroethene	< .001	mg/kg			WG579542	02/21/12 23:52
1,1-Dichloropropene	< .001	mg/kg			WG579542	02/21/12 23:52
1,2,3-Trichlorobenzene	< .001	mg/kg			WG579542	02/21/12 23:52
1,2,3-Trichloropropane	< .0025	mg/kg			WG579542	02/21/12 23:52
1,2,3-Trimethylbenzene	< .001	mg/kg			WG579542	02/21/12 23:52
1,2,4-Trichlorobenzene	< .001	mg/kg			WG579542	02/21/12 23:52
1,2,4-Trimethylbenzene	< .001	mg/kg			WG579542	02/21/12 23:52
1,2-Dibromo-3-Chloropropane	< .005	mg/kg			WG579542	02/21/12 23:52
1,2-Dibromoethane	< .001	mg/kg			WG579542	02/21/12 23:52
1,2-Dichlorobenzene	< .001	mg/kg			WG579542	02/21/12 23:52
1,2-Dichloroethane	< .001	mg/kg			WG579542	02/21/12 23:52
1,2-Dichloropropane	< .001	mg/kg			WG579542	02/21/12 23:52
1,3,5-Trimethylbenzene	< .001	mg/kg			WG579542	02/21/12 23:52
1,3-Dichlorobenzene	< .001	mg/kg			WG579542	02/21/12 23:52
1,3-Dichloropropane	< .001	mg/kg			WG579542	02/21/12 23:52
1,4-Dichlorobenzene	< .001	mg/kg			WG579542	02/21/12 23:52
2,2-Dichloropropane	< .001	mg/kg			WG579542	02/21/12 23:52
2-Butanone (MEK)	< .01	mg/kg			WG579542	02/21/12 23:52
2-Chloroethyl vinyl ether	< .05	mg/kg			WG579542	02/21/12 23:52
2-Chlorotoluene	< .001	mg/kg			WG579542	02/21/12 23:52
2-Hexanone	< .01	mg/kg			WG579542	02/21/12 23:52
4-Chlorotoluene	< .001	mg/kg			WG579542	02/21/12 23:52
4-Methyl-2-pentanone (MIBK)	< .01	mg/kg			WG579542	02/21/12 23:52
Acetone	< .05	mg/kg			WG579542	02/21/12 23:52
Acrylonitrile	< .01	mg/kg			WG579542	02/21/12 23:52
Allyl chloride	< .025	mg/kg			WG579542	02/21/12 23:52
Benzene	< .001	mg/kg			WG579542	02/21/12 23:52
Bromobenzene	< .001	mg/kg			WG579542	02/21/12 23:52
Bromodichloromethane	< .001	mg/kg			WG579542	02/21/12 23:52
Bromoform	< .001	mg/kg			WG579542	02/21/12 23:52
Bromomethane	< .005	mg/kg			WG579542	02/21/12 23:52
Carbon tetrachloride	< .001	mg/kg			WG579542	02/21/12 23:52
Chlorobenzene	< .001	mg/kg			WG579542	02/21/12 23:52
Chlorodibromomethane	< .001	mg/kg			WG579542	02/21/12 23:52
Chloroethane	< .005	mg/kg			WG579542	02/21/12 23:52
Chloroform	< .005	mg/kg			WG579542	02/21/12 23:52
Chloromethane	< .0025	mg/kg			WG579542	02/21/12 23:52
cis-1,2-Dichloroethene	< .001	mg/kg			WG579542	02/21/12 23:52
cis-1,3-Dichloropropene	< .001	mg/kg			WG579542	02/21/12 23:52
Di-isopropyl ether	< .001	mg/kg			WG579542	02/21/12 23:52
Dibromomethane	< .001	mg/kg			WG579542	02/21/12 23:52
Dichlorodifluoromethane	< .005	mg/kg			WG579542	02/21/12 23:52
Dichlorofluoromethane	< .005	mg/kg			WG579542	02/21/12 23:52
Ethyl ether	< .001	mg/kg			WG579542	02/21/12 23:52
Ethylbenzene	< .001	mg/kg			WG579542	02/21/12 23:52
Hexachloro-1,3-butadiene	< .001	mg/kg			WG579542	02/21/12 23:52
Isopropylbenzene	< .001	mg/kg			WG579542	02/21/12 23:52
Methyl tert-butyl ether	< .001	mg/kg			WG579542	02/21/12 23:52
Methylene Chloride	< .005	mg/kg			WG579542	02/21/12 23:52
n-Butylbenzene	< .001	mg/kg			WG579542	02/21/12 23:52
n-Propylbenzene	< .001	mg/kg			WG579542	02/21/12 23:52
Naphthalene	< .005	mg/kg			WG579542	02/21/12 23:52
p-Isopropyltoluene	< .001	mg/kg			WG579542	02/21/12 23:52

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



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Est. 1970

February 29, 2012

Analyte	Result	Laboratory Blank Units	% Rec	Limit	Batch	Date Analyzed
sec-Butylbenzene	< .001	mg/kg			WG579542	02/21/12 23:52
Styrene	< .001	mg/kg			WG579542	02/21/12 23:52
tert-Butylbenzene	< .001	mg/kg			WG579542	02/21/12 23:52
Tetrachloroethene	< .001	mg/kg			WG579542	02/21/12 23:52
Tetrahydrofuran	< .005	mg/kg			WG579542	02/21/12 23:52
Toluene	< .005	mg/kg			WG579542	02/21/12 23:52
trans-1,2-Dichloroethene	< .001	mg/kg			WG579542	02/21/12 23:52
trans-1,3-Dichloropropene	< .001	mg/kg			WG579542	02/21/12 23:52
Trichloroethene	< .001	mg/kg			WG579542	02/21/12 23:52
Trichlorofluoromethane	< .005	mg/kg			WG579542	02/21/12 23:52
Vinyl chloride	< .001	mg/kg			WG579542	02/21/12 23:52
Xylenes, Total	< .003	mg/kg			WG579542	02/21/12 23:52
4-Bromofluorobenzene		% Rec.	85.32	67-133	WG579542	02/21/12 23:52
Dibromofluoromethane		% Rec.	115.5	72-135	WG579542	02/21/12 23:52
Toluene-d8		% Rec.	106.6	90-113	WG579542	02/21/12 23:52
a,a,a-Trifluorotoluene		% Rec.	108.4	89-115	WG579542	02/21/12 23:52
1,2,4-Trimethylbenzene	< .001	mg/kg			WG579593	02/21/12 21:11
1,3,5-Trimethylbenzene	< .001	mg/kg			WG579593	02/21/12 21:11
Benzene	< .0005	mg/kg			WG579593	02/21/12 21:11
Ethylbenzene	< .0005	mg/kg			WG579593	02/21/12 21:11
Gasoline (C6-C10)	< .1	mg/kg			WG579593	02/21/12 21:11
m&p-Xylene	< .001	mg/kg			WG579593	02/21/12 21:11
Methyl tert-butyl ether	< .001	mg/kg			WG579593	02/21/12 21:11
Naphthalene	< .005	mg/kg			WG579593	02/21/12 21:11
o-Xylene	< .0005	mg/kg			WG579593	02/21/12 21:11
Toluene	< .005	mg/kg			WG579593	02/21/12 21:11
a,a,a-Trifluorotoluene(PID)		% Rec.	103.3	80-120	WG579593	02/21/12 21:11
TPH (GC/FID) High Fraction	< 4	ppm			WG579540	02/23/12 12:29
Triacontane		% Rec.	66.12	50-150	WG579540	02/23/12 12:29
Acenaphthene	< .033	mg/kg			WG579550	02/23/12 10:57
Acenaphthylene	< .033	mg/kg			WG579550	02/23/12 10:57
Anthracene	< .033	mg/kg			WG579550	02/23/12 10:57
Benzo(a)anthracene	< .033	mg/kg			WG579550	02/23/12 10:57
Benzo(a)pyrene	< .033	mg/kg			WG579550	02/23/12 10:57
Benzo(b)fluoranthene	< .033	mg/kg			WG579550	02/23/12 10:57
Benzo(g,h,i)perylene	< .033	mg/kg			WG579550	02/23/12 10:57
Benzo(k)fluoranthene	< .033	mg/kg			WG579550	02/23/12 10:57
Chrysene	< .033	mg/kg			WG579550	02/23/12 10:57
Dibenz(a,h)anthracene	< .033	mg/kg			WG579550	02/23/12 10:57
Fluoranthene	< .033	mg/kg			WG579550	02/23/12 10:57
Fluorene	< .033	mg/kg			WG579550	02/23/12 10:57
Indeno(1,2,3-cd)pyrene	< .033	mg/kg			WG579550	02/23/12 10:57
Naphthalene	< .033	mg/kg			WG579550	02/23/12 10:57
Phenanthrene	< .033	mg/kg			WG579550	02/23/12 10:57
Pyrene	< .033	mg/kg			WG579550	02/23/12 10:57
2-Fluorobiphenyl		% Rec.	80.72	37-119	WG579550	02/23/12 10:57
Nitrobenzene-d5		% Rec.	79.75	20-114	WG579550	02/23/12 10:57
p-Terphenyl-d14		% Rec.	112.3	15-174	WG579550	02/23/12 10:57
Acenaphthene	< .033	mg/kg			WG579907	02/24/12 08:51
Acenaphthylene	< .033	mg/kg			WG579907	02/24/12 08:51
Anthracene	< .033	mg/kg			WG579907	02/24/12 08:51

