



October 18, 2016

Mr. Shaun Lehman
MDEQ-OOGM Lansing District Office
Constitution Hall 2 South
525 West Allegan Street
Lansing, MI 48913

Re: **Residential Well Sampling Update**
Hartland 36 Gas Plant
SE/NE/NW Section 36, T03N-R06E
Hartland Township, Livingston County, Michigan

Dear Mr. Lehman:

Per the request of Merit Energy Company (MEC), Environmental Consulting & Technology, Inc. (ECT) performed residential water supply well sampling in August and September 2016 in Hartland Township, Michigan. A total of 67 water supply wells were sampled by personnel from ECT during this time frame. These are in addition to the 15 water supply wells that were sampled in October 2015, June 2016, and July 2016 and reported in the previously submitted letter titled "Residential Well Sampling" dated July 14, 2016. All residential well supply samples collected to date were submitted for the analyses noted in the attached **Table 1** to an independent/third party accredited laboratory. Laboratory analytical results were reported as "ND – not detected at the Reporting Limit" for sulfolane for all samples collected. *Laboratory analytical reports are attached. Figure 1, attached, depicts the approximate locations of all sampled residential water supply wells. Table 1, attached, details sample locations, dates, analyses requested, and laboratory report numbers.*

A copy of this letter has been sent to the Livingston County Department of Public Health and copies of each laboratory report have been sent to respective property owners.

Closing

ECT sincerely appreciates the opportunity to provide our consulting services on this important project. Should you have questions or require additional information, please do not hesitate to contact me at your convenience at 231.946.8200 or jlewandowski@ectinc.com.

Sincerely,
ENVIRONMENTAL CONSULTING & TECHNOLOGY, INC.

Jeremy S. Lewandowski
Senior Engineer

CC: Matt Bolang – Livingston County Department of Public Health
Sean Craven – Merit Energy Company

Attachments: Figure 1 Sampled Residential Well Locations
Table 1 Sampled Residential Well Locations
Laboratory Analytical Reports

3399 Veterans
Drive
Traverse City, MI
49684

(231) 946-8200

FAX
(231) 946-8208

**MERIT ENERGY
COMPANY
HARTLAND 36
NATURAL GAS
PLANT**

130685 - 2000
ECT PROJECT NUMBER

DESIGNED BY _____ CHECKED BY _____

BJB DRAWN BY _____ JSL APPROVED BY _____

SHEET TITLE

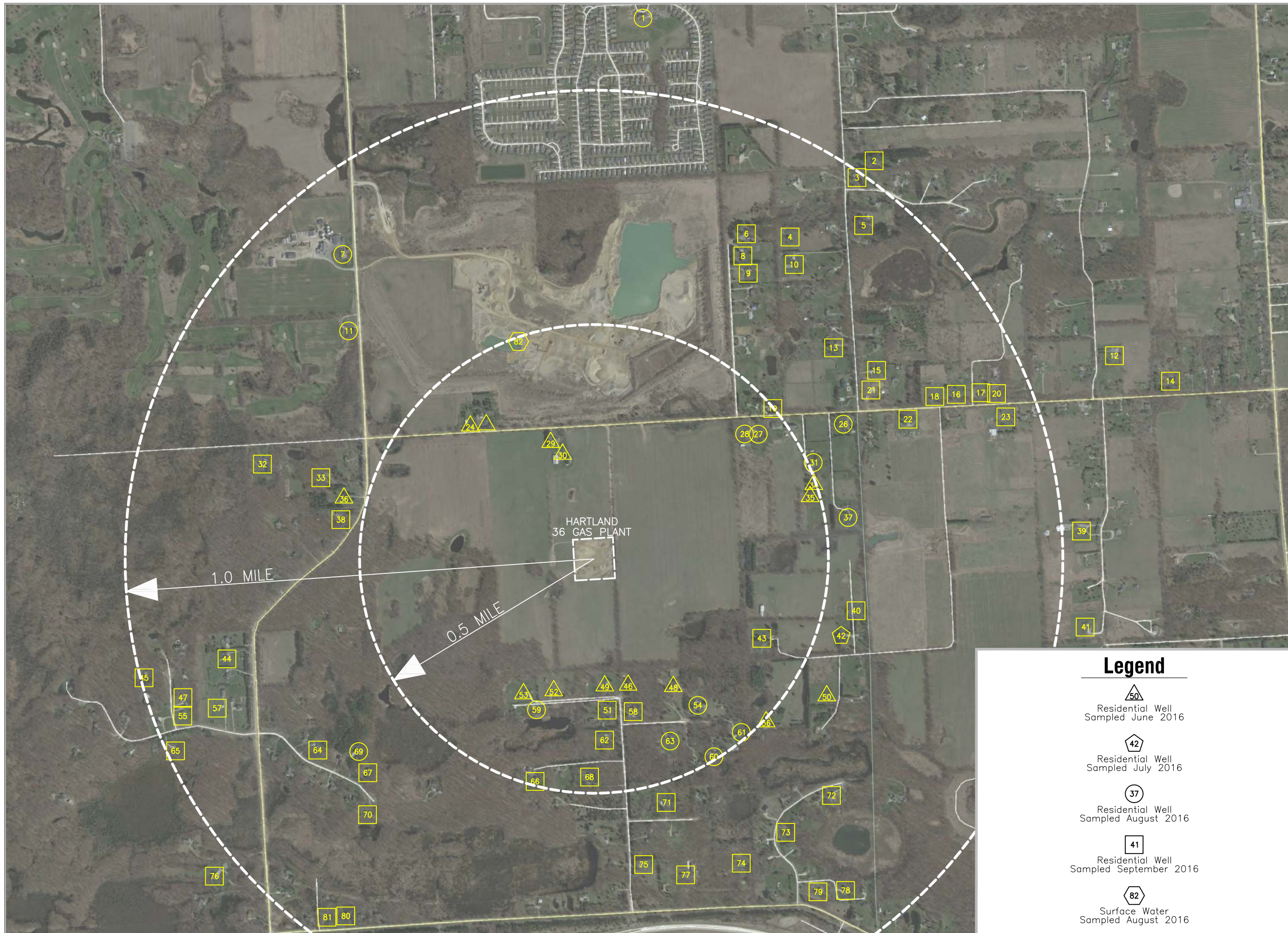
**SAMPLED
RESIDENTIAL WELL
LOCATIONS**

SCALE: 1" = 1000' @ 11x17



FIGURE

1



Legend






-  Residential Well
Sampled June 2016
-  Residential Well
Sampled July 2016
-  Residential Well
Sampled August 2016
-  Residential Well
Sampled September 2016
-  Surface Water
Sampled August 2016

Table 1
Sampled Residential Well Locations

Map ID	Address	Sample Date(s)	Analyses Requested	Laboratory Report Number(s)
1	13634 Highland Road	8/15/16	Sulfolane ² , DIPA ² , VOCs ³	1608866
2	887 S Tipsico Lake Road	9/14/16	Sulfolane	1609801
3	925 S Tipsico Lake Road	9/14/16	Sulfolane	1609800
4	1074 S Tipsico Lake Road	9/14/16	Sulfolane	1609798
5	1055 S Tipsico Lake Road	9/14/16	Sulfolane	1609796
6	1380 Windmill Lane	9/14/16	Sulfolane	1609824
7	1385 N Pleasant Valley Road	8/3/16	Sulfolane, DIPA, VOCs	1608294
8	1340 Windmill Lane	9/14/16	Sulfolane	1609823
9	1300 Windmill Lane	9/15/16	Sulfolane	1609958
10	1198 S Tipsico Lake Road	9/14/16	Sulfolane	1609797
11	1225 N Pleasant Valley Road	8/3/16	Sulfolane, DIPA, VOCs	1608297
12	1401 Stone Barn Road	9/13/16	Sulfolane	1609726
13	1600 S Tipsico Lake Road	9/14/16	Sulfolane	1609794
14	3630 Lone Tree Road	9/15/16	Sulfolane	1609953
15	1661 S Tipsico Lake Road	9/14/16	Sulfolane	1609793
16	4322 Lone Tree Road	9/13/16	Sulfolane	1609732
17	4200 Lone Tree Road	9/13/16	Sulfolane	1609735
18	4380 Lone Tree Road	9/13/16	Sulfolane	1609692
19	13845 Lone Tree Road	9/22/16	Sulfolane	16091371
20	4170 Lone Tree Road	9/13/16	Sulfolane	1609734
21	4720 Lone Tree Road	9/15/16	Sulfolane	1609954
22	4475 Lone Tree Road	9/15/16	Sulfolane	1609955
23	4211 Lone Tree Road	9/15/16	Sulfolane	1609957
24	13223 Lone Tree Road	6/7/16	Sulfolane, DIPA, VOCs	1606480
25	13247 Lone Tree Road	6/7/16	Sulfolane, DIPA, VOCs	1606484
26	13988 Lone Tree Road ⁴	8/15/16	Sulfolane, DIPA, VOCs	1608866
27	13822 Lone Tree Road	8/3/16	Sulfolane, DIPA, VOCs	1608272
28	13800 Lone Tree Road	8/3/16	Sulfolane, DIPA, VOCs	1608284
29	13390 Lone Tree Road (Deep)	10/5/15, 10/19/15, 6/13/16	Sulfolane, ethylene glycol ⁵ , SVOCs ⁶ , VOCs	1510283, 15101248, 1606871
30	13390 Lone Tree Road (Shallow)	10/30/15, 6/13/16	Sulfolane, ethylene glycol, SVOCs, VOCs	15101956, 1606870
31	920 Erin Lane	8/15/16	Sulfolane, DIPA, VOCs	1608866
32	12780 LONE TREE Road	9/14/16	Sulfolane	1609818
33	931 N Pleasant Valley Road	9/14/16	Sulfolane	1609814
34	900 Erin Lane	6/7/16	Sulfolane, DIPA, VOCs	1606476
35	900 Erin Lane (Pole Bldg)	6/14/16	Sulfolane, DIPA, VOCs	1606903
36	869 Pleasant Valley Road	6/13/16	Sulfolane, DIPA, VOCs	1606886
37	13966 Lone Tree Road	8/15/16	Sulfolane, DIPA, VOCs	1608866
38	807 N Pleasant Valley Road	9/14/16	Sulfolane	1609819
39	2130 S Stone Barn Road	9/13/16	Sulfolane	1609729
40	14001 Cherry Blossom Lane	9/13/16	Sulfolane	1609727
41	2272 S Stone Barn Road	9/13/16	Sulfolane	1609730
42	13955 Cherry Blossom Lane	6/7/16	Sulfolane, DIPA, VOCs	1607390
43	13841 Cherry Blossom Lane	9/13/16	Sulfolane	1609724
44	579 N Pleasant Valley Road	9/14/16	Sulfolane	1609816
45	517 Golden Oaks Court	9/13/16	Sulfolane	1609702
46	460 Jeni Lane	6/13/16	Sulfolane, DIPA, VOCs	1606873
47	482 Golden Oaks Court	9/13/16	Sulfolane	1609697
48	13593 Sheila Lane	6/6/16	Sulfolane, DIPA, VOCs	1606481
49	513 Jeni Lane ⁷	6/14/16	Sulfolane, DIPA, VOCs	1606902
50	13900 Cherry Blossom Lane	6/13/16	Sulfolane, DIPA, VOCs	1606887
51	441 Jeni Lane	9/14/16	Sulfolane	1609809
52	477 Jeni Lane	6/13/16	Sulfolane, DIPA, VOCs	1606884
53	495 Jeni Lane	6/6/16	Sulfolane, DIPA, VOCs	1606478
54	13631 Sheila Lane	8/3/16	Sulfolane, DIPA, VOCs	1608296
55	456 Golden Oaks Court	9/14/16	Sulfolane	1609821
56	13850 Cherry Blossom Lane	6/6/16	Sulfolane, DIPA, VOCs	1606479
57	12647 Golden Oaks Drive	9/13/16	Sulfolane	1609699
58	442 Jeni Lane	9/13/16	Sulfolane	1609723