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February 29, 2012

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Benzo(a)anthracene	< .033	mg/kg			WG579907	02/24/12 08:51
Benzo(a)pyrene	< .033	mg/kg			WG579907	02/24/12 08:51
Benzo(b)fluoranthene	< .033	mg/kg			WG579907	02/24/12 08:51
Benzo(g,h,i)perylene	< .033	mg/kg			WG579907	02/24/12 08:51
Benzo(k)fluoranthene	< .033	mg/kg			WG579907	02/24/12 08:51
Chrysene	< .033	mg/kg			WG579907	02/24/12 08:51
Dibenz(a,h)anthracene	< .033	mg/kg			WG579907	02/24/12 08:51
Fluoranthene	< .033	mg/kg			WG579907	02/24/12 08:51
Fluorene	< .033	mg/kg			WG579907	02/24/12 08:51
Indeno(1,2,3-cd)pyrene	< .033	mg/kg			WG579907	02/24/12 08:51
Naphthalene	< .033	mg/kg			WG579907	02/24/12 08:51
Phenanthrene	< .033	mg/kg			WG579907	02/24/12 08:51
Pyrene	< .033	mg/kg			WG579907	02/24/12 08:51
2-Fluorobiphenyl	% Rec.	78.36	37-119		WG579907	02/24/12 08:51
Nitrobenzene-d5	% Rec.	91.77	20-114		WG579907	02/24/12 08:51
p-Terphenyl-d14	% Rec.	101.7	15-174		WG579907	02/24/12 08:51
Total Solids	< .1	%			WG580361	02/28/12 10:53
Total Solids	< .1	%			WG580362	02/28/12 10:58
Total Solids	< .1	%			WG580360	02/28/12 10:46

Analyte	Units	Result	Duplicate	RPD	Limit	Ref Samp	Batch
Total Solids	%	94.0	92.5	1.31	5	L561429-11	WG580361
Total Solids	%	79.0	80.8	1.92	5	L561429-18	WG580362
Total Solids	%	83.0	83.1	0.253	5	L562132-05	WG580360

Analyte	Units	Laboratory Known Val	Control Sample Result	% Rec	Limit	Batch
1,1,1,2-Tetrachloroethane	mg/kg	.025	0.0203	81.1	77-129	WG579542
1,1,1-Trichloroethane	mg/kg	.025	0.0204	81.8	70-127	WG579542
1,1,2,2-Tetrachloroethane	mg/kg	.025	0.0206	82.6	76-133	WG579542
1,1,2-Trichloroethane	mg/kg	.025	0.0204	81.6	79-123	WG579542
1,1,2-Trichlorotrifluoroethane	mg/kg	.025	0.0272	109.	52-145	WG579542
1,1-Dichloroethane	mg/kg	.025	0.0212	84.9	74-121	WG579542
1,1-Dichloroethene	mg/kg	.025	0.0229	91.6	53-135	WG579542
1,1-Dichloropropene	mg/kg	.025	0.0201	80.3	67-127	WG579542
1,2,3-Trichlorobenzene	mg/kg	.025	0.0216	86.6	74-131	WG579542
1,2,3-Trichloropropane	mg/kg	.025	0.0221	88.4	75-135	WG579542
1,2,3-Trimethylbenzene	mg/kg	.025	0.0184	73.7*	76-128	WG579542
1,2,4-Trichlorobenzene	mg/kg	.025	0.0207	82.8	72-130	WG579542
1,2,4-Trimethylbenzene	mg/kg	.025	0.0201	80.4	75-131	WG579542
1,2-Dibromo-3-Chloropropane	mg/kg	.025	0.0203	81.1	55-142	WG579542
1,2-Dibromoethane	mg/kg	.025	0.0220	87.9	77-126	WG579542
1,2-Dichlorobenzene	mg/kg	.025	0.0205	81.8	80-123	WG579542
1,2-Dichloroethane	mg/kg	.025	0.0223	89.3	70-128	WG579542
1,2-Dichloropropane	mg/kg	.025	0.0213	85.1	74-125	WG579542
1,3,5-Trimethylbenzene	mg/kg	.025	0.0197	78.8	77-129	WG579542

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Quality Assurance Report
Level II

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Est. 1970

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Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
1,3-Dichlorobenzene	mg/kg	.025	0.0222	89.0	76-128	WG579542
1,3-Dichloropropane	mg/kg	.025	0.0206	82.4	77-118	WG579542
1,4-Dichlorobenzene	mg/kg	.025	0.0208	83.4	77-119	WG579542
2,2-Dichloropropane	mg/kg	.025	0.0195	77.8	60-132	WG579542
2-Butanone (MEK)	mg/kg	.125	0.130	104.	56-146	WG579542
2-Chloroethyl vinyl ether	mg/kg	.125	0.0826	66.1	17-179	WG579542
2-Chlorotoluene	mg/kg	.025	0.0215	85.9	76-125	WG579542
2-Hexanone	mg/kg	.125	0.113	90.2	61-144	WG579542
4-Chlorotoluene	mg/kg	.025	0.0195	78.2	76-125	WG579542
4-Methyl-2-pentanone (MIBK)	mg/kg	.125	0.107	85.7	55-148	WG579542
Acetone	mg/kg	.125	0.175	140.	47-155	WG579542
Acrylonitrile	mg/kg	.125	0.113	90.5	50-155	WG579542
Benzene	mg/kg	.025	0.0220	88.2	72-120	WG579542
Bromobenzene	mg/kg	.025	0.0192	76.7	74-122	WG579542
Bromodichloromethane	mg/kg	.025	0.0222	88.8	74-128	WG579542
Bromoform	mg/kg	.025	0.0238	95.0	62-137	WG579542
Bromomethane	mg/kg	.025	0.0276	111.	38-180	WG579542
Carbon tetrachloride	mg/kg	.025	0.0209	83.5	62-130	WG579542
Chlorobenzene	mg/kg	.025	0.0205	82.1	77-124	WG579542
Chlorodibromomethane	mg/kg	.025	0.0209	83.4	74-128	WG579542
Chloroethane	mg/kg	.025	0.0264	105.	46-173	WG579542
Chloroform	mg/kg	.025	0.0219	87.5	76-122	WG579542
Chloromethane	mg/kg	.025	0.0281	113.	49-143	WG579542
cis-1,2-Dichloroethene	mg/kg	.025	0.0200	80.2	73-123	WG579542
cis-1,3-Dichloropropene	mg/kg	.025	0.0210	84.0	73-126	WG579542
Di-isopropyl ether	mg/kg	.025	0.0182	72.6	64-131	WG579542
Dibromomethane	mg/kg	.025	0.0247	98.9	75-127	WG579542
Dichlorodifluoromethane	mg/kg	.025	0.0221	88.3	30-177	WG579542
Dichlorofluoromethane	mg/kg	.025	0.0249	99.5	70-148	WG579542
Ethyl ether	mg/kg	.025	0.0232	92.7	56-144	WG579542
Ethylbenzene	mg/kg	.025	0.0200	80.1	76-126	WG579542
Hexachloro-1,3-butadiene	mg/kg	.025	0.0192	76.7	71-134	WG579542
Isopropylbenzene	mg/kg	.025	0.0206	82.5	70-128	WG579542
Methyl tert-butyl ether	mg/kg	.025	0.0193	77.1	66-127	WG579542
Methylene Chloride	mg/kg	.025	0.0254	102.	67-124	WG579542
n-Butylbenzene	mg/kg	.025	0.0192	76.8	71-133	WG579542
n-Propylbenzene	mg/kg	.025	0.0201	80.3	76-126	WG579542
Naphthalene	mg/kg	.025	0.0177	71.0	68-136	WG579542
p-Isopropyltoluene	mg/kg	.025	0.0213	85.4	75-134	WG579542
sec-Butylbenzene	mg/kg	.025	0.0206	82.5	75-132	WG579542
Styrene	mg/kg	.025	0.0192	76.8	68-148	WG579542
tert-Butylbenzene	mg/kg	.025	0.0196	78.4	75-132	WG579542
Tetrachloroethene	mg/kg	.025	0.0207	83.0	70-131	WG579542
Tetrahydrofuran	mg/kg	.025	0.0192	76.6	36-148	WG579542
Toluene	mg/kg	.025	0.0221	88.6	74-155	WG579542
trans-1,2-Dichloroethene	mg/kg	.025	0.0193	77.3	63-126	WG579542
trans-1,3-Dichloropropene	mg/kg	.025	0.0209	83.8	68-126	WG579542
Trichloroethene	mg/kg	.025	0.0211	84.5	75-121	WG579542
Trichlorofluoromethane	mg/kg	.025	0.0271	108.	48-170	WG579542
Vinyl chloride	mg/kg	.025	0.0224	89.4	54-144	WG579542
Xylenes, Total	mg/kg	.075	0.0597	79.6	76-126	WG579542
4-Bromofluorobenzene	mg/kg			91.46	67-133	WG579542
Dibromofluoromethane	mg/kg			107.7	72-135	WG579542
Toluene-d8				110.2	90-113	WG579542
a,a,a-Trifluorotoluene				103.8	89-115	WG579542
1,2,4-Trimethylbenzene	mg/kg	.05	0.0435	86.9	80-120	WG579593
1,3,5-Trimethylbenzene	mg/kg	.05	0.0437	87.5	80-120	WG579593