Table 1
Sampled Residential Well Locations

Map ID	Address	Sample Date(s)	Analyses Requested	Laboratory Report Number(s)
59	483 Jeni Lane	8/3/16	Sulfolane, DIPA, VOCs	1608287
60	13624 Sheila Lane	8/3/16, 8/15/16	Sulfolane, DIPA, VOCs	1608288, 1608866 ⁸
61	13638 Sheila Lane	8/3/16	Sulfolane, DIPA, VOCs	1608291
62	369 Jeni Lane	9/14/16	Sulfolane	1609804
63	13582 Sheila Lane	8/3/16	Sulfolane, DIPA, VOCs	1608285
64	12811 Sleigh Trail Road	9/13/16	Sulfolane	1609694
65	12530 Golden Oaks Drive	9/13/16	Sulfolane	1609700
66	343 Jeni Lane	9/13/16	Sulfolane	1609722
67	12949 Sleigh Trail Road	9/13/16	Sulfolane	1609696
68	307 Jeni Lane	9/14/16	Sulfolane	1609803
69	12901 Sleigh Trail Road	8/3/16	Sulfolane, DIPA, VOCs	1608295
70	12960 Sleigh Trail Road	9/13/16	Sulfolane	1609695
71	13735 Randy Lane ⁹	9/14/16	Sulfolane	1609802
72	212 Wilderness Lake Court	9/13/16	Sulfolane	1609713
73	116 Wilderness Lake Court	9/13/16	Sulfolane	1609718
74	13711 Commerce Road	9/14/16	Sulfolane	1609811
75	90 Jeni Lane	9/14/16	Sulfolane	1609807
76	99 N Pleasant Valley Road	9/14/16	Sulfolane	1609812
77	13599 Commerce Road	9/14/16	Sulfolane	1609808
78	38 Wilderness Lake Court	9/13/16	Sulfolane	1609714
79	28 Wilderness Lake Court	9/13/16	Sulfolane	1609715
80	12915 Commerce Road	9/13/16	Sulfolane	1609720
81	12883 Commerce Road	9/13/16	Sulfolane	1609721
82	Sand and Gravel Pond	8/3/16	Sulfolane	1608292

Notes

- 1) Sulfolane analyzed by EPA Method SW846 8270D
- 2) DIPA: Diisopropanolamine analyzed by EPA Method SW846 8270D
- 3) VOCs: Volatile Organic Compounds analyzed by EPA Method SW8260B
- 4) Two wells sampled at 13988 Lone Tree Road
- 5) Ethylene glycol analyzed by EPA Method SW8015M
- 6) SVOCs: Semi-Volatile Organic Compounds analyzed by EPA Method SW846 8270D
- 7) 513 Jeni Lane is recorded in laboratory report 1606902 as "731 Jeni Lane"
- 8) 8/15/16 sample analyzed for VOCs only
- 9) 13735 Randy Lane is recorded in laboratory report 1609802 as "13725 Randy Lane"



19-Aug-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit Harland 36 Gas Plant)**

Work Order: **1608866**

Dear Sean,

ALS Environmental received 6 samples on 16-Aug-2016 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 28.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit Harland 36 Gas Plant)
Work Order: 1608866

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1608866-01	13966 Lone Tree Rd	Water		8/15/2016 08:45	8/16/2016 09:30	<input type="checkbox"/>
1608866-02	13988 Lone Tree Rd (South Well)	Water		8/15/2016 09:30	8/16/2016 09:30	<input type="checkbox"/>
1608866-03	13988 Lone Tree Rd (North Well)	Water		8/15/2016 10:00	8/16/2016 09:30	<input type="checkbox"/>
1608866-04	13624 Sheila Lane	Water		8/15/2016 11:00	8/16/2016 09:30	<input type="checkbox"/>
1608866-05	13634 Highland Rd (Hartland Meadows)	Water		8/15/2016 12:00	8/16/2016 09:30	<input type="checkbox"/>
1608866-06	920 Erin Lane	Water		8/15/2016 12:45	8/16/2016 09:30	<input type="checkbox"/>

ALS Group USA, Corp

Date: 19-Aug-16

Client: Merit Energy
Project: ECT (Merit Harland 36 Gas Plant)
Sample ID: 13966 Lone Tree Rd
Collection Date: 8/15/2016 08:45 AM

Work Order: 1608866
Lab ID: 1608866-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 8/17/16	Analyst: RM
Diisopropanolamine	ND		50	µg/L	1	8/18/2016 04:17 PM
Sulfolane	ND		10	µg/L	1	8/18/2016 04:17 PM
Surr: 2,4,6-Tribromophenol	85.4		38-115	%REC	1	8/18/2016 04:17 PM
Surr: 2-Fluorobiphenyl	85.3		32-100	%REC	1	8/18/2016 04:17 PM
Surr: 2-Fluorophenol	46.5		22-59	%REC	1	8/18/2016 04:17 PM
Surr: 4-Terphenyl-d14	108		23-112	%REC	1	8/18/2016 04:17 PM
Surr: Nitrobenzene-d5	78.7		31-93	%REC	1	8/18/2016 04:17 PM
Surr: Phenol-d6	26.9		13-36	%REC	1	8/18/2016 04:17 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B			Analyst: EMR
1,1,1,2-Tetrachloroethane	ND		1.0	µg/L	1	8/16/2016 02:08 PM
1,1,1-Trichloroethane	ND		1.0	µg/L	1	8/16/2016 02:08 PM
1,1,2,2-Tetrachloroethane	ND		1.0	µg/L	1	8/16/2016 02:08 PM
1,1,2-Trichloroethane	ND		1.0	µg/L	1	8/16/2016 02:08 PM
1,1,2-Trichlorotrifluoroethane	ND		1.0	µg/L	1	8/16/2016 02:08 PM
1,1-Dichloroethane	ND		1.0	µg/L	1	8/16/2016 02:08 PM
1,1-Dichloroethene	ND		1.0	µg/L	1	8/16/2016 02:08 PM
1,2,3-Trichloropropane	ND		1.0	µg/L	1	8/16/2016 02:08 PM
1,2,4-Trichlorobenzene	ND		1.0	µg/L	1	8/16/2016 02:08 PM
1,2,4-Trimethylbenzene	ND		1.0	µg/L	1	8/16/2016 02:08 PM
1,2-Dibromo-3-chloropropane	ND		1.0	µg/L	1	8/16/2016 02:08 PM
1,2-Dibromoethane	ND		1.0	µg/L	1	8/16/2016 02:08 PM
1,2-Dichlorobenzene	ND		1.0	µg/L	1	8/16/2016 02:08 PM
1,2-Dichloroethane	ND		1.0	µg/L	1	8/16/2016 02:08 PM
1,2-Dichloropropane	ND		1.0	µg/L	1	8/16/2016 02:08 PM
1,3,5-Trimethylbenzene	ND		1.0	µg/L	1	8/16/2016 02:08 PM
1,3-Dichlorobenzene	ND		1.0	µg/L	1	8/16/2016 02:08 PM
1,4-Dichlorobenzene	ND		1.0	µg/L	1	8/16/2016 02:08 PM
2-Butanone	ND		5.0	µg/L	1	8/16/2016 02:08 PM
2-Hexanone	ND		5.0	µg/L	1	8/16/2016 02:08 PM
2-Methylnaphthalene	ND		5.0	µg/L	1	8/16/2016 02:08 PM
4-Methyl-2-pentanone	ND		1.0	µg/L	1	8/16/2016 02:08 PM
Acetone	ND		10	µg/L	1	8/16/2016 02:08 PM
Acrylonitrile	ND		1.0	µg/L	1	8/16/2016 02:08 PM
Benzene	ND		1.0	µg/L	1	8/16/2016 02:08 PM
Bromochloromethane	ND		1.0	µg/L	1	8/16/2016 02:08 PM
Bromodichloromethane	ND		1.0	µg/L	1	8/16/2016 02:08 PM
Bromoform	ND		1.0	µg/L	1	8/16/2016 02:08 PM
Bromomethane	ND		1.0	µg/L	1	8/16/2016 02:08 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 19-Aug-16

Client: Merit Energy
Project: ECT (Merit Harland 36 Gas Plant)
Sample ID: 13966 Lone Tree Rd
Collection Date: 8/15/2016 08:45 AM

Work Order: 1608866
Lab ID: 1608866-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		1.0	µg/L	1	8/16/2016 02:08 PM
Carbon tetrachloride	ND		1.0	µg/L	1	8/16/2016 02:08 PM
Chlorobenzene	ND		1.0	µg/L	1	8/16/2016 02:08 PM
Chloroethane	ND		1.0	µg/L	1	8/16/2016 02:08 PM
Chloroform	ND		1.0	µg/L	1	8/16/2016 02:08 PM
Chloromethane	ND		1.0	µg/L	1	8/16/2016 02:08 PM
cis-1,2-Dichloroethene	ND		1.0	µg/L	1	8/16/2016 02:08 PM
cis-1,3-Dichloropropene	ND		1.0	µg/L	1	8/16/2016 02:08 PM
Dibromochloromethane	ND		1.0	µg/L	1	8/16/2016 02:08 PM
Dibromomethane	ND		1.0	µg/L	1	8/16/2016 02:08 PM
Dichlorodifluoromethane	ND		1.0	µg/L	1	8/16/2016 02:08 PM
Diethyl ether	ND		1.0	µg/L	1	8/16/2016 02:08 PM
Ethylbenzene	ND		1.0	µg/L	1	8/16/2016 02:08 PM
Hexachloroethane	ND		1.0	µg/L	1	8/16/2016 02:08 PM
Isopropylbenzene	ND		1.0	µg/L	1	8/16/2016 02:08 PM
m,p-Xylene	ND		2.0	µg/L	1	8/16/2016 02:08 PM
Methyl iodide	ND		1.0	µg/L	1	8/16/2016 02:08 PM
Methyl tert-butyl ether	ND		1.0	µg/L	1	8/16/2016 02:08 PM
Methylene chloride	ND		5.0	µg/L	1	8/16/2016 02:08 PM
Naphthalene	ND		5.0	µg/L	1	8/16/2016 02:08 PM
n-Propylbenzene	ND		1.0	µg/L	1	8/16/2016 02:08 PM
o-Xylene	ND		1.0	µg/L	1	8/16/2016 02:08 PM
Styrene	ND		1.0	µg/L	1	8/16/2016 02:08 PM
Tetrachloroethene	ND		1.0	µg/L	1	8/16/2016 02:08 PM
Toluene	ND		1.0	µg/L	1	8/16/2016 02:08 PM
trans-1,2-Dichloroethene	ND		1.0	µg/L	1	8/16/2016 02:08 PM
trans-1,3-Dichloropropene	ND		1.0	µg/L	1	8/16/2016 02:08 PM
trans-1,4-Dichloro-2-butene	ND		2.0	µg/L	1	8/16/2016 02:08 PM
Trichloroethene	ND		1.0	µg/L	1	8/16/2016 02:08 PM
Trichlorofluoromethane	ND		1.0	µg/L	1	8/16/2016 02:08 PM
Vinyl acetate	ND		5.0	µg/L	1	8/16/2016 02:08 PM
Vinyl chloride	ND		1.0	µg/L	1	8/16/2016 02:08 PM
Xylenes, Total	ND		3.0	µg/L	1	8/16/2016 02:08 PM
Surr: 1,2-Dichloroethane-d4	99.6		75-120	%REC	1	8/16/2016 02:08 PM
Surr: 4-Bromofluorobenzene	100		80-110	%REC	1	8/16/2016 02:08 PM
Surr: Dibromofluoromethane	95.0		85-115	%REC	1	8/16/2016 02:08 PM
Surr: Toluene-d8	96.6		85-110	%REC	1	8/16/2016 02:08 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 19-Aug-16

Client: Merit Energy
Project: ECT (Merit Harland 36 Gas Plant)
Sample ID: 13988 Lone Tree Rd (South Well)
Collection Date: 8/15/2016 09:30 AM

Work Order: 1608866
Lab ID: 1608866-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 8/17/16	Analyst: RM
Diisopropanolamine	ND		50	µg/L	1	8/18/2016 04:38 PM
Sulfolane	ND		10	µg/L	1	8/18/2016 04:38 PM
Surr: 2,4,6-Tribromophenol	85.6		38-115	%REC	1	8/18/2016 04:38 PM
Surr: 2-Fluorobiphenyl	78.7		32-100	%REC	1	8/18/2016 04:38 PM
Surr: 2-Fluorophenol	43.8		22-59	%REC	1	8/18/2016 04:38 PM
Surr: 4-Terphenyl-d14	105		23-112	%REC	1	8/18/2016 04:38 PM
Surr: Nitrobenzene-d5	71.7		31-93	%REC	1	8/18/2016 04:38 PM
Surr: Phenol-d6	25.8		13-36	%REC	1	8/18/2016 04:38 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B			Analyst: EMR
1,1,1,2-Tetrachloroethane	ND		1.0	µg/L	1	8/16/2016 02:30 PM
1,1,1-Trichloroethane	ND		1.0	µg/L	1	8/16/2016 02:30 PM
1,1,2,2-Tetrachloroethane	ND		1.0	µg/L	1	8/16/2016 02:30 PM
1,1,2-Trichloroethane	ND		1.0	µg/L	1	8/16/2016 02:30 PM
1,1,2-Trichlorotrifluoroethane	ND		1.0	µg/L	1	8/16/2016 02:30 PM
1,1-Dichloroethane	ND		1.0	µg/L	1	8/16/2016 02:30 PM
1,1-Dichloroethene	ND		1.0	µg/L	1	8/16/2016 02:30 PM
1,2,3-Trichloropropane	ND		1.0	µg/L	1	8/16/2016 02:30 PM
1,2,4-Trichlorobenzene	ND		1.0	µg/L	1	8/16/2016 02:30 PM
1,2,4-Trimethylbenzene	ND		1.0	µg/L	1	8/16/2016 02:30 PM
1,2-Dibromo-3-chloropropane	ND		1.0	µg/L	1	8/16/2016 02:30 PM
1,2-Dibromoethane	ND		1.0	µg/L	1	8/16/2016 02:30 PM
1,2-Dichlorobenzene	ND		1.0	µg/L	1	8/16/2016 02:30 PM
1,2-Dichloroethane	ND		1.0	µg/L	1	8/16/2016 02:30 PM
1,2-Dichloropropane	ND		1.0	µg/L	1	8/16/2016 02:30 PM
1,3,5-Trimethylbenzene	ND		1.0	µg/L	1	8/16/2016 02:30 PM
1,3-Dichlorobenzene	ND		1.0	µg/L	1	8/16/2016 02:30 PM
1,4-Dichlorobenzene	ND		1.0	µg/L	1	8/16/2016 02:30 PM
2-Butanone	ND		5.0	µg/L	1	8/16/2016 02:30 PM
2-Hexanone	ND		5.0	µg/L	1	8/16/2016 02:30 PM
2-Methylnaphthalene	ND		5.0	µg/L	1	8/16/2016 02:30 PM
4-Methyl-2-pentanone	ND		1.0	µg/L	1	8/16/2016 02:30 PM
Acetone	ND		10	µg/L	1	8/16/2016 02:30 PM
Acrylonitrile	ND		1.0	µg/L	1	8/16/2016 02:30 PM
Benzene	ND		1.0	µg/L	1	8/16/2016 02:30 PM
Bromochloromethane	ND		1.0	µg/L	1	8/16/2016 02:30 PM
Bromodichloromethane	ND		1.0	µg/L	1	8/16/2016 02:30 PM
Bromoform	ND		1.0	µg/L	1	8/16/2016 02:30 PM
Bromomethane	ND		1.0	µg/L	1	8/16/2016 02:30 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 19-Aug-16

Client: Merit Energy
Project: ECT (Merit Harland 36 Gas Plant)
Sample ID: 13988 Lone Tree Rd (South Well)
Collection Date: 8/15/2016 09:30 AM

Work Order: 1608866
Lab ID: 1608866-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		1.0	µg/L	1	8/16/2016 02:30 PM
Carbon tetrachloride	ND		1.0	µg/L	1	8/16/2016 02:30 PM
Chlorobenzene	ND		1.0	µg/L	1	8/16/2016 02:30 PM
Chloroethane	ND		1.0	µg/L	1	8/16/2016 02:30 PM
Chloroform	ND		1.0	µg/L	1	8/16/2016 02:30 PM
Chloromethane	ND		1.0	µg/L	1	8/16/2016 02:30 PM
cis-1,2-Dichloroethene	ND		1.0	µg/L	1	8/16/2016 02:30 PM
cis-1,3-Dichloropropene	ND		1.0	µg/L	1	8/16/2016 02:30 PM
Dibromochloromethane	ND		1.0	µg/L	1	8/16/2016 02:30 PM
Dibromomethane	ND		1.0	µg/L	1	8/16/2016 02:30 PM
Dichlorodifluoromethane	ND		1.0	µg/L	1	8/16/2016 02:30 PM
Diethyl ether	ND		1.0	µg/L	1	8/16/2016 02:30 PM
Ethylbenzene	ND		1.0	µg/L	1	8/16/2016 02:30 PM
Hexachloroethane	ND		1.0	µg/L	1	8/16/2016 02:30 PM
Isopropylbenzene	ND		1.0	µg/L	1	8/16/2016 02:30 PM
m,p-Xylene	ND		2.0	µg/L	1	8/16/2016 02:30 PM
Methyl iodide	ND		1.0	µg/L	1	8/16/2016 02:30 PM
Methyl tert-butyl ether	ND		1.0	µg/L	1	8/16/2016 02:30 PM
Methylene chloride	ND		5.0	µg/L	1	8/16/2016 02:30 PM
Naphthalene	ND		5.0	µg/L	1	8/16/2016 02:30 PM
n-Propylbenzene	ND		1.0	µg/L	1	8/16/2016 02:30 PM
o-Xylene	ND		1.0	µg/L	1	8/16/2016 02:30 PM
Styrene	ND		1.0	µg/L	1	8/16/2016 02:30 PM
Tetrachloroethene	ND		1.0	µg/L	1	8/16/2016 02:30 PM
Toluene	ND		1.0	µg/L	1	8/16/2016 02:30 PM
trans-1,2-Dichloroethene	ND		1.0	µg/L	1	8/16/2016 02:30 PM
trans-1,3-Dichloropropene	ND		1.0	µg/L	1	8/16/2016 02:30 PM
trans-1,4-Dichloro-2-butene	ND		2.0	µg/L	1	8/16/2016 02:30 PM
Trichloroethene	ND		1.0	µg/L	1	8/16/2016 02:30 PM
Trichlorofluoromethane	ND		1.0	µg/L	1	8/16/2016 02:30 PM
Vinyl acetate	ND		5.0	µg/L	1	8/16/2016 02:30 PM
Vinyl chloride	ND		1.0	µg/L	1	8/16/2016 02:30 PM
Xylenes, Total	ND		3.0	µg/L	1	8/16/2016 02:30 PM
Surr: 1,2-Dichloroethane-d4	98.3		75-120	%REC	1	8/16/2016 02:30 PM
Surr: 4-Bromofluorobenzene	97.7		80-110	%REC	1	8/16/2016 02:30 PM
Surr: Dibromofluoromethane	96.5		85-115	%REC	1	8/16/2016 02:30 PM
Surr: Toluene-d8	95.0		85-110	%REC	1	8/16/2016 02:30 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 19-Aug-16