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Level II

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February 29, 2012

Analyte	Units	Laboratory Control Known Val	Sample Result	% Rec	Limit	Batch
Benzene	mg/kg	.05	0.0426	85.1	76-113	WG579593
Ethylbenzene	mg/kg	.05	0.0430	86.0	78-115	WG579593
Gasoline (C6-C10)	mg/kg	.5	0.468	93.5	80-120	WG579593
m&p-Xylene	mg/kg	.1	0.0890	89.0	81-120	WG579593
Methyl tert-butyl ether	mg/kg	.05	0.0423	84.5	37-145	WG579593
Naphthalene	mg/kg	.05	0.0469	93.8	80-120	WG579593
o-Xylene	mg/kg	.05	0.0440	87.9	79-115	WG579593
Toluene	mg/kg	.05	0.0427	85.4	76-114	WG579593
a,a,a-Trifluorotoluene(PID)				106.8	80-120	WG579593
TPH (GC/FID) High Fraction	mg/kg	40	32.7	81.7	70-120	WG579540
Triacontane				65.91	50-150	WG579540
Acenaphthene	mg/kg	.167	0.133	79.7	55-96	WG579550
Acenaphthylene	mg/kg	.167	0.129	77.3	61-107	WG579550
Anthracene	mg/kg	.167	0.135	81.1	58-105	WG579550
Benzo(a)anthracene	mg/kg	.167	0.144	86.0	56-103	WG579550
Benzo(a)pyrene	mg/kg	.167	0.143	85.8	57-103	WG579550
Benzo(b)fluoranthene	mg/kg	.167	0.146	87.4	52-106	WG579550
Benzo(g,h,i)perylene	mg/kg	.167	0.145	86.6	47-112	WG579550
Benzo(k)fluoranthene	mg/kg	.167	0.140	83.9	53-104	WG579550
Chrysene	mg/kg	.167	0.139	83.2	55-102	WG579550
Dibenz(a,h)anthracene	mg/kg	.167	0.137	82.2	49-111	WG579550
Fluoranthene	mg/kg	.167	0.137	82.2	59-108	WG579550
Fluorene	mg/kg	.167	0.144	86.5	59-100	WG579550
Indeno(1,2,3-cd)pyrene	mg/kg	.167	0.149	89.2	50-110	WG579550
Naphthalene	mg/kg	.167	0.128	76.4	55-91	WG579550
Phenanthrene	mg/kg	.167	0.142	85.0	55-103	WG579550
Pyrene	mg/kg	.167	0.146	87.3	54-104	WG579550
2-Fluorobiphenyl				77.20	37-119	WG579550
Nitrobenzene-d5				74.45	20-114	WG579550
p-Terphenyl-d14				92.76	15-174	WG579550
Acenaphthene	mg/kg	.167	0.168	101.*	55-96	WG579907
Acenaphthylene	mg/kg	.167	0.163	97.8	61-107	WG579907
Anthracene	mg/kg	.167	0.168	101.	58-105	WG579907
Benzo(a)anthracene	mg/kg	.167	0.160	95.8	56-103	WG579907
Benzo(a)pyrene	mg/kg	.167	0.145	86.8	57-103	WG579907
Benzo(b)fluoranthene	mg/kg	.167	0.151	90.6	52-106	WG579907
Benzo(g,h,i)perylene	mg/kg	.167	0.151	90.5	47-112	WG579907
Benzo(k)fluoranthene	mg/kg	.167	0.158	94.8	53-104	WG579907
Chrysene	mg/kg	.167	0.165	99.0	55-102	WG579907
Dibenz(a,h)anthracene	mg/kg	.167	0.141	84.1	49-111	WG579907
Fluoranthene	mg/kg	.167	0.151	90.5	59-108	WG579907
Fluorene	mg/kg	.167	0.153	91.5	59-100	WG579907
Indeno(1,2,3-cd)pyrene	mg/kg	.167	0.144	86.2	50-110	WG579907
Naphthalene	mg/kg	.167	0.141	84.6	55-91	WG579907
Phenanthrene	mg/kg	.167	0.149	89.1	55-103	WG579907
Pyrene	mg/kg	.167	0.157	94.3	54-104	WG579907
2-Fluorobiphenyl				90.46	37-119	WG579907
Nitrobenzene-d5				98.50	20-114	WG579907
p-Terphenyl-d14				110.1	15-174	WG579907
Total Solids	%	50	50.0	100.	85-155	WG580361

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Quality Assurance Report
Level II

L561429

February 29, 2012

Analyte	Units	Laboratory Control Sample			% Rec	Limit	Batch
		Known Val	Result				
Total Solids	%	50	50.0	100.	85-155	WG580362	
Total Solids	%	50	50.0	100.	85-155	WG580360	
Analyte	Units	Laboratory Control Sample Duplicate			RPD	Limit	Batch
		Result	Ref	%Rec			
1,1,1,2-Tetrachloroethane	mg/kg	0.0222	0.0203	89.0	77-129	8.95	20
1,1,1-Trichloroethane	mg/kg	0.0230	0.0204	92.0	70-127	11.7	20
1,1,2,2-Tetrachloroethane	mg/kg	0.0226	0.0206	90.0	76-133	8.91	20
1,1,2-Trichloroethane	mg/kg	0.0226	0.0204	90.0	79-123	10.4	20
1,1,2-Trichlorotrifluoroethane	mg/kg	0.0302	0.0272	121.	52-145	10.6	20
1,1-Dichloroethane	mg/kg	0.0244	0.0212	98.0	74-121	13.9	20
1,1-Dichloroethene	mg/kg	0.0258	0.0229	103.	53-135	11.9	20
1,1-Dichloropropene	mg/kg	0.0222	0.0201	89.0	67-127	9.94	20
1,2,3-Trichlorobenzene	mg/kg	0.0259	0.0216	104.	74-131	17.9	20
1,2,3-Trichloropropane	mg/kg	0.0245	0.0221	98.0	75-135	10.4	20
1,2,3-Trimethylbenzene	mg/kg	0.0214	0.0184	86.0	76-128	14.9	20
1,2,4-Trichlorobenzene	mg/kg	0.0251	0.0207	100.	72-130	19.3	20
1,2,4-Trimethylbenzene	mg/kg	0.0217	0.0201	87.0	75-131	7.87	20
1,2-Dibromo-3-Chloropropane	mg/kg	0.0240	0.0203	96.0	55-142	16.7	20
1,2-Dibromoethane	mg/kg	0.0237	0.0220	95.0	77-126	7.36	20
1,2-Dichlorobenzene	mg/kg	0.0243	0.0205	97.0	80-123	17.4	20
1,2-Dichloroethane	mg/kg	0.0246	0.0223	98.0	70-128	9.51	20
1,2-Dichloropropane	mg/kg	0.0241	0.0213	96.0	74-125	12.4	20
1,3,5-Trimethylbenzene	mg/kg	0.0214	0.0197	86.0	77-129	8.42	20
1,3-Dichlorobenzene	mg/kg	0.0242	0.0222	97.0	76-128	8.48	20
1,3-Dichloropropane	mg/kg	0.0223	0.0206	89.0	77-118	8.13	20
1,4-Dichlorobenzene	mg/kg	0.0247	0.0208	99.0	77-119	16.8	20
2,2-Dichloropropane	mg/kg	0.0212	0.0195	85.0	60-132	8.78	20
2-Butanone (MEK)	mg/kg	0.161	0.130	129.	56-146	20.9*	20
2-Chloroethyl vinyl ether	mg/kg	0.106	0.0826	84.0	17-179	24.5*	22
2-Chlorotoluene	mg/kg	0.0231	0.0215	92.0	76-125	7.27	20
2-Hexanone	mg/kg	0.128	0.113	102.	61-144	12.4	20
4-Chlorotoluene	mg/kg	0.0214	0.0195	86.0	76-125	9.19	20
4-Methyl-2-pentanone (MIBK)	mg/kg	0.130	0.107	104.	55-148	19.5	20
Acetone	mg/kg	0.201	0.175	160*	47-155	13.7	22
Acrylonitrile	mg/kg	0.130	0.113	104.	50-155	13.7	20
Benzene	mg/kg	0.0248	0.0220	99.0	72-120	12.0	20
Bromobenzene	mg/kg	0.0209	0.0192	84.0	74-122	8.87	20
Bromodichloromethane	mg/kg	0.0249	0.0222	100.	74-128	11.6	20
Bromoform	mg/kg	0.0246	0.0238	98.0	62-137	3.32	20
Bromomethane	mg/kg	0.0304	0.0276	122.	38-180	9.54	20
Carbon tetrachloride	mg/kg	0.0237	0.0209	95.0	62-130	12.6	20
Chlorobenzene	mg/kg	0.0221	0.0205	88.0	77-124	7.48	20
Chlorodibromomethane	mg/kg	0.0233	0.0209	93.0	74-128	11.2	20
Chloroethane	mg/kg	0.0269	0.0264	108.	46-173	2.14	20
Chloroform	mg/kg	0.0244	0.0219	98.0	76-122	10.9	20
Chloromethane	mg/kg	0.0297	0.0281	119.	49-143	5.33	20
cis-1,2-Dichloroethene	mg/kg	0.0224	0.0200	90.0	73-123	11.2	20
cis-1,3-Dichloropropene	mg/kg	0.0241	0.0210	96.0	73-126	13.7	20
Di-isopropyl ether	mg/kg	0.0215	0.0182	86.0	64-131	17.0	20
Dibromomethane	mg/kg	0.0284	0.0247	114.	75-127	13.8	20
Dichlorodifluoromethane	mg/kg	0.0236	0.0221	94.0	30-177	6.63	20
Dichlorofluoromethane	mg/kg	0.0275	0.0249	110.	70-148	10.0	20
Ethyl ether	mg/kg	0.0267	0.0232	107.	56-144	14.2	20
Ethylbenzene	mg/kg	0.0215	0.0200	86.0	76-126	6.84	20