Client: Merit Energy
Project: ECT (Merit Harland 36 Gas Plant)
Sample ID: 13988 Lone Tree Rd (North Well)
Collection Date: 8/15/2016 10:00 AM

Work Order: 1608866
Lab ID: 1608866-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 8/17/16	Analyst: RM
Diisopropanolamine	ND		50	µg/L	1	8/18/2016 04:58 PM
Sulfolane	ND		10	µg/L	1	8/18/2016 04:58 PM
Surr: 2,4,6-Tribromophenol	84.8		38-115	%REC	1	8/18/2016 04:58 PM
Surr: 2-Fluorobiphenyl	81.6		32-100	%REC	1	8/18/2016 04:58 PM
Surr: 2-Fluorophenol	43.4		22-59	%REC	1	8/18/2016 04:58 PM
Surr: 4-Terphenyl-d14	101		23-112	%REC	1	8/18/2016 04:58 PM
Surr: Nitrobenzene-d5	75.4		31-93	%REC	1	8/18/2016 04:58 PM
Surr: Phenol-d6	25.5		13-36	%REC	1	8/18/2016 04:58 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B			Analyst: EMR
1,1,1,2-Tetrachloroethane	ND		1.0	µg/L	1	8/16/2016 02:54 PM
1,1,1-Trichloroethane	ND		1.0	µg/L	1	8/16/2016 02:54 PM
1,1,2,2-Tetrachloroethane	ND		1.0	µg/L	1	8/16/2016 02:54 PM
1,1,2-Trichloroethane	ND		1.0	µg/L	1	8/16/2016 02:54 PM
1,1,2-Trichlorotrifluoroethane	ND		1.0	µg/L	1	8/16/2016 02:54 PM
1,1-Dichloroethane	ND		1.0	µg/L	1	8/16/2016 02:54 PM
1,1-Dichloroethene	ND		1.0	µg/L	1	8/16/2016 02:54 PM
1,2,3-Trichloropropane	ND		1.0	µg/L	1	8/16/2016 02:54 PM
1,2,4-Trichlorobenzene	ND		1.0	µg/L	1	8/16/2016 02:54 PM
1,2,4-Trimethylbenzene	ND		1.0	µg/L	1	8/16/2016 02:54 PM
1,2-Dibromo-3-chloropropane	ND		1.0	µg/L	1	8/16/2016 02:54 PM
1,2-Dibromoethane	ND		1.0	µg/L	1	8/16/2016 02:54 PM
1,2-Dichlorobenzene	ND		1.0	µg/L	1	8/16/2016 02:54 PM
1,2-Dichloroethane	ND		1.0	µg/L	1	8/16/2016 02:54 PM
1,2-Dichloropropane	ND		1.0	µg/L	1	8/16/2016 02:54 PM
1,3,5-Trimethylbenzene	ND		1.0	µg/L	1	8/16/2016 02:54 PM
1,3-Dichlorobenzene	ND		1.0	µg/L	1	8/16/2016 02:54 PM
1,4-Dichlorobenzene	ND		1.0	µg/L	1	8/16/2016 02:54 PM
2-Butanone	ND		5.0	µg/L	1	8/16/2016 02:54 PM
2-Hexanone	ND		5.0	µg/L	1	8/16/2016 02:54 PM
2-Methylnaphthalene	ND		5.0	µg/L	1	8/16/2016 02:54 PM
4-Methyl-2-pentanone	ND		1.0	µg/L	1	8/16/2016 02:54 PM
Acetone	ND		10	µg/L	1	8/16/2016 02:54 PM
Acrylonitrile	ND		1.0	µg/L	1	8/16/2016 02:54 PM
Benzene	ND		1.0	µg/L	1	8/16/2016 02:54 PM
Bromochloromethane	ND		1.0	µg/L	1	8/16/2016 02:54 PM
Bromodichloromethane	ND		1.0	µg/L	1	8/16/2016 02:54 PM
Bromoform	ND		1.0	µg/L	1	8/16/2016 02:54 PM
Bromomethane	ND		1.0	µg/L	1	8/16/2016 02:54 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 19-Aug-16

Client: Merit Energy
Project: ECT (Merit Harland 36 Gas Plant)
Sample ID: 13988 Lone Tree Rd (North Well)
Collection Date: 8/15/2016 10:00 AM

Work Order: 1608866
Lab ID: 1608866-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		1.0	µg/L	1	8/16/2016 02:54 PM
Carbon tetrachloride	ND		1.0	µg/L	1	8/16/2016 02:54 PM
Chlorobenzene	ND		1.0	µg/L	1	8/16/2016 02:54 PM
Chloroethane	ND		1.0	µg/L	1	8/16/2016 02:54 PM
Chloroform	ND		1.0	µg/L	1	8/16/2016 02:54 PM
Chloromethane	ND		1.0	µg/L	1	8/16/2016 02:54 PM
cis-1,2-Dichloroethene	ND		1.0	µg/L	1	8/16/2016 02:54 PM
cis-1,3-Dichloropropene	ND		1.0	µg/L	1	8/16/2016 02:54 PM
Dibromochloromethane	ND		1.0	µg/L	1	8/16/2016 02:54 PM
Dibromomethane	ND		1.0	µg/L	1	8/16/2016 02:54 PM
Dichlorodifluoromethane	ND		1.0	µg/L	1	8/16/2016 02:54 PM
Diethyl ether	ND		1.0	µg/L	1	8/16/2016 02:54 PM
Ethylbenzene	ND		1.0	µg/L	1	8/16/2016 02:54 PM
Hexachloroethane	ND		1.0	µg/L	1	8/16/2016 02:54 PM
Isopropylbenzene	ND		1.0	µg/L	1	8/16/2016 02:54 PM
m,p-Xylene	ND		2.0	µg/L	1	8/16/2016 02:54 PM
Methyl iodide	ND		1.0	µg/L	1	8/16/2016 02:54 PM
Methyl tert-butyl ether	ND		1.0	µg/L	1	8/16/2016 02:54 PM
Methylene chloride	ND		5.0	µg/L	1	8/16/2016 02:54 PM
Naphthalene	ND		5.0	µg/L	1	8/16/2016 02:54 PM
n-Propylbenzene	ND		1.0	µg/L	1	8/16/2016 02:54 PM
o-Xylene	ND		1.0	µg/L	1	8/16/2016 02:54 PM
Styrene	ND		1.0	µg/L	1	8/16/2016 02:54 PM
Tetrachloroethene	ND		1.0	µg/L	1	8/16/2016 02:54 PM
Toluene	ND		1.0	µg/L	1	8/16/2016 02:54 PM
trans-1,2-Dichloroethene	ND		1.0	µg/L	1	8/16/2016 02:54 PM
trans-1,3-Dichloropropene	ND		1.0	µg/L	1	8/16/2016 02:54 PM
trans-1,4-Dichloro-2-butene	ND		2.0	µg/L	1	8/16/2016 02:54 PM
Trichloroethene	ND		1.0	µg/L	1	8/16/2016 02:54 PM
Trichlorofluoromethane	ND		1.0	µg/L	1	8/16/2016 02:54 PM
Vinyl acetate	ND		5.0	µg/L	1	8/16/2016 02:54 PM
Vinyl chloride	ND		1.0	µg/L	1	8/16/2016 02:54 PM
Xylenes, Total	ND		3.0	µg/L	1	8/16/2016 02:54 PM
Surr: 1,2-Dichloroethane-d4	96.5		75-120	%REC	1	8/16/2016 02:54 PM
Surr: 4-Bromofluorobenzene	100		80-110	%REC	1	8/16/2016 02:54 PM
Surr: Dibromofluoromethane	97.2		85-115	%REC	1	8/16/2016 02:54 PM
Surr: Toluene-d8	97.4		85-110	%REC	1	8/16/2016 02:54 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 19-Aug-16

Client: Merit Energy
Project: ECT (Merit Harland 36 Gas Plant)
Sample ID: 13624 Sheila Lane
Collection Date: 8/15/2016 11:00 AM

Work Order: 1608866
Lab ID: 1608866-04
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS			SW8260B			Analyst: EMR
1,1,1,2-Tetrachloroethane	ND		1.0	µg/L	1	8/16/2016 03:17 PM
1,1,1-Trichloroethane	ND		1.0	µg/L	1	8/16/2016 03:17 PM
1,1,2,2-Tetrachloroethane	ND		1.0	µg/L	1	8/16/2016 03:17 PM
1,1,2-Trichloroethane	ND		1.0	µg/L	1	8/16/2016 03:17 PM
1,1,2-Trichlorotrifluoroethane	ND		1.0	µg/L	1	8/16/2016 03:17 PM
1,1-Dichloroethane	ND		1.0	µg/L	1	8/16/2016 03:17 PM
1,1-Dichloroethene	ND		1.0	µg/L	1	8/16/2016 03:17 PM
1,2,3-Trichloropropane	ND		1.0	µg/L	1	8/16/2016 03:17 PM
1,2,4-Trichlorobenzene	ND		1.0	µg/L	1	8/16/2016 03:17 PM
1,2,4-Trimethylbenzene	ND		1.0	µg/L	1	8/16/2016 03:17 PM
1,2-Dibromo-3-chloropropane	ND		1.0	µg/L	1	8/16/2016 03:17 PM
1,2-Dibromoethane	ND		1.0	µg/L	1	8/16/2016 03:17 PM
1,2-Dichlorobenzene	ND		1.0	µg/L	1	8/16/2016 03:17 PM
1,2-Dichloroethane	ND		1.0	µg/L	1	8/16/2016 03:17 PM
1,2-Dichloropropane	ND		1.0	µg/L	1	8/16/2016 03:17 PM
1,3,5-Trimethylbenzene	ND		1.0	µg/L	1	8/16/2016 03:17 PM
1,3-Dichlorobenzene	ND		1.0	µg/L	1	8/16/2016 03:17 PM
1,4-Dichlorobenzene	ND		1.0	µg/L	1	8/16/2016 03:17 PM
2-Butanone	ND		5.0	µg/L	1	8/16/2016 03:17 PM
2-Hexanone	ND		5.0	µg/L	1	8/16/2016 03:17 PM
2-Methylnaphthalene	ND		5.0	µg/L	1	8/16/2016 03:17 PM
4-Methyl-2-pentanone	ND		1.0	µg/L	1	8/16/2016 03:17 PM
Acetone	ND		10	µg/L	1	8/16/2016 03:17 PM
Acrylonitrile	ND		1.0	µg/L	1	8/16/2016 03:17 PM
Benzene	ND		1.0	µg/L	1	8/16/2016 03:17 PM
Bromochloromethane	ND		1.0	µg/L	1	8/16/2016 03:17 PM
Bromodichloromethane	ND		1.0	µg/L	1	8/16/2016 03:17 PM
Bromoform	ND		1.0	µg/L	1	8/16/2016 03:17 PM
Bromomethane	ND		1.0	µg/L	1	8/16/2016 03:17 PM
Carbon disulfide	ND		1.0	µg/L	1	8/16/2016 03:17 PM
Carbon tetrachloride	ND		1.0	µg/L	1	8/16/2016 03:17 PM
Chlorobenzene	ND		1.0	µg/L	1	8/16/2016 03:17 PM
Chloroethane	ND		1.0	µg/L	1	8/16/2016 03:17 PM
Chloroform	ND		1.0	µg/L	1	8/16/2016 03:17 PM
Chloromethane	ND		1.0	µg/L	1	8/16/2016 03:17 PM
cis-1,2-Dichloroethene	ND		1.0	µg/L	1	8/16/2016 03:17 PM
cis-1,3-Dichloropropene	ND		1.0	µg/L	1	8/16/2016 03:17 PM
Dibromochloromethane	ND		1.0	µg/L	1	8/16/2016 03:17 PM
Dibromomethane	ND		1.0	µg/L	1	8/16/2016 03:17 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 19-Aug-16

Client: Merit Energy
Project: ECT (Merit Harland 36 Gas Plant)
Sample ID: 13624 Sheila Lane
Collection Date: 8/15/2016 11:00 AM

Work Order: 1608866
Lab ID: 1608866-04
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Dichlorodifluoromethane	ND		1.0	µg/L	1	8/16/2016 03:17 PM
Diethyl ether	ND		1.0	µg/L	1	8/16/2016 03:17 PM
Ethylbenzene	ND		1.0	µg/L	1	8/16/2016 03:17 PM
Hexachloroethane	ND		1.0	µg/L	1	8/16/2016 03:17 PM
Isopropylbenzene	ND		1.0	µg/L	1	8/16/2016 03:17 PM
m,p-Xylene	ND		2.0	µg/L	1	8/16/2016 03:17 PM
Methyl iodide	ND		1.0	µg/L	1	8/16/2016 03:17 PM
Methyl tert-butyl ether	ND		1.0	µg/L	1	8/16/2016 03:17 PM
Methylene chloride	ND		5.0	µg/L	1	8/16/2016 03:17 PM
Naphthalene	ND		5.0	µg/L	1	8/16/2016 03:17 PM
n-Propylbenzene	ND		1.0	µg/L	1	8/16/2016 03:17 PM
o-Xylene	ND		1.0	µg/L	1	8/16/2016 03:17 PM
Styrene	ND		1.0	µg/L	1	8/16/2016 03:17 PM
Tetrachloroethene	ND		1.0	µg/L	1	8/16/2016 03:17 PM
Toluene	ND		1.0	µg/L	1	8/16/2016 03:17 PM
trans-1,2-Dichloroethene	ND		1.0	µg/L	1	8/16/2016 03:17 PM
trans-1,3-Dichloropropene	ND		1.0	µg/L	1	8/16/2016 03:17 PM
trans-1,4-Dichloro-2-butene	ND		2.0	µg/L	1	8/16/2016 03:17 PM
Trichloroethene	ND		1.0	µg/L	1	8/16/2016 03:17 PM
Trichlorofluoromethane	ND		1.0	µg/L	1	8/16/2016 03:17 PM
Vinyl acetate	ND		5.0	µg/L	1	8/16/2016 03:17 PM
Vinyl chloride	ND		1.0	µg/L	1	8/16/2016 03:17 PM
Xylenes, Total	ND		3.0	µg/L	1	8/16/2016 03:17 PM
Surr: 1,2-Dichloroethane-d4	94.8		75-120	%REC	1	8/16/2016 03:17 PM
Surr: 4-Bromofluorobenzene	97.9		80-110	%REC	1	8/16/2016 03:17 PM
Surr: Dibromofluoromethane	95.0		85-115	%REC	1	8/16/2016 03:17 PM
Surr: Toluene-d8	96.3		85-110	%REC	1	8/16/2016 03:17 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 19-Aug-16

Client: Merit Energy

Project: ECT (Merit Harland 36 Gas Plant)

Work Order: 1608866

Sample ID: 13634 Highland Rd (Hartland Meadows)

Lab ID: 1608866-05

Collection Date: 8/15/2016 12:00 PM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 8/17/16	Analyst: RM
Diisopropanolamine	ND		50	µg/L	1	8/18/2016 05:19 PM
Sulfolane	ND		10	µg/L	1	8/18/2016 05:19 PM
Surr: 2,4,6-Tribromophenol	78.2		38-115	%REC	1	8/18/2016 05:19 PM
Surr: 2-Fluorobiphenyl	77.7		32-100	%REC	1	8/18/2016 05:19 PM
Surr: 2-Fluorophenol	30.2		22-59	%REC	1	8/18/2016 05:19 PM
Surr: 4-Terphenyl-d14	98.4		23-112	%REC	1	8/18/2016 05:19 PM
Surr: Nitrobenzene-d5	72.9		31-93	%REC	1	8/18/2016 05:19 PM
Surr: Phenol-d6	15.5		13-36	%REC	1	8/18/2016 05:19 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B			Analyst: EMR
1,1,1,2-Tetrachloroethane	ND		1.0	µg/L	1	8/16/2016 03:41 PM
1,1,1-Trichloroethane	ND		1.0	µg/L	1	8/16/2016 03:41 PM
1,1,2,2-Tetrachloroethane	ND		1.0	µg/L	1	8/16/2016 03:41 PM
1,1,2-Trichloroethane	ND		1.0	µg/L	1	8/16/2016 03:41 PM
1,1,2-Trichlorotrifluoroethane	ND		1.0	µg/L	1	8/16/2016 03:41 PM
1,1-Dichloroethane	ND		1.0	µg/L	1	8/16/2016 03:41 PM
1,1-Dichloroethene	ND		1.0	µg/L	1	8/16/2016 03:41 PM
1,2,3-Trichloropropane	ND		1.0	µg/L	1	8/16/2016 03:41 PM
1,2,4-Trichlorobenzene	ND		1.0	µg/L	1	8/16/2016 03:41 PM
1,2,4-Trimethylbenzene	ND		1.0	µg/L	1	8/16/2016 03:41 PM
1,2-Dibromo-3-chloropropane	ND		1.0	µg/L	1	8/16/2016 03:41 PM
1,2-Dibromoethane	ND		1.0	µg/L	1	8/16/2016 03:41 PM
1,2-Dichlorobenzene	ND		1.0	µg/L	1	8/16/2016 03:41 PM
1,2-Dichloroethane	ND		1.0	µg/L	1	8/16/2016 03:41 PM
1,2-Dichloropropane	ND		1.0	µg/L	1	8/16/2016 03:41 PM
1,3,5-Trimethylbenzene	ND		1.0	µg/L	1	8/16/2016 03:41 PM
1,3-Dichlorobenzene	ND		1.0	µg/L	1	8/16/2016 03:41 PM
1,4-Dichlorobenzene	ND		1.0	µg/L	1	8/16/2016 03:41 PM
2-Butanone	ND		5.0	µg/L	1	8/16/2016 03:41 PM
2-Hexanone	ND		5.0	µg/L	1	8/16/2016 03:41 PM
2-Methylnaphthalene	ND		5.0	µg/L	1	8/16/2016 03:41 PM
4-Methyl-2-pentanone	ND		1.0	µg/L	1	8/16/2016 03:41 PM
Acetone	ND		10	µg/L	1	8/16/2016 03:41 PM
Acrylonitrile	ND		1.0	µg/L	1	8/16/2016 03:41 PM
Benzene	ND		1.0	µg/L	1	8/16/2016 03:41 PM
Bromochloromethane	ND		1.0	µg/L	1	8/16/2016 03:41 PM
Bromodichloromethane	1.2		1.0	µg/L	1	8/16/2016 03:41 PM
Bromoform	ND		1.0	µg/L	1	8/16/2016 03:41 PM
Bromomethane	ND		1.0	µg/L	1	8/16/2016 03:41 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 19-Aug-16

Client: Merit Energy

Project: ECT (Merit Harland 36 Gas Plant)

Work Order: 1608866

Sample ID: 13634 Highland Rd (Hartland Meadows)