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Analyte	Units	Laboratory Result	Control Ref	Sample %Rec	Duplicate Limit	RPD	Limit	Batch
Hexachloro-1,3-butadiene	mg/kg	0.0226	0.0192	90.0	71-134	16.5	20	WG579542
Isopropylbenzene	mg/kg	0.0226	0.0206	90.0	70-128	9.02	20	WG579542
Methyl tert-butyl ether	mg/kg	0.0221	0.0193	88.0	66-127	13.9	20	WG579542
Methylene Chloride	mg/kg	0.0286	0.0254	114.	67-124	11.7	20	WG579542
n-Butylbenzene	mg/kg	0.0230	0.0192	92.0	71-133	18.1	20	WG579542
n-Propylbenzene	mg/kg	0.0222	0.0201	89.0	76-126	10.0	20	WG579542
Naphthalene	mg/kg	0.0217	0.0177	87.0	68-136	20.0*	20	WG579542
p-Isopropyltoluene	mg/kg	0.0230	0.0213	92.0	75-134	7.49	20	WG579542
sec-Butylbenzene	mg/kg	0.0222	0.0206	89.0	75-132	7.39	20	WG579542
Styrene	mg/kg	0.0212	0.0192	85.0	68-148	9.85	20	WG579542
tert-Butylbenzene	mg/kg	0.0213	0.0196	85.0	75-132	8.26	20	WG579542
Tetrachloroethene	mg/kg	0.0221	0.0207	88.0	70-131	6.27	20	WG579542
Tetrahydrofuran	mg/kg	0.0224	0.0192	90.0	36-148	15.7	20	WG579542
Toluene	mg/kg	0.0252	0.0221	101.	74-155	12.8	20	WG579542
trans-1,2-Dichloroethene	mg/kg	0.0219	0.0193	88.0	63-126	12.5	20	WG579542
trans-1,3-Dichloropropene	mg/kg	0.0259	0.0209	103.	68-126	21.0*	20	WG579542
Trichloroethene	mg/kg	0.0244	0.0211	97.0	75-121	14.2	20	WG579542
Trichlorofluoromethane	mg/kg	0.0301	0.0271	120.	48-170	10.3	20	WG579542
Vinyl chloride	mg/kg	0.0248	0.0224	99.0	54-144	10.3	20	WG579542
Xylenes, Total	mg/kg	0.0649	0.0597	86.0	76-126	8.31	20	WG579542
4-Bromofluorobenzene				86.90	67-133			WG579542
Dibromofluoromethane				106.2	72-135			WG579542
Toluene-d8				110.6	90-113			WG579542
a,a,a-Trifluorotoluene				103.9	89-115			WG579542
1,2,4-Trimethylbenzene	mg/kg	0.0422	0.0435	84.0	80-120	2.86	20	WG579593
1,3,5-Trimethylbenzene	mg/kg	0.0431	0.0437	86.0	80-120	1.39	20	WG579593
Benzene	mg/kg	0.0429	0.0426	86.0	76-113	0.910	20	WG579593
Ethylbenzene	mg/kg	0.0429	0.0430	86.0	78-115	0.220	20	WG579593
Gasoline (C6-C10)	mg/kg	0.440	0.468	88.0	80-120	6.03	20	WG579593
m&p-Xylene	mg/kg	0.0879	0.0890	88.0	81-120	1.28	20	WG579593
Methyl tert-butyl ether	mg/kg	0.0429	0.0423	86.0	37-145	1.49	24	WG579593
Naphthalene	mg/kg	0.0464	0.0469	93.0	80-120	1.01	20	WG579593
o-Xylene	mg/kg	0.0437	0.0440	87.0	79-115	0.500	20	WG579593
Toluene	mg/kg	0.0428	0.0427	86.0	76-114	0.240	20	WG579593
a,a,a-Trifluorotoluene(PID)				104.6	80-120			WG579593
TPH (GC/FID) High Fraction	mg/kg	34.5	32.7	86.0	70-120	5.30	23	WG579540
Triacontane				79.16	50-150			WG579540
Acenaphthene	mg/kg	0.119	0.133	72.0	55-96	10.8	20	WG579550
Acenaphthylene	mg/kg	0.119	0.129	71.0	61-107	8.04	20	WG579550
Anthracene	mg/kg	0.127	0.135	76.0	58-105	6.34	20	WG579550
Benzo(a)anthracene	mg/kg	0.123	0.144	74.0	56-103	15.3	20	WG579550
Benzo(a)pyrene	mg/kg	0.140	0.143	84.0	57-103	2.46	20	WG579550
Benzo(b)fluoranthene	mg/kg	0.136	0.146	81.0	52-106	7.21	20	WG579550
Benzo(g,h,i)perylene	mg/kg	0.135	0.145	80.0	47-112	7.29	20	WG579550
Benzo(k)fluoranthene	mg/kg	0.125	0.140	75.0	53-104	11.1	20	WG579550
Chrysene	mg/kg	0.129	0.139	77.0	55-102	7.65	20	WG579550
Dibenz(a,h)anthracene	mg/kg	0.128	0.137	76.0	49-111	7.25	20	WG579550
Fluoranthene	mg/kg	0.126	0.137	75.0	59-108	8.87	20	WG579550
Fluorene	mg/kg	0.132	0.144	79.0	59-100	9.27	20	WG579550
Indeno(1,2,3-cd)pyrene	mg/kg	0.133	0.149	80.0	50-110	11.2	20	WG579550
Naphthalene	mg/kg	0.107	0.128	64.0	55-91	17.6	20	WG579550
Phenanthrene	mg/kg	0.131	0.142	78.0	55-103	8.04	20	WG579550
Pyrene	mg/kg	0.132	0.146	79.0	54-104	10.1	20	WG579550

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Tax I.D. 62-0814289

Est. 1970

**Quality Assurance Report
Level II**

L561429

February 29, 2012

Analyte	Units	Laboratory Control Sample Duplicate		Limit	RPD	Limit	Batch
		Result	Ref				
2-Fluorobiphenyl				68.39	37-119		
Nitrobenzene-d5				59.37	20-114		
p-Terphenyl-d14				89.17	15-174		
Acenaphthene	mg/kg	0.153	0.168	91.0	55-96	9.82	20
Acenaphthylene	mg/kg	0.146	0.163	88.0	61-107	11.0	20
Anthracene	mg/kg	0.161	0.168	96.0	58-105	4.30	20
Benzo(a)anthracene	mg/kg	0.148	0.160	88.0	56-103	7.88	20
Benzo(a)pyrene	mg/kg	0.143	0.145	86.0	57-103	1.31	20
Benzo(b)fluoranthene	mg/kg	0.140	0.151	84.0	52-106	7.91	20
Benzo(g,h,i)perylene	mg/kg	0.141	0.151	84.0	47-112	6.94	20
Benzo(k)fluoranthene	mg/kg	0.148	0.158	89.0	53-104	6.57	20
Chrysene	mg/kg	0.146	0.165	87.0	55-102	12.6	20
Dibenz(a,h)anthracene	mg/kg	0.132	0.141	79.0	49-111	6.13	20
Fluoranthene	mg/kg	0.139	0.151	83.0	59-108	8.19	20
Fluorene	mg/kg	0.137	0.153	82.0	59-100	11.0	20
Indeno(1,2,3-cd)pyrene	mg/kg	0.136	0.144	81.0	50-110	6.04	20
Naphthalene	mg/kg	0.135	0.141	81.0	55-91	4.73	20
Phenanthrene	mg/kg	0.143	0.149	85.0	55-103	4.08	20
Pyrene	mg/kg	0.139	0.157	83.0	54-104	12.5	20
2-Fluorobiphenyl				79.95	37-119		WG579907
Nitrobenzene-d5				93.38	20-114		WG579907
p-Terphenyl-d14				98.61	15-174		WG579907

Analyte	Units	Matrix Spike				Limit	Ref Samp	Batch
		MS Res	Ref Res	TV	% Rec			
1,1,1,2-Tetrachloroethane	mg/kg	0.352	0	.025	97.2	49-135	L561429-15	WG579542
1,1,1-Trichloroethane	mg/kg	0.354	0	.025	97.6	43-142	L561429-15	WG579542
1,1,2,2-Tetrachloroethane	mg/kg	0.357	0	.025	98.4	42-147	L561429-15	WG579542
1,1,2-Trichloroethane	mg/kg	0.362	0	.025	99.8	51-134	L561429-15	WG579542
1,1,2-Trichlorotrifluoroethane	mg/kg	0.463	0	.025	128.	25-156	L561429-15	WG579542
1,1-Dichloroethane	mg/kg	0.366	0	.025	101.	50-131	L561429-15	WG579542
1,1-Dichloroethene	mg/kg	0.388	0	.025	107.	29-145	L561429-15	WG579542
1,1-Dichloropropene	mg/kg	0.349	0	.025	96.4	40-136	L561429-15	WG579542
1,2,3-Trichlorobenzene	mg/kg	0.355	0	.025	98.0	13-142	L561429-15	WG579542
1,2,3-Trichloropropane	mg/kg	0.372	0	.025	102.	41-149	L561429-15	WG579542
1,2,3-Trimethylbenzene	mg/kg	0.319	0	.025	87.9	33-146	L561429-15	WG579542
1,2,4-Trichlorobenzene	mg/kg	0.364	0	.025	100.	12-140	L561429-15	WG579542
1,2,4-Trimethylbenzene	mg/kg	0.346	0	.025	95.4	29-143	L561429-15	WG579542
1,2-Dibromo-3-Chloropropane	mg/kg	0.351	0	.025	96.7	29-151	L561429-15	WG579542
1,2-Dibromoethane	mg/kg	0.375	0	.025	103.	48-133	L561429-15	WG579542
1,2-Dichlorobenzene	mg/kg	0.362	0	.025	99.9	37-136	L561429-15	WG579542
1,2-Dichloroethane	mg/kg	0.385	0	.025	106.	49-131	L561429-15	WG579542
1,2-Dichloropropane	mg/kg	0.372	0	.025	103.	50-132	L561429-15	WG579542
1,3,5-Trimethylbenzene	mg/kg	0.339	0	.025	93.5	29-144	L561429-15	WG579542
1,3-Dichlorobenzene	mg/kg	0.379	0	.025	105.	26-140	L561429-15	WG579542
1,3-Dichloropropane	mg/kg	0.355	0	.025	97.8	50-126	L561429-15	WG579542
1,4-Dichlorobenzene	mg/kg	0.368	0	.025	102.	34-132	L561429-15	WG579542
2,2-Dichloropropane	mg/kg	0.344	0	.025	94.9	35-148	L561429-15	WG579542
2-Butanone (MEK)	mg/kg	2.65	0	.125	146.	40-149	L561429-15	WG579542
2-Chloroethyl vinyl ether	mg/kg	1.76	0	.125	96.9	10-173	L561429-15	WG579542
2-Chlorotoluene	mg/kg	0.368	0	.025	102.	34-136	L561429-15	WG579542
2-Hexanone	mg/kg	2.15	0	.125	118.	40-147	L561429-15	WG579542
4-Chlorotoluene	mg/kg	0.347	0	.025	95.7	31-137	L561429-15	WG579542
4-Methyl-2-pentanone (MIBK)	mg/kg	1.91	0	.125	106.	37-153	L561429-15	WG579542
Acetone	mg/kg	3.12	0	.125	172.	10-177	L561429-15	WG579542
Acrylonitrile	mg/kg	1.97	0	.125	109.	33-159	L561429-15	WG579542
Benzene	mg/kg	0.379	0	.025	104.	44-131	L561429-15	WG579542
Bromobenzene	mg/kg	0.334	0	.025	92.1	36-132	L561429-15	WG579542