Lab ID: 1608866-05

Collection Date: 8/15/2016 12:00 PM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		1.0	µg/L	1	8/16/2016 03:41 PM
Carbon tetrachloride	ND		1.0	µg/L	1	8/16/2016 03:41 PM
Chlorobenzene	ND		1.0	µg/L	1	8/16/2016 03:41 PM
Chloroethane	ND		1.0	µg/L	1	8/16/2016 03:41 PM
Chloroform	ND		1.0	µg/L	1	8/16/2016 03:41 PM
Chloromethane	ND		1.0	µg/L	1	8/16/2016 03:41 PM
cis-1,2-Dichloroethene	ND		1.0	µg/L	1	8/16/2016 03:41 PM
cis-1,3-Dichloropropene	ND		1.0	µg/L	1	8/16/2016 03:41 PM
Dibromochloromethane	ND		1.0	µg/L	1	8/16/2016 03:41 PM
Dibromomethane	ND		1.0	µg/L	1	8/16/2016 03:41 PM
Dichlorodifluoromethane	ND		1.0	µg/L	1	8/16/2016 03:41 PM
Diethyl ether	ND		1.0	µg/L	1	8/16/2016 03:41 PM
Ethylbenzene	ND		1.0	µg/L	1	8/16/2016 03:41 PM
Hexachloroethane	ND		1.0	µg/L	1	8/16/2016 03:41 PM
Isopropylbenzene	ND		1.0	µg/L	1	8/16/2016 03:41 PM
m,p-Xylene	ND		2.0	µg/L	1	8/16/2016 03:41 PM
Methyl iodide	ND		1.0	µg/L	1	8/16/2016 03:41 PM
Methyl tert-butyl ether	ND		1.0	µg/L	1	8/16/2016 03:41 PM
Methylene chloride	ND		5.0	µg/L	1	8/16/2016 03:41 PM
Naphthalene	ND		5.0	µg/L	1	8/16/2016 03:41 PM
n-Propylbenzene	ND		1.0	µg/L	1	8/16/2016 03:41 PM
o-Xylene	ND		1.0	µg/L	1	8/16/2016 03:41 PM
Styrene	ND		1.0	µg/L	1	8/16/2016 03:41 PM
Tetrachloroethene	ND		1.0	µg/L	1	8/16/2016 03:41 PM
Toluene	ND		1.0	µg/L	1	8/16/2016 03:41 PM
trans-1,2-Dichloroethene	ND		1.0	µg/L	1	8/16/2016 03:41 PM
trans-1,3-Dichloropropene	ND		1.0	µg/L	1	8/16/2016 03:41 PM
trans-1,4-Dichloro-2-butene	ND		2.0	µg/L	1	8/16/2016 03:41 PM
Trichloroethene	ND		1.0	µg/L	1	8/16/2016 03:41 PM
Trichlorofluoromethane	ND		1.0	µg/L	1	8/16/2016 03:41 PM
Vinyl acetate	ND		5.0	µg/L	1	8/16/2016 03:41 PM
Vinyl chloride	ND		1.0	µg/L	1	8/16/2016 03:41 PM
Xylenes, Total	ND		3.0	µg/L	1	8/16/2016 03:41 PM
Surr: 1,2-Dichloroethane-d4	96.2		75-120	%REC	1	8/16/2016 03:41 PM
Surr: 4-Bromofluorobenzene	98.2		80-110	%REC	1	8/16/2016 03:41 PM
Surr: Dibromofluoromethane	95.2		85-115	%REC	1	8/16/2016 03:41 PM
Surr: Toluene-d8	97.0		85-110	%REC	1	8/16/2016 03:41 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 19-Aug-16

Client: Merit Energy
Project: ECT (Merit Harland 36 Gas Plant)
Sample ID: 920 Erin Lane
Collection Date: 8/15/2016 12:45 PM

Work Order: 1608866
Lab ID: 1608866-06
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 8/17/16	Analyst: RM
Diisopropanolamine	ND		50	µg/L	1	8/18/2016 05:39 PM
Sulfolane	ND		10	µg/L	1	8/18/2016 05:39 PM
Surr: 2,4,6-Tribromophenol	75.5		38-115	%REC	1	8/18/2016 05:39 PM
Surr: 2-Fluorobiphenyl	72.0		32-100	%REC	1	8/18/2016 05:39 PM
Surr: 2-Fluorophenol	40.5		22-59	%REC	1	8/18/2016 05:39 PM
Surr: 4-Terphenyl-d14	98.7		23-112	%REC	1	8/18/2016 05:39 PM
Surr: Nitrobenzene-d5	66.7		31-93	%REC	1	8/18/2016 05:39 PM
Surr: Phenol-d6	24.5		13-36	%REC	1	8/18/2016 05:39 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B			Analyst: EMR
1,1,1,2-Tetrachloroethane	ND		1.0	µg/L	1	8/16/2016 04:05 PM
1,1,1-Trichloroethane	ND		1.0	µg/L	1	8/16/2016 04:05 PM
1,1,2,2-Tetrachloroethane	ND		1.0	µg/L	1	8/16/2016 04:05 PM
1,1,2-Trichloroethane	ND		1.0	µg/L	1	8/16/2016 04:05 PM
1,1,2-Trichlorotrifluoroethane	ND		1.0	µg/L	1	8/16/2016 04:05 PM
1,1-Dichloroethane	ND		1.0	µg/L	1	8/16/2016 04:05 PM
1,1-Dichloroethene	ND		1.0	µg/L	1	8/16/2016 04:05 PM
1,2,3-Trichloropropane	ND		1.0	µg/L	1	8/16/2016 04:05 PM
1,2,4-Trichlorobenzene	ND		1.0	µg/L	1	8/16/2016 04:05 PM
1,2,4-Trimethylbenzene	ND		1.0	µg/L	1	8/16/2016 04:05 PM
1,2-Dibromo-3-chloropropane	ND		1.0	µg/L	1	8/16/2016 04:05 PM
1,2-Dibromoethane	ND		1.0	µg/L	1	8/16/2016 04:05 PM
1,2-Dichlorobenzene	ND		1.0	µg/L	1	8/16/2016 04:05 PM
1,2-Dichloroethane	ND		1.0	µg/L	1	8/16/2016 04:05 PM
1,2-Dichloropropane	ND		1.0	µg/L	1	8/16/2016 04:05 PM
1,3,5-Trimethylbenzene	ND		1.0	µg/L	1	8/16/2016 04:05 PM
1,3-Dichlorobenzene	ND		1.0	µg/L	1	8/16/2016 04:05 PM
1,4-Dichlorobenzene	ND		1.0	µg/L	1	8/16/2016 04:05 PM
2-Butanone	ND		5.0	µg/L	1	8/16/2016 04:05 PM
2-Hexanone	ND		5.0	µg/L	1	8/16/2016 04:05 PM
2-Methylnaphthalene	ND		5.0	µg/L	1	8/16/2016 04:05 PM
4-Methyl-2-pentanone	ND		1.0	µg/L	1	8/16/2016 04:05 PM
Acetone	ND		10	µg/L	1	8/16/2016 04:05 PM
Acrylonitrile	ND		1.0	µg/L	1	8/16/2016 04:05 PM
Benzene	ND		1.0	µg/L	1	8/16/2016 04:05 PM
Bromochloromethane	ND		1.0	µg/L	1	8/16/2016 04:05 PM
Bromodichloromethane	ND		1.0	µg/L	1	8/16/2016 04:05 PM
Bromoform	ND		1.0	µg/L	1	8/16/2016 04:05 PM
Bromomethane	ND		1.0	µg/L	1	8/16/2016 04:05 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 19-Aug-16

Client: Merit Energy
Project: ECT (Merit Harland 36 Gas Plant)
Sample ID: 920 Erin Lane
Collection Date: 8/15/2016 12:45 PM

Work Order: 1608866
Lab ID: 1608866-06
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		1.0	µg/L	1	8/16/2016 04:05 PM
Carbon tetrachloride	ND		1.0	µg/L	1	8/16/2016 04:05 PM
Chlorobenzene	ND		1.0	µg/L	1	8/16/2016 04:05 PM
Chloroethane	ND		1.0	µg/L	1	8/16/2016 04:05 PM
Chloroform	ND		1.0	µg/L	1	8/16/2016 04:05 PM
Chloromethane	ND		1.0	µg/L	1	8/16/2016 04:05 PM
cis-1,2-Dichloroethene	ND		1.0	µg/L	1	8/16/2016 04:05 PM
cis-1,3-Dichloropropene	ND		1.0	µg/L	1	8/16/2016 04:05 PM
Dibromochloromethane	ND		1.0	µg/L	1	8/16/2016 04:05 PM
Dibromomethane	ND		1.0	µg/L	1	8/16/2016 04:05 PM
Dichlorodifluoromethane	ND		1.0	µg/L	1	8/16/2016 04:05 PM
Diethyl ether	ND		1.0	µg/L	1	8/16/2016 04:05 PM
Ethylbenzene	ND		1.0	µg/L	1	8/16/2016 04:05 PM
Hexachloroethane	ND		1.0	µg/L	1	8/16/2016 04:05 PM
Isopropylbenzene	ND		1.0	µg/L	1	8/16/2016 04:05 PM
m,p-Xylene	ND		2.0	µg/L	1	8/16/2016 04:05 PM
Methyl iodide	ND		1.0	µg/L	1	8/16/2016 04:05 PM
Methyl tert-butyl ether	ND		1.0	µg/L	1	8/16/2016 04:05 PM
Methylene chloride	ND		5.0	µg/L	1	8/16/2016 04:05 PM
Naphthalene	ND		5.0	µg/L	1	8/16/2016 04:05 PM
n-Propylbenzene	ND		1.0	µg/L	1	8/16/2016 04:05 PM
o-Xylene	ND		1.0	µg/L	1	8/16/2016 04:05 PM
Styrene	ND		1.0	µg/L	1	8/16/2016 04:05 PM
Tetrachloroethene	ND		1.0	µg/L	1	8/16/2016 04:05 PM
Toluene	ND		1.0	µg/L	1	8/16/2016 04:05 PM
trans-1,2-Dichloroethene	ND		1.0	µg/L	1	8/16/2016 04:05 PM
trans-1,3-Dichloropropene	ND		1.0	µg/L	1	8/16/2016 04:05 PM
trans-1,4-Dichloro-2-butene	ND		2.0	µg/L	1	8/16/2016 04:05 PM
Trichloroethene	ND		1.0	µg/L	1	8/16/2016 04:05 PM
Trichlorofluoromethane	ND		1.0	µg/L	1	8/16/2016 04:05 PM
Vinyl acetate	ND		5.0	µg/L	1	8/16/2016 04:05 PM
Vinyl chloride	ND		1.0	µg/L	1	8/16/2016 04:05 PM
Xylenes, Total	ND		3.0	µg/L	1	8/16/2016 04:05 PM
Surr: 1,2-Dichloroethane-d4	97.3		75-120	%REC	1	8/16/2016 04:05 PM
Surr: 4-Bromofluorobenzene	98.1		80-110	%REC	1	8/16/2016 04:05 PM
Surr: Dibromofluoromethane	95.2		85-115	%REC	1	8/16/2016 04:05 PM
Surr: Toluene-d8	97.2		85-110	%REC	1	8/16/2016 04:05 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
Work Order: 1608866
Project: ECT (Merit Harland 36 Gas Plant)