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Tax I.D. 62-0814289

Est. 1970

February 29, 2012

Analyte	Units	Matrix Spike			% Rec	Limit	Ref Samp	Batch
		MS Res	Ref Res	TV				
Bromodichloromethane	mg/kg	0.372	0	.025	103.	48-134	L561429-15	WG579542
Bromoform	mg/kg	0.391	0	.025	108.	34-141	L561429-15	WG579542
Bromomethane	mg/kg	0.460	0	.025	127.	19-173	L561429-15	WG579542
Carbon tetrachloride	mg/kg	0.358	0	.025	98.7	36-140	L561429-15	WG579542
Chlorobenzene	mg/kg	0.355	0	.025	97.8	42-133	L561429-15	WG579542
Chlorodibromomethane	mg/kg	0.369	0	.025	102.	45-135	L561429-15	WG579542
Chloroethane	mg/kg	0.0827	0	.025	22.8	16-178	L561429-15	WG579542
Chloroform	mg/kg	0.376	0	.025	104.	52-130	L561429-15	WG579542
Chloromethane	mg/kg	0.452	0	.025	125.	28-147	L561429-15	WG579542
cis-1,2-Dichloroethene	mg/kg	0.346	0	.025	95.3	52-128	L561429-15	WG579542
cis-1,3-Dichloropropene	mg/kg	0.381	0	.025	105.	46-131	L561429-15	WG579542
Di-isopropyl ether	mg/kg	0.336	0	.025	92.8	46-134	L561429-15	WG579542
Dibromomethane	mg/kg	0.413	0	.025	114.	51-133	L561429-15	WG579542
Dichlorodifluoromethane	mg/kg	0.377	0	.025	104.	12-179	L561429-15	WG579542
Dichlorofluoromethane	mg/kg	0.448	0	.025	124.	35-162	L561429-15	WG579542
Ethyl ether	mg/kg	0.415	0	.025	114.	39-144	L561429-15	WG579542
Ethylbenzene	mg/kg	0.345	0	.025	95.2	38-139	L561429-15	WG579542
Hexachloro-1,3-butadiene	mg/kg	0.304	0	.025	83.7	10-147	L561429-15	WG579542
Isopropylbenzene	mg/kg	0.354	0	.025	97.6	34-137	L561429-15	WG579542
Methyl tert-butyl ether	mg/kg	0.343	0	.025	94.6	45-134	L561429-15	WG579542
Methylene Chloride	mg/kg	0.481	0	.025	133.	41-133	L561429-15	WG579542
n-Butylbenzene	mg/kg	0.343	0	.025	94.7	19-149	L561429-15	WG579542
n-Propylbenzene	mg/kg	0.355	0	.025	98.0	27-142	L561429-15	WG579542
Naphthalene	mg/kg	0.290	0	.025	80.1	19-146	L561429-15	WG579542
p-Isopropyltoluene	mg/kg	0.358	0	.025	98.7	21-150	L561429-15	WG579542
sec-Butylbenzene	mg/kg	0.351	0	.025	96.8	25-148	L561429-15	WG579542
Styrene	mg/kg	0.340	0	.025	93.7	30-156	L561429-15	WG579542
tert-Butylbenzene	mg/kg	0.341	0	.025	94.2	32-146	L561429-15	WG579542
Tetrachloroethene	mg/kg	0.353	0	.025	97.4	35-139	L561429-15	WG579542
Tetrahydrofuran	mg/kg	0.431	0	.025	119.	24-150	L561429-15	WG579542
Toluene	mg/kg	0.378	0	.025	104.	43-127	L561429-15	WG579542
trans-1,2-Dichloroethene	mg/kg	0.342	0	.025	94.2	41-132	L561429-15	WG579542
trans-1,3-Dichloropropene	mg/kg	0.405	0	.025	112.	43-129	L561429-15	WG579542
Trichloroethene	mg/kg	0.365	0	.025	101.	42-136	L561429-15	WG579542
Trichlorofluoromethane	mg/kg	0.476	0	.025	131.	20-178	L561429-15	WG579542
Vinyl chloride	mg/kg	0.364	0	.025	100.	30-157	L561429-15	WG579542
Xylenes, Total	mg/kg	1.04	0	.075	95.5	38-137	L561429-15	WG579542
4-Bromofluorobenzene					93.52	67-133		WG579542
Dibromofluoromethane					109.1	72-135		WG579542
Toluene-d8					109.5	90-113		WG579542
a,a,a-Trifluorotoluene					102.7	89-115		WG579542
1,2,4-Trimethylbenzene	mg/kg	2.47	0.00950	.05	89.4	80-120	L561429-01	WG579593
1,3,5-Trimethylbenzene	mg/kg	2.50	0	.05	90.7	80-120	L561429-01	WG579593
Benzene	mg/kg	2.46	0.0190	.05	88.6	32-137	L561429-01	WG579593
Ethylbenzene	mg/kg	2.45	0.00760	.05	88.9	10-150	L561429-01	WG579593
Gasoline (C6-C10)	mg/kg	25.3	0	.5	92.0	80-120	L561429-01	WG579593
m&p-Xylene	mg/kg	5.09	0.0140	.1	92.2	14-141	L561429-01	WG579593
Methyl tert-butyl ether	mg/kg	2.31	0	.05	84.1	24-151	L561429-01	WG579593
Naphthalene	mg/kg	2.56	0.0270	.05	92.0	80-120	L561429-01	WG579593
o-Xylene	mg/kg	2.49	0.00660	.05	90.2	10-157	L561429-01	WG579593
Toluene	mg/kg	2.45	0.0110	.05	88.7	20-142	L561429-01	WG579593
a,a,a-Trifluorotoluene(PID)					104.9	80-120		WG579593
Acenaphthene	mg/kg	0.129	0	.167	77.3	30-132	L561106-04	WG579550
Acenaphthylene	mg/kg	0.122	0	.167	72.9	31-144	L561106-04	WG579550
Anthracene	mg/kg	0.125	0	.167	74.8	27-140	L561106-04	WG579550

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L A B S C I E N C E S

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Est. 1970

February 29, 2012

Analyte	Units	Matrix Spike				Limit	Ref Samp	Batch
		MS Res	Ref Res	TV	% Rec			
Benzo(a)anthracene	mg/kg	0.127	0	.167	76.0	22-139	L561106-04	WG579550
Benzo(a)pyrene	mg/kg	0.145	0	.167	86.6	16-148	L561106-04	WG579550
Benzo(b)fluoranthene	mg/kg	0.143	0	.167	85.6	13-152	L561106-04	WG579550
Benzo(g,h,i)perylene	mg/kg	0.129	0	.167	77.5	10-137	L561106-04	WG579550
Benzo(k)fluoranthene	mg/kg	0.130	0	.167	78.0	15-152	L561106-04	WG579550
Chrysene	mg/kg	0.121	0	.167	72.2	20-139	L561106-04	WG579550
Dibenz(a,h)anthracene	mg/kg	0.135	0	.167	81.0	10-137	L561106-04	WG579550
Fluoranthene	mg/kg	0.133	0	.167	79.7	24-145	L561106-04	WG579550
Fluorene	mg/kg	0.140	0	.167	83.7	30-138	L561106-04	WG579550
Indeno(1,2,3-cd)pyrene	mg/kg	0.145	0	.167	86.6	10-139	L561106-04	WG579550
Naphthalene	mg/kg	0.114	0	.167	68.3	31-124	L561106-04	WG579550
Phenanthrene	mg/kg	0.138	0	.167	82.9	25-139	L561106-04	WG579550
Pyrene	mg/kg	0.137	0	.167	81.8	23-145	L561106-04	WG579550
2-Fluorobiphenyl					70.77	37-119		WG579550
Nitrobenzene-d5					61.34	20-114		WG579550
p-Terphenyl-d14					90.44	15-174		WG579550
Acenaphthene	mg/kg	0.145	0	.167	86.8	30-132	L561463-02	WG579907
Acenaphthylene	mg/kg	0.142	0	.167	84.8	31-144	L561463-02	WG579907
Anthracene	mg/kg	0.139	0	.167	83.0	27-140	L561463-02	WG579907
Benzo(a)anthracene	mg/kg	0.146	0	.167	87.3	22-139	L561463-02	WG579907
Benzo(a)pyrene	mg/kg	0.136	0	.167	81.4	16-148	L561463-02	WG579907
Benzo(b)fluoranthene	mg/kg	0.128	0	.167	76.8	13-152	L561463-02	WG579907
Benzo(g,h,i)perylene	mg/kg	0.129	0	.167	77.2	10-137	L561463-02	WG579907
Benzo(k)fluoranthene	mg/kg	0.132	0	.167	79.0	15-152	L561463-02	WG579907
Chrysene	mg/kg	0.144	0	.167	86.4	20-139	L561463-02	WG579907
Dibenz(a,h)anthracene	mg/kg	0.123	0	.167	73.4	10-137	L561463-02	WG579907
Fluoranthene	mg/kg	0.136	0	.167	81.2	24-145	L561463-02	WG579907
Fluorene	mg/kg	0.137	0	.167	82.1	30-138	L561463-02	WG579907
Indeno(1,2,3-cd)pyrene	mg/kg	0.129	0	.167	77.4	10-139	L561463-02	WG579907
Naphthalene	mg/kg	0.124	0	.167	74.0	31-124	L561463-02	WG579907
Phenanthrene	mg/kg	0.127	0	.167	75.9	25-139	L561463-02	WG579907
Pyrene	mg/kg	0.147	0	.167	87.8	23-145	L561463-02	WG579907
2-Fluorobiphenyl					76.52	37-119		WG579907
Nitrobenzene-d5					88.09	20-114		WG579907
p-Terphenyl-d14					88.89	15-174		WG579907