QC BATCH REPORT

Batch ID: **90176** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-90176-90176				Units: µg/L		Analysis Date: 8/18/2016 02:33 PM			
Client ID:		Run ID: SVMS8_160818A				SeqNo: 3985257		Prep Date: 8/17/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Diisopropanolamine	ND	50									
Sulfolane	ND	10									
<i>Surr: 2,4,6-Tribromophenol</i>	45.73	0	50	0	91.5	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	42.4	0	50	0	84.8	32-100	0				
<i>Surr: 2-Fluorophenol</i>	25.29	0	50	0	50.6	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	55.71	0	50	0	111	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	39.78	0	50	0	79.6	31-93	0				
<i>Surr: Phenol-d6</i>	15.15	0	50	0	30.3	13-36	0				

LCS		Sample ID: SLCSW1-90176-90176				Units: µg/L		Analysis Date: 8/18/2016 02:54 PM			
Client ID:		Run ID: SVMS8_160818A				SeqNo: 3985258		Prep Date: 8/17/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Diisopropanolamine	14.18	50	100	0	14.2	10-50	0				
Sulfolane	61.72	10	100	0	61.7	30-100	0				
<i>Surr: 2,4,6-Tribromophenol</i>	44.5	0	50	0	89	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	43.12	0	50	0	86.2	32-100	0				
<i>Surr: 2-Fluorophenol</i>	23.87	0	50	0	47.7	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	54.53	0	50	0	109	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	40.09	0	50	0	80.2	31-93	0				
<i>Surr: Phenol-d6</i>	14.04	0	50	0	28.1	13-36	0				

MS		Sample ID: 1608806-01A MS				Units: µg/L		Analysis Date: 8/18/2016 03:14 PM			
Client ID:		Run ID: SVMS8_160818A				SeqNo: 3985259		Prep Date: 8/17/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Diisopropanolamine	12.66	50	100	0	12.7	10-50	0				
Sulfolane	61.41	10	100	0	61.4	30-100	0				
<i>Surr: 2,4,6-Tribromophenol</i>	41.99	0	50	0	84	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	39.32	0	50	0	78.6	32-100	0				
<i>Surr: 2-Fluorophenol</i>	20.47	0	50	0	40.9	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	50.9	0	50	0	102	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	35.86	0	50	0	71.7	31-93	0				
<i>Surr: Phenol-d6</i>	12.21	0	50	0	24.4	13-36	0				

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608866
 Project: ECT (Merit Harland 36 Gas Plant)

QC BATCH REPORT

Batch ID: 90176 Instrument ID SVMS8 Method: SW846 8270D

DUP		Sample ID: 1608866-01B DUP				Units: µg/L		Analysis Date: 8/18/2016 03:56 PM		
Client ID: 13966 Lone Tree Rd		Run ID: SVMS8_160818A				SeqNo: 3985261		Prep Date: 8/17/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	ND	50	0	0	0		0	0	30	
Sulfolane	ND	10	0	0	0		0	0	30	
<i>Surr: 2,4,6-Tribromophenol</i>	37.28	0	50	0	74.6	38-115	42.71	13.6	40	
<i>Surr: 2-Fluorobiphenyl</i>	31.76	0	50	0	63.5	32-100	42.66	29.3	40	
<i>Surr: 2-Fluorophenol</i>	16.05	0	50	0	32.1	22-59	23.24	36.6	40	
<i>Surr: 4-Terphenyl-d14</i>	43.2	0	50	0	86.4	23-112	53.84	21.9	40	
<i>Surr: Nitrobenzene-d5</i>	29.43	0	50	0	58.9	31-93	39.35	28.8	40	
<i>Surr: Phenol-d6</i>	9.07	0	50	0	18.1	13-36	13.44	38.8	40	

The following samples were analyzed in this batch:

1608866-01B	1608866-02B	1608866-03B
1608866-05B	1608866-06B	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608866
 Project: ECT (Merit Harland 36 Gas Plant)

QC BATCH REPORT

Batch ID: **R193781A** Instrument ID **VMS7** Method: **SW8260B**

MBLK		Sample ID: VBLKW1-160816-R193781A				Units: µg/L		Analysis Date: 8/16/2016 10:36 AM		
Client ID:		Run ID: VMS7_160816A		SeqNo: 3980817		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
1,1,2-Trichlorotrifluoroethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2,3-Trichloropropane	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	1.0								
1,2-Dibromoethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,2-Dichloroethane	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
2-Butanone	ND	5.0								
2-Hexanone	ND	5.0								
2-Methylnaphthalene	ND	5.0								
4-Methyl-2-pentanone	ND	1.0								
Acetone	ND	10								
Acrylonitrile	ND	1.0								
Benzene	ND	1.0								
Bromochloromethane	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	1.0								
Carbon disulfide	ND	1.0								
Carbon tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	1.0								
Chloroform	ND	1.0								
Chloromethane	ND	1.0								
cis-1,2-Dichloroethene	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
Diethyl ether	ND	1.0								
Ethylbenzene	ND	1.0								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Work Order: 1608866
Project: ECT (Merit Harland 36 Gas Plant)

QC BATCH REPORT

Batch ID: R193781A	Instrument ID VMS7	Method: SW8260B						
Hexachloroethane	ND	1.0						
Isopropylbenzene	ND	1.0						
m,p-Xylene	ND	2.0						
Methyl iodide	ND	1.0						
Methyl tert-butyl ether	ND	1.0						
Methylene chloride	ND	5.0						
Naphthalene	ND	5.0						
n-Propylbenzene	ND	1.0						
o-Xylene	ND	1.0						
Styrene	ND	1.0						
Tetrachloroethene	ND	1.0						
Toluene	ND	1.0						
trans-1,2-Dichloroethene	ND	1.0						
trans-1,3-Dichloropropene	ND	1.0						
trans-1,4-Dichloro-2-butene	ND	2.0						
Trichloroethene	ND	1.0						
Trichlorofluoromethane	ND	1.0						
Vinyl acetate	ND	5.0						
Vinyl chloride	ND	1.0						
Xylenes, Total	ND	3.0						
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>17.47</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>87.4</i>	<i>75-120</i>	<i>0</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.69</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>98.4</i>	<i>80-110</i>	<i>0</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>17.02</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>85.1</i>	<i>85-115</i>	<i>0</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>19.73</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>98.6</i>	<i>85-110</i>	<i>0</i>	<i>0</i>

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608866
 Project: ECT (Merit Harland 36 Gas Plant)

QC BATCH REPORT

Batch ID: **R193781A** Instrument ID **VMS7** Method: **SW8260B**

LCS		Sample ID: VLCSW2-160816-R193781A				Units: µg/L		Analysis Date: 8/16/2016 09:49 AM		
Client ID:		Run ID: VMS7_160816A			SeqNo: 3980816		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	22.35	1.0	20	0	112	80-130	0			
1,1,1-Trichloroethane	21.66	1.0	20	0	108	75-130	0			
1,1,2,2-Tetrachloroethane	22.78	1.0	20	0	114	75-130	0			
1,1,2-Trichloroethane	20.34	1.0	20	0	102	75-125	0			
1,1-Dichloroethane	22.09	1.0	20	0	110	75-133	0			
1,1-Dichloroethene	23.45	1.0	20	0	117	70-145	0			
1,2,3-Trichloropropane	22.26	1.0	20	0	111	75-125	0			
1,2,4-Trichlorobenzene	22.36	1.0	20	0	112	70-135	0			
1,2,4-Trimethylbenzene	21.58	1.0	20	0	108	75-130	0			
1,2-Dibromo-3-chloropropane	17.16	1.0	20	0	85.8	60-130	0			
1,2-Dibromoethane	23.87	1.0	20	0	119	80-150	0			
1,2-Dichlorobenzene	21.73	1.0	20	0	109	70-130	0			
1,2-Dichloroethane	21.88	1.0	20	0	109	78-125	0			
1,2-Dichloropropane	21.74	1.0	20	0	109	75-125	0			
1,3,5-Trimethylbenzene	21.95	1.0	20	0	110	75-130	0			
1,3-Dichlorobenzene	22.63	1.0	20	0	113	75-130	0			
1,4-Dichlorobenzene	21.79	1.0	20	0	109	75-130	0			
2-Butanone	21.26	5.0	20	0	106	55-150	0			
2-Hexanone	19.6	5.0	20	0	98	60-135	0			
4-Methyl-2-pentanone	21.43	1.0	20	0	107	77-178	0			
Acetone	20.91	10	20	0	105	60-160	0			
Acrylonitrile	20.12	1.0	20	0	101	60-140	0			
Benzene	22.73	1.0	20	0	114	85-125	0			
Bromochloromethane	20.36	1.0	20	0	102	75-130	0			
Bromodichloromethane	22.6	1.0	20	0	113	75-125	0			
Bromoform	19.94	1.0	20	0	99.7	60-125	0			
Bromomethane	24.48	1.0	20	0	122	30-185	0			
Carbon disulfide	23.09	1.0	20	0	115	60-165	0			
Carbon tetrachloride	20.49	1.0	20	0	102	65-140	0			
Chlorobenzene	21.88	1.0	20	0	109	80-120	0			
Chloroethane	20.77	1.0	20	0	104	50-140	0			
Chloroform	20.33	1.0	20	0	102	80-130	0			
Chloromethane	18.09	1.0	20	0	90.4	50-130	0			
cis-1,2-Dichloroethene	22.04	1.0	20	0	110	75-134	0			
cis-1,3-Dichloropropene	21.69	1.0	20	0	108	70-130	0			
Dibromochloromethane	20.07	1.0	20	0	100	60-115	0			
Dibromomethane	22.83	1.0	20	0	114	85-125	0			
Dichlorodifluoromethane	18.74	1.0	20	0	93.7	20-120	0			
Ethylbenzene	22.28	1.0	20	0	111	85-125	0			
Hexachloroethane	16.06	1.0	20	0	80.3	50-124	0			
Isopropylbenzene	22.16	1.0	20	0	111	80-127	0			
m,p-Xylene	45.72	2.0	40	0	114	75-130	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Work Order: 1608866
Project: ECT (Merit Harland 36 Gas Plant)