Analyte	Units	Matrix Spike Duplicate				RPD	Limit	Ref Samp	Batch
		MSD	Ref	%Rec	Limit				
1,1,1,2-Tetrachloroethane	mg/kg	0.358	0.352	98.6	49-135	1.49	23	L561429-15	WG579542
1,1,1-Trichloroethane	mg/kg	0.353	0.354	97.5	43-142	0.0500	24	L561429-15	WG579542
1,1,2,2-Tetrachloroethane	mg/kg	0.368	0.357	102.	42-147	3.23	25	L561429-15	WG579542
1,1,2-Trichloroethane	mg/kg	0.369	0.362	102.	51-134	1.85	21	L561429-15	WG579542
1,1,2-Trichlorotrifluoroethane	mg/kg	0.455	0.463	126.	25-156	1.82	29	L561429-15	WG579542
1,1-Dichloroethane	mg/kg	0.367	0.366	101.	50-131	0.230	21	L561429-15	WG579542
1,1-Dichloroethene	mg/kg	0.388	0.388	107.	29-145	0.160	28	L561429-15	WG579542
1,1-Dichloropropene	mg/kg	0.349	0.349	96.2	40-136	0.170	24	L561429-15	WG579542
1,2,3-Trichlorobenzene	mg/kg	0.378	0.355	104.	13-142	6.06	33	L561429-15	WG579542
1,2,3-Trichloropropane	mg/kg	0.381	0.372	105.	41-149	2.42	28	L561429-15	WG579542
1,2,3-Trimethylbenzene	mg/kg	0.336	0.319	92.8	33-146	5.40	27	L561429-15	WG579542
1,2,4-Trichlorobenzene	mg/kg	0.387	0.364	107.	12-140	5.97	32	L561429-15	WG579542
1,2,4-Trimethylbenzene	mg/kg	0.354	0.346	97.8	29-143	2.48	30	L561429-15	WG579542
1,2-Dibromo-3-Chloropropane	mg/kg	0.354	0.351	97.6	29-151	0.980	31	L561429-15	WG579542
1,2-Dibromoethane	mg/kg	0.386	0.375	106.	48-133	2.90	22	L561429-15	WG579542
1,2-Dichlorobenzene	mg/kg	0.377	0.362	104.	37-136	3.88	25	L561429-15	WG579542
1,2-Dichloroethane	mg/kg	0.383	0.385	106.	49-131	0.620	20	L561429-15	WG579542
1,2-Dichloropropane	mg/kg	0.368	0.372	101.	50-132	1.24	21	L561429-15	WG579542

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Coleman Engineering Company
Charles A. Saari
635 Circle Drive

Iron Mountain, MI 49801

Quality Assurance Report
Level II

L561429

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

February 29, 2012

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref	Samp	Batch
			Ref	%Rec						
1,3,5-Trimethylbenzene	mg/kg	0.353	0.339	97.3	29-144	3.91	30	L561429-15		WG579542
1,3-Dichlorobenzene	mg/kg	0.395	0.379	109.	26-140	3.93	28	L561429-15		WG579542
1,3-Dichloropropane	mg/kg	0.359	0.355	99.1	50-126	1.26	22	L561429-15		WG579542
1,4-Dichlorobenzene	mg/kg	0.382	0.368	106.	34-132	3.84	26	L561429-15		WG579542
2,2-Dichloropropane	mg/kg	0.333	0.344	92.0	35-148	3.17	26	L561429-15		WG579542
2-Butanone (MBK)	mg/kg	2.54	2.65	140.	40-149	3.94	27	L561429-15		WG579542
2-Chloroethyl vinyl ether	mg/kg	1.57	1.76	86.6	10-173	11.2	33	L561429-15		WG579542
2-Chlorotoluene	mg/kg	0.323	0.368	89.2	34-136	12.9	28	L561429-15		WG579542
2-Hexanone	mg/kg	2.21	2.15	122.	40-147	2.90	29	L561429-15		WG579542
4-Chlorotoluene	mg/kg	0.361	0.347	99.5	31-137	3.88	27	L561429-15		WG579542
4-Methyl-2-pentanone (MIBK)	mg/kg	1.97	1.91	109.	37-153	2.89	27	L561429-15		WG579542
Acetone	mg/kg	3.13	3.12	173.	10-177	0.400	28	L561429-15		WG579542
Acrylonitrile	mg/kg	2.04	1.97	113.	33-159	3.48	26	L561429-15		WG579542
Benzene	mg/kg	0.380	0.379	105.	44-131	0.260	21	L561429-15		WG579542
Bromobenzene	mg/kg	0.344	0.334	95.0	36-132	3.04	26	L561429-15		WG579542
Bromodichloromethane	mg/kg	0.378	0.372	104.	48-134	1.60	20	L561429-15		WG579542
Bromoform	mg/kg	0.397	0.391	109.	34-141	1.47	24	L561429-15		WG579542
Bromomethane	mg/kg	0.452	0.460	125.	19-173	1.59	25	L561429-15		WG579542
Carbon tetrachloride	mg/kg	0.353	0.358	97.5	36-140	1.25	26	L561429-15		WG579542
Chlorobenzene	mg/kg	0.366	0.355	101.	42-133	3.11	24	L561429-15		WG579542
Chlorodibromomethane	mg/kg	0.375	0.369	103.	45-135	1.55	23	L561429-15		WG579542
Chloroethane	mg/kg	0.0781	0.0827	21.6	16-178	5.71	25	L561429-15		WG579542
Chloroform	mg/kg	0.370	0.376	102.	52-130	1.55	21	L561429-15		WG579542
Chloromethane	mg/kg	0.467	0.452	129.	28-147	3.06	23	L561429-15		WG579542
cis-1,2-Dichloroethene	mg/kg	0.354	0.346	97.8	52-128	2.51	21	L561429-15		WG579542
cis-1,3-Dichloropropene	mg/kg	0.380	0.381	105.	46-131	0.120	21	L561429-15		WG579542
Di-isopropyl ether	mg/kg	0.336	0.336	92.7	46-134	0.0700	20	L561429-15		WG579542
Dibromomethane	mg/kg	0.428	0.413	118.	51-133	3.39	21	L561429-15		WG579542
Dichlorodifluoromethane	mg/kg	0.368	0.377	102.	12-179	2.41	27	L561429-15		WG579542
Dichlorofluoromethane	mg/kg	0.442	0.448	122.	35-162	1.37	26	L561429-15		WG579542
Ethyl ether	mg/kg	0.412	0.415	114.	39-144	0.700	22	L561429-15		WG579542
Ethylbenzene	mg/kg	0.349	0.345	96.2	38-139	1.05	27	L561429-15		WG579542
Hexachloro-1,3-butadiene	mg/kg	0.325	0.304	89.8	10-147	6.95	37	L561429-15		WG579542
Isopropylbenzene	mg/kg	0.371	0.354	102.	34-137	4.77	29	L561429-15		WG579542
Methyl tert-butyl ether	mg/kg	0.337	0.343	93.1	45-134	1.60	22	L561429-15		WG579542
Methylene Chloride	mg/kg	0.463	0.481	128.	41-133	3.70	28	L561429-15		WG579542
n-Butylbenzene	mg/kg	0.363	0.343	100.	19-149	5.58	32	L561429-15		WG579542
n-Propylbenzene	mg/kg	0.364	0.355	100.	27-142	2.52	29	L561429-15		WG579542
Naphthalene	mg/kg	0.315	0.290	87.0	19-146	8.31	30	L561429-15		WG579542
p-Isopropyltoluene	mg/kg	0.373	0.358	103.	21-150	4.01	31	L561429-15		WG579542
sec-Butylbenzene	mg/kg	0.364	0.351	100.	25-148	3.75	31	L561429-15		WG579542
Styrene	mg/kg	0.354	0.340	97.7	30-156	4.21	26	L561429-15		WG579542
tert-Butylbenzene	mg/kg	0.354	0.341	97.7	32-146	3.68	30	L561429-15		WG579542
Tetrachloroethene	mg/kg	0.357	0.353	98.4	35-139	0.940	27	L561429-15		WG579542
Tetrahydrofuran	mg/kg	0.426	0.431	117.	24-150	1.15	28	L561429-15		WG579542
Toluene	mg/kg	0.387	0.378	107.	43-127	2.23	21	L561429-15		WG579542
trans-1,2-Dichloroethene	mg/kg	0.335	0.342	92.4	41-132	2.02	23	L561429-15		WG579542
trans-1,3-Dichloropropene	mg/kg	0.412	0.405	114.	43-129	1.82	23	L561429-15		WG579542
Trichloroethene	mg/kg	0.363	0.365	100.	42-136	0.570	23	L561429-15		WG579542
Trichlorofluoromethane	mg/kg	0.451	0.476	124.	20-178	5.59	30	L561429-15		WG579542
Vinyl chloride	mg/kg	0.350	0.364	96.6	30-157	3.98	24	L561429-15		WG579542
Xylenes, Total	mg/kg	1.07	1.04	98.2	38-137	2.82	26	L561429-15		WG579542
4-Bromofluorobenzene				92.86	67-133					WG579542
Dibromofluoromethane				104.8	72-135					WG579542
Toluene-d8				108.8	90-113					WG579542
a,a,a-Trifluorotoluene				103.4	89-115					WG579542
1,2,4-Trimethylbenzene	mg/kg	2.31	2.47	83.6	80-120	6.68	20	L561429-01		WG579593

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Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref	Samp	Batch
			Ref	%Rec						
1,3,5-Trimethylbenzene	mg/kg	2.33	2.50	84.8	80-120	6.72	20	L561429-01		WG579593
Benzene	mg/kg	2.31	2.46	83.4	32-137	6.09	39	L561429-01		WG579593
Ethylbenzene	mg/kg	2.31	2.45	83.9	10-150	5.77	44	L561429-01		WG579593
Gasoline (C6-C10)	mg/kg	23.8	25.3	86.6	80-120	6.01	20	L561429-01		WG579593
m&p-Xylene	mg/kg	4.78	5.09	86.6	14-141	6.29	44	L561429-01		WG579593
Methyl tert-butyl ether	mg/kg	2.18	2.31	79.2	24-151	5.99	37	L561429-01		WG579593
Naphthalene	mg/kg	2.35	2.56	84.4	80-120	8.46	20	L561429-01		WG579593
o-Xylene	mg/kg	2.34	2.49	84.8	10-157	6.05	44	L561429-01		WG579593
Toluene	mg/kg	2.31	2.45	83.6	20-142	5.99	42	L561429-01		WG579593
a,a,a-Trifluorotoluene(PID)				105.7	80-120					WG579593
Acenaphthene	mg/kg	0.131	0.129	78.7	30-132	1.84	21	L561106-04		WG579550
Acenaphthylene	mg/kg	0.132	0.122	79.1	31-144	8.16	24	L561106-04		WG579550
Anthracene	mg/kg	0.134	0.125	80.4	27-140	7.32	20	L561106-04		WG579550
Benzo(a)anthracene	mg/kg	0.143	0.127	85.8	22-139	12.2	22	L561106-04		WG579550
Benzo(a)pyrene	mg/kg	0.138	0.145	82.4	16-148	4.97	21	L561106-04		WG579550
Benzo(b)fluoranthene	mg/kg	0.147	0.143	87.8	13-152	2.54	24	L561106-04		WG579550
Benzo(g,h,i)perylene	mg/kg	0.139	0.129	83.2	10-137	7.07	32	L561106-04		WG579550
Benzo(k)fluoranthene	mg/kg	0.124	0.130	74.4	15-152	4.79	22	L561106-04		WG579550
Chrysene	mg/kg	0.142	0.121	85.1	20-139	16.4	23	L561106-04		WG579550
Dibenz(a,h)anthracene	mg/kg	0.130	0.135	77.9	10-137	3.92	29	L561106-04		WG579550
Fluoranthene	mg/kg	0.142	0.133	85.0	24-145	6.42	29	L561106-04		WG579550
Fluorene	mg/kg	0.139	0.140	83.4	30-138	0.401	22	L561106-04		WG579550
Indeno(1,2,3-cd)pyrene	mg/kg	0.141	0.145	84.6	10-139	2.26	32	L561106-04		WG579550
Naphthalene	mg/kg	0.113	0.114	67.5	31-124	1.12	25	L561106-04		WG579550
Phenanthrene	mg/kg	0.141	0.138	84.6	25-139	2.04	25	L561106-04		WG579550
Pyrene	mg/kg	0.156	0.137	93.3	23-145	13.2	30	L561106-04		WG579550
2-Fluorobiphenyl				69.15	37-119					WG579550
Nitrobenzene-d5				65.33	20-114					WG579550
p-Terphenyl-d14				93.85	15-174					WG579550
Acenaphthene	mg/kg	0.144	0.145	86.3	30-132	0.595	21	L561463-02		WG579907
Acenaphthylene	mg/kg	0.138	0.142	82.9	31-144	2.29	24	L561463-02		WG579907
Anthracene	mg/kg	0.141	0.139	84.2	27-140	1.49	20	L561463-02		WG579907
Benzo(a)anthracene	mg/kg	0.145	0.146	86.6	22-139	0.825	22	L561463-02		WG579907
Benzo(a)pyrene	mg/kg	0.135	0.136	80.7	16-148	0.859	21	L561463-02		WG579907
Benzo(b)fluoranthene	mg/kg	0.132	0.128	79.2	13-152	3.05	24	L561463-02		WG579907
Benzo(g,h,i)perylene	mg/kg	0.123	0.129	73.8	10-137	4.58	32	L561463-02		WG579907
Benzo(k)fluoranthene	mg/kg	0.129	0.132	77.4	15-152	2.01	22	L561463-02		WG579907
Chrysene	mg/kg	0.135	0.144	81.0	20-139	6.44	23	L561463-02		WG579907
Dibenz(a,h)anthracene	mg/kg	0.122	0.123	73.1	10-137	0.449	29	L561463-02		WG579907
Fluoranthene	mg/kg	0.141	0.136	84.6	24-145	4.00	29	L561463-02		WG579907
Fluorene	mg/kg	0.135	0.137	80.6	30-138	1.90	22	L561463-02		WG579907
Indeno(1,2,3-cd)pyrene	mg/kg	0.125	0.129	74.6	10-139	3.70	32	L561463-02		WG579907
Naphthalene	mg/kg	0.124	0.124	74.4	31-124	0.411	25	L561463-02		WG579907
Phenanthrene	mg/kg	0.135	0.127	80.9	25-139	6.38	25	L561463-02		WG579907
Pyrene	mg/kg	0.137	0.147	81.8	23-145	7.09	30	L561463-02		WG579907
2-Fluorobiphenyl				76.40	37-119					WG579907
Nitrobenzene-d5				85.26	20-114					WG579907
p-Terphenyl-d14				87.71	15-174					WG579907

Batch number /Run number / Sample number cross reference

WG579542: R2045056: L561429-15 16 17 18

WG579593: R2045493: L561429-01 02 03 04 05 06 07 08 09 10 11 12 13 14

WG579540: R2047592: L561429-01 02 03 04 05 06 07 08 09 10 11 12 13 14

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L561429

WG579550: R2047873: L561429-01 02 03 04 05
WG579907: R2047972: L561429-06 07 08 09 10 11 12 13 14
WG580361: R2052057: L561429-02 03 04 05 06 07 08 09 10 11
WG580362: R2052058: L561429-12 13 14 15 16 17 18
WG580360: R2052075: L561429-01

* * Calculations are performed prior to rounding of reported values.

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The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

Coleman Engineering Company

635 Circle Drive
Iron Mountain, MI 49801

Billing information:

Accounts payable
635 Circle Drive
Iron Mountain, MI 49801

Chain of Custody

Page ____ of ____



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Report to:
Charles A. Saari

Email:
csaari@coleman-engineering.com

Project Description: **Site Investigation**

City/State **WAUSAUKEE**
Collected **WISCONSIN**

Phone: (906) 774-3440
FAX: (906) 774-7776

Client Project #:
EE-08049-0

Lab Project #
COLENGMI-WAUSAUKEE

Collected by (print):
CHARLES SAARI

Site/Facility ID#:
WAUSAUKEE, WI

P.O. #:

Collected by (signature):

Charles Saari

Immediately

Packed on Ice N **Y** **X**

Rush? (Lab MUST Be Notified)

- Same Day 200%
- Next Day 100%
- Two Day 50%
- Three Day 25%

Date Results Needed

Email? No Yes
FAX? No Yes

No.
of
Cntrs

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	DROW/M 60mlAmb/MeCl/Syr	PVOCGRO 60mlAmb/MeOH/Syr	SV8270PAH 4ozClr-NoPres	TS 2ozClr-NoPres	V8260/465 40ml/NaHSO4/Syr/MeOH	V8260/465 screen 2ozClr-NoPres	Remarks/Contaminant	Sample # (lab only)
EP-10 (0-2)	GRAB	SS	0-2	2/17/12	1035	5	X	X	X	X		L561429	-10
EP-11 (0-2)		SS			1045	5	X	X	X	X			-11
EP-12 (0-2)		SS			1050	5	X	X	X	X			-12
EP-13 (0-2)		SS			1115	5	X	X	X	X			-13
EP-14 (0-2)		SS			1125	5	X	X	X	X			-14
		SS				5	X	X	X	X			
EP-15 (0-2)		SS			1140	5			X	X	X		-15
EP-16 (0-2)		SS			1155	5			X	X	X		-16
EP-17 (0-2)	▼	SS	▼	▼	1205	5			X	X	X		-17

*Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other _____

pH _____ Temp _____

Remarks:

Flow _____ Other _____

Relinquished by: (Signature) <i>Charles Saari</i>	Date: 2/20/12	Time: 1500	Received by: (Signature)	Samples returned via: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier	Condition: JF (lab use only) OIC
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.4° Bottles Received: 90+17N	COC Seal Intact: Y N NA
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) <i>laura lederer</i>	Date: 2/21/12 Time: 0900	pH Checked: NCF:

APPENDIX E

SOIL SAMPLING PROCEDURES

STANDARD FIELD PROCEDURES

SOIL AND GROUNDWATER SAMPLING

1.0 ACCESS

1.1 Site Access

The access agreements will be formalized prior to any field efforts on these properties.

1.2 Utility Clearance

Prior to on-site drilling, a utility clearance meeting with Diggers Hotline and the owners of private underground utilities will be scheduled. Prior to drilling, underground utilities need to be cleared.

2.0 METHODS

2.1 Determining Sample Location

Sample locations will be determined using a biased sampling location criterion. The sample locations will be biased toward areas of visual contamination or areas in which previous activities or reports suggest the possibility for contamination. Lacking visual or other evidence of contamination, sample locations will be determined by uniformly distributing the proposed number of samples across the subject site.

2.2 Soil Sampling Using a Drilling Rig

Surface and subsurface soil samples will be collected with the use of a rotary drill rig equipped with 4-1/4 inch inside diameter (I.D.) hollow stem augers and a split spoon sampler. Soil samples will be collected continuously from the ground surface to the end of soil boring using a 2-foot long split spoon sampler in accordance with American Society Testing Methods (ASTM) D-1586. Conditions observed at each soil boring will be documented on soil boring logs.

When using ASTM D-1586, “Penetration Test and Split Barrel Sampling of Soils,” a 2-inch outside diameter (O.D.) split barrel sampler is driven into the soil with a 140-pound weight free falling 30 inches. The number of blows per 6 inches of penetration for a total of 18 inches is recorded. These values, known as “R” values, will appear on the individual boring logs.

In certain situations, it may be necessary to use a 3-inch O.D. split barrel sampler to collect enough sample volume for the proposed laboratory analyses. It is understood that the 3-inch O.D. split barrel sampler may be at variance with ASTM D-1586. In-situ undisturbed samples may be collected if required by pushing a Shelby tube through the zone of interest. A Shelby tube is immediately sealed with wax or plastic ends, the ends marked with the appropriate depth, and the tube labeled with the project number and boring identification.

Select soil samples from each boring location are collected using the procedures detailed below and submitted for laboratory analysis. The laboratory samples will be chosen based on field observations using a Photoionization Detector (PID) reading, color, odor, moisture content, etc., soil and groundwater characteristics, and strategic location.

2.3 Temporary Monitoring Wells

Temporary monitoring wells will be installed at locations in which information concerning groundwater quality or free product is desired but installation of a permanent monitoring well is not warranted. Temporary wells will be installed in soil borings constructed for the primary purpose of collecting soil samples or within soil borings constructed solely for the purpose of constructing a temporary well. Where temporary monitoring wells are installed, they will be constructed using a 1-inch or 2-inch nominal diameter, Schedule 40 PVC, threaded, flush-joint riser and a 5-foot long, 0.010 slot Schedule 40 PVC well screen. A temporary filter pack will be placed around the screen portion of the well.

The filter pack shall be a well-sorted silica based sand. The filter pack shall extend the entire length of the screen. Temporary wells which are placed so that the top of the well screen is below the water table will have a bentonite seal installed. In addition, a bentonite seal will be

placed above the filter pack at temporary well locations in which the ground surface is inundated with surface water. The purpose of the bentonite seal is to prevent short-circuiting during purging and sampling.

The temporary well will be developed, purged and sampled using the same techniques used for sampling permanent monitoring wells, or in the case of observation of potential free product, gauged for product. When sampling/gauging has been completed, the temporary well casing will be removed and the borehole will be abandoned using techniques used for bore hole abandonment.

3.0 SAMPLING

3.1 Soil Samples

Collected soil samples will be split with one (1) portion to be used for a field-screening analysis and the other portion(s) will be immediately placed in the proper laboratory sample containers and placed on ice to preserve the sample for use as a laboratory sample, if selected. Special care will be taken to ensure enough sample volume will be available for analytical testing.

Sampling zones will be chosen based on field examination. In general, the sample will be collected from an area that suggests potential petroleum impact (i.e.; soil discoloration, petroleum-like odors and/or elevated PID readings). It should be noted that for the purpose of delineating a zone of impact within a particular borehole, a decision may be made to collect a sample from an area other than where petroleum impact is suspected. A maximum of three (3) soil samples from each boring location will be submitted for laboratory analysis. Deviation from the above may be necessary because of unforeseen field conditions.

If the field examination does not identify potential petroleum contamination, then the sample will be collected from the lower end of the bore sampler or, if evident, immediately above the water table.

3.2 Purging the Well Prior to Collecting Sample

The well shall be purged prior to sample retrieval to ensure a representative sample. If the well is screened in a low permeability formation, the well may purge dry or may reach a point where little water can be removed. If the well is purged dry, or if little water can be removed from the well before purging is complete, the well will be allowed to stand for 15 minutes and will be purged a second time to the point where little water can be removed. Sampling will then proceed as soon as there is a sufficient volume of water for the intended analysis (not necessarily when the well is fully recovered).

If the well is screened in a high permeability formation, the well will not be able to be purged dry. The well should be purged until temperature, pH and specific conductance have stabilized to ensure a representative sample. At a minimum, three (3) well volumes are withdrawn from the well prior to collecting the sample. The volume of water to be purged shall be collected using the following formula:

$$\text{For 2 Inch Well: 1 Well Volume (Gallons)} = (\text{Depth to Well Bottom}) - (\text{Depth to Water}) \times 0.163.$$

The well shall be purged as near the water surface as possible to ensure that no stagnant water remains in the well after purging. The samples shall be collected as soon as possible following purging. Care shall be taken when purging to minimize the introduction of air and turbulence into the formation so as to prevent alteration of the sample.

3.3 Laboratory Samples

Laboratory samples will be collected in accordance with WDNR guidelines. Soil samples for the VOC analysis will be packed in one (1) pre-weighed, laboratory supplied sample container with 9 to 11 grams of soil in accordance with EPA SW-846, Method 5035A. After the soil is weighed, 10 ml of methanol is added from a laboratory provided aliquot. If a methanol aliquot greater than 10 ml is provided, sufficient soil will be weighed to maintain a 1:1 methanol to soil

ratio. The stock number of the aliquot is recorded in the field book. The sample container is gently swirled, but not shaken, then placed in a cooler under ice.

Samples will be collected using a disposable syringe, pre-cleaned stainless steel sampling utensil, or a disposable nitrile/latex glove. An additional laboratory supplied container will be packaged and sealed for the purpose of obtaining percent solids. If the syringe is used, the “plunger” is filled with a new sample and capped. The capped “plunger” is then capped and used by the laboratory for percent solids calculations.

Samples collected for semi-volatile organic compounds (SVOC’s), inorganics or metals analysis will be packed in two (2) 4-ounce wide mouth glass sample containers.

All samples will be packaged in accordance with instructions received from the laboratory.

3.3.1 Preservation Techniques

VOC samples will be preserved immediately after collection with methanol. The desired methanol to soil ratio is one gram of soil to one milliliter of methanol. After the methanol is added, the sample container is gently swirled to break up soil chunks. The sample is not shaken. All samples will be placed under ice in an insulated cooler.

3.3.2 Containers Used

Samples must be placed in approved containers supplied by the Laboratory. Containers used should not interfere with the parameters to be analyzed. Except as otherwise directed by the laboratory, glass containers are to be used for organic compounds; plastic containers are to be used for inorganic compounds. All sample containers will be labeled with the well designation, the time and date of sampling, and the analysis requested.

4.0 QUALITY ASSURANCE/QUALITY CONTROL PROGRAM

Quality assurance and quality control (QA/QC) measures shall be implemented to help ensure that sampling and analytical procedures are yielding accurate results. The primary reasons for these measures are to document any contamination of the samples that may be introduced in the sampling process or during sample shipment, and to determine the variability in the sampling procedure or in laboratory results.

4.1 Chain-of-Custody Documentation

A chain-of-custody record shall be kept to provide documentation needed to trace the possession of the sample. The chain-of-custody form shall be of the type used by the analytical laboratory chosen to complete the work.

Chain-of-custody procedures include sample identification, sealing of samples and maintenance of a chain-of-custody record. Each sample should be clearly labeled immediately after collection. In addition, each sample cooler shall be sealed with a chain-of-custody seal that is signed and dated. The chain-of-custody seals serve as a means of documenting the integrity of the cooler, the samples, and to assist with ensuring that no unauthorized tampering of the cooler or samples has occurred upon delivery of the samples to the laboratory.

The chain-of-custody record shall, at a minimum, include the project name and number, the sample identification number, the date and time of sample collection, the station location, the number of containers, the signature of the person collecting the sample and the signature of each person who possesses the samples, along with the date and time that samples are received and relinquished. Upon receipt of the chain-of-custody by the laboratory, the individual receiving the samples should indicate the condition and temperature of the samples on the chain-of-custody form.

5.0 SAMPLE MANAGEMENT

Upon collection, samples will be labeled, wrapped in plastic “ziplock” bags, and placed in insulated coolers. The samples will be placed under ice or ice packs. Samples will not be allowed to freeze. The chain-of-custody records will be executed and sample coolers will be secured with executed chain-of-custody seals prior to sample shipments.

Generally, on a daily basis or at least every other day, samples will be shipped to the laboratory via commercial courier (United Parcel Service or Federal Express). As required by holding times, samples will be shipped on a “next day air” basis. If deemed practical at the time of field activities, CEC will attempt to establish scheduled courier pick-up times in the immediate vicinity of the project site.

APPENDIX F

ADDITIONAL LIMITATIONS

**ADDITIONAL LIMITATIONS
FOR
PHASE 2 SUBSURFACE INVESTIGATION REPORTS**

1. In preparation of this report, Coleman Engineering Company (CEC) has relied on certain information provided by the parties referenced herein. Although there may have been some degree of overlap in the information provided by these various sources, we did not attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of this site review.
2. Our conclusions regarding the site are based on observations of existing site conditions, our interpretation of available site history and site usage information. The findings are relevant to the dates of our site visit and should not be relied upon to represent conditions or information available at other dates. The findings and conclusions must be considered probabilities based on professional judgment concerning the significance of the limited data gathered during the course of the site review. Conclusions regarding the condition of the site do not represent a warranty that all areas within the site are of the same quality as may be inferred from observable site conditions, readily available site history, and a limited exploration program carried out as part of this review. Should additional information regarding environmental conditions at the site which is not contained in this report be obtained, such information should be brought to CEC's attention. We will evaluate such information and, on the basis of our evaluation, may modify the conclusions stated in the report.
3. Observations were made of the site and of structures on the site as indicated within the report. Where access to portions of the site or to structures on the site was unavailable or limited, CEC renders no opinion as to the presence of hazardous material or to the presence of indirect evidence relating to hazardous material in that portion of the site or structure. In addition, CEC renders no opinion as to the presence of hazardous material or to the presence of indirect evidence relating to hazardous material where direct observation of interior walls, floor, or ceiling of a structure on the site was obstructed by objects or coverings on or over these surfaces.
4. CEC did not perform testing or analyses to determine the presence or concentration of asbestos, lead-based paints, or radon or other naturally occurring materials, nor did it include an evaluation of latent conditions at the site or in the environment at the site.
5. No specific attempt was made to check the compliance of present or past owners or operators of the site with federal, state, or local laws and regulations, environmental or otherwise.
6. This report has been prepared for, and is intended for the exclusive use of the Wisconsin Department of Transportation. The contents of this report should not be relied upon by any other party without the express written consent of CEC. However, CEC acknowledges that the report may be conveyed to the owner and lending institution associated with the prospective sale and/or lease of the site.