QC BATCH REPORT

Batch ID: R193781A	Instrument ID VMS7		Method: SW8260B					
Methyl iodide	27.48	1.0	20	0	137	60-160	0	
Methyl tert-butyl ether	22.55	1.0	20	0	113	80-130	0	
Methylene chloride	23.9	5.0	20	0	120	75-140	0	
Naphthalene	21.26	5.0	20	0	106	55-160	0	
n-Propylbenzene	22.4	1.0	20	0	112	78-120	0	
o-Xylene	20.54	1.0	20	0	103	80-125	0	
Styrene	22.77	1.0	20	0	114	85-125	0	
Tetrachloroethene	27.06	1.0	20	0	135	77-138	0	
Toluene	20.69	1.0	20	0	103	85-125	0	
trans-1,2-Dichloroethene	22.36	1.0	20	0	112	80-140	0	
trans-1,3-Dichloropropene	20.43	1.0	20	0	102	72-120	0	
trans-1,4-Dichloro-2-butene	18.1	2.0	20	0	90.5	46-118	0	
Trichloroethene	22.42	1.0	20	0	112	84-130	0	
Trichlorofluoromethane	18.73	1.0	20	0	93.6	60-140	0	
Vinyl chloride	19.4	1.0	20	0	97	50-136	0	
Xylenes, Total	66.26	3.0	60	0	110	80-126	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	20.75	0	20	0	104	75-120	0	
<i>Surr: 4-Bromofluorobenzene</i>	20.25	0	20	0	101	80-110	0	
<i>Surr: Dibromofluoromethane</i>	20.06	0	20	0	100	85-115	0	
<i>Surr: Toluene-d8</i>	19.28	0	20	0	96.4	85-110	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608866
 Project: ECT (Merit Harland 36 Gas Plant)

QC BATCH REPORT

Batch ID: **R193781A** Instrument ID **VMS7** Method: **SW8260B**

MS		Sample ID: 1608731-19A MS				Units: µg/L		Analysis Date: 8/16/2016 05:39 PM		
Client ID:		Run ID: VMS7_160816A			SeqNo: 3980829		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	22.34	1.0	20	0	112	80-130		0		
1,1,1-Trichloroethane	22.57	1.0	20	0	113	75-130		0		
1,1,2,2-Tetrachloroethane	23.68	1.0	20	0	118	75-130		0		
1,1,2-Trichloroethane	20.86	1.0	20	0	104	75-125		0		
1,1-Dichloroethane	20.45	1.0	20	0	102	75-133		0		
1,1-Dichloroethene	25.68	1.0	20	0	128	70-145		0		
1,2,3-Trichloropropane	22.85	1.0	20	0	114	75-125		0		
1,2,4-Trichlorobenzene	20.73	1.0	20	0	104	70-135		0		
1,2,4-Trimethylbenzene	22.65	1.0	20	0	113	75-130		0		
1,2-Dibromo-3-chloropropane	18.83	1.0	20	0	94.2	60-130		0		
1,2-Dibromoethane	23.28	1.0	20	0	116	80-150		0		
1,2-Dichlorobenzene	20.43	1.0	20	0	102	70-130		0		
1,2-Dichloroethane	20.81	1.0	20	0	104	78-125		0		
1,2-Dichloropropane	20.37	1.0	20	0	102	75-125		0		
1,3,5-Trimethylbenzene	23.55	1.0	20	0	118	75-130		0		
1,3-Dichlorobenzene	21.07	1.0	20	0	105	75-130		0		
1,4-Dichlorobenzene	20.4	1.0	20	0	102	75-130		0		
2-Butanone	18.74	5.0	20	0	93.7	55-150		0		
2-Hexanone	20.8	5.0	20	0	104	60-135		0		
4-Methyl-2-pentanone	21.9	1.0	20	0	110	77-178		0		
Acetone	25.54	10	20	0	128	60-160		0		
Acrylonitrile	17.71	1.0	20	0	88.6	60-140		0		
Benzene	21.49	1.0	20	0	107	85-125		0		
Bromochloromethane	19.3	1.0	20	0	96.5	75-130		0		
Bromodichloromethane	21.4	1.0	20	0	107	75-125		0		
Bromoform	20.65	1.0	20	0	103	60-125		0		
Bromomethane	23.51	1.0	20	0	118	30-185		0		
Carbon disulfide	23.13	1.0	20	0	116	60-165		0		
Carbon tetrachloride	21.69	1.0	20	0	108	65-140		0		
Chlorobenzene	21.97	1.0	20	0	110	80-120		0		
Chloroethane	20.27	1.0	20	0	101	50-140		0		
Chloroform	20.07	1.0	20	0	100	80-130		0		
Chloromethane	18.98	1.0	20	0	94.9	50-130		0		
cis-1,2-Dichloroethene	19.93	1.0	20	0	99.6	75-134		0		
cis-1,3-Dichloropropene	20.56	1.0	20	0	103	70-130		0		
Dibromochloromethane	19.52	1.0	20	0	97.6	60-115		0		
Dibromomethane	22.57	1.0	20	0	113	85-125		0		
Dichlorodifluoromethane	22.24	1.0	20	0	111	20-120		0		
Ethylbenzene	21.91	1.0	20	0	110	85-125		0		
Hexachloroethane	16.91	1.0	20	0	84.6	50-124		0		
Isopropylbenzene	22.86	1.0	20	0	114	80-127		0		
m,p-Xylene	44.8	2.0	40	0	112	75-130		0		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Work Order: 1608866
Project: ECT (Merit Harland 36 Gas Plant)

QC BATCH REPORT

Batch ID: R193781A	Instrument ID VMS7	Method: SW8260B						
Methyl iodide	27.8	1.0	20	0	139	60-160	0	
Methyl tert-butyl ether	19.69	1.0	20	0	98.4	80-130	0	
Methylene chloride	20.02	5.0	20	0	100	75-140	0	
Naphthalene	20.72	5.0	20	0	104	55-160	0	
n-Propylbenzene	22.47	1.0	20	0	112	78-120	0	
o-Xylene	21.37	1.0	20	0	107	80-125	0	
Styrene	23.26	1.0	20	0	116	85-125	0	
Tetrachloroethene	24.72	1.0	20	0	124	77-138	0	
Toluene	21.42	1.0	20	0	107	85-125	0	
trans-1,2-Dichloroethene	19.93	1.0	20	0	99.6	80-140	0	
trans-1,3-Dichloropropene	20.08	1.0	20	0	100	72-120	0	
trans-1,4-Dichloro-2-butene	18.35	2.0	20	0	91.8	46-118	0	
Trichloroethene	22.15	1.0	20	0	111	84-130	0	
Trichlorofluoromethane	21.57	1.0	20	0	108	60-140	0	
Vinyl chloride	20.86	1.0	20	0	104	50-136	0	
Xylenes, Total	66.17	3.0	60	0	110	80-126	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>19.51</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>97.6</i>	<i>75-120</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>20.92</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>105</i>	<i>80-110</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>20.21</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>101</i>	<i>85-115</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>19.71</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>98.6</i>	<i>85-110</i>	<i>0</i>	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608866
 Project: ECT (Merit Harland 36 Gas Plant)

QC BATCH REPORT

Batch ID: **R193781A** Instrument ID **VMS7** Method: **SW8260B**

MSD		Sample ID: 1608731-19A MSD				Units: µg/L		Analysis Date: 8/16/2016 06:03 PM		
Client ID:		Run ID: VMS7_160816A			SeqNo: 3980830		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	22	1.0	20	0	110	80-130	22.34	1.53	30	
1,1,1-Trichloroethane	22.08	1.0	20	0	110	75-130	22.57	2.19	30	
1,1,2,2-Tetrachloroethane	23.67	1.0	20	0	118	75-130	23.68	0.0422	30	
1,1,2-Trichloroethane	21.12	1.0	20	0	106	75-125	20.86	1.24	30	
1,1-Dichloroethane	20.1	1.0	20	0	100	75-133	20.45	1.73	30	
1,1-Dichloroethene	26.74	1.0	20	0	134	70-145	25.68	4.04	30	
1,2,3-Trichloropropane	22.33	1.0	20	0	112	75-125	22.85	2.3	30	
1,2,4-Trichlorobenzene	21.13	1.0	20	0	106	70-135	20.73	1.91	30	
1,2,4-Trimethylbenzene	22.42	1.0	20	0	112	75-130	22.65	1.02	30	
1,2-Dibromo-3-chloropropane	18.67	1.0	20	0	93.4	60-130	18.83	0.853	30	
1,2-Dibromoethane	23.74	1.0	20	0	119	80-150	23.28	1.96	30	
1,2-Dichlorobenzene	20.85	1.0	20	0	104	70-130	20.43	2.03	30	
1,2-Dichloroethane	20.52	1.0	20	0	103	78-125	20.81	1.4	30	
1,2-Dichloropropane	20.03	1.0	20	0	100	75-125	20.37	1.68	30	
1,3,5-Trimethylbenzene	23.13	1.0	20	0	116	75-130	23.55	1.8	30	
1,3-Dichlorobenzene	21.47	1.0	20	0	107	75-130	21.07	1.88	30	
1,4-Dichlorobenzene	21.18	1.0	20	0	106	75-130	20.4	3.75	30	
2-Butanone	19.03	5.0	20	0	95.2	55-150	18.74	1.54	30	
2-Hexanone	21.23	5.0	20	0	106	60-135	20.8	2.05	30	
4-Methyl-2-pentanone	22.6	1.0	20	0	113	77-178	21.9	3.15	30	
Acetone	25.37	10	20	0	127	60-160	25.54	0.668	30	
Acrylonitrile	18.65	1.0	20	0	93.2	60-140	17.71	5.17	30	
Benzene	21.14	1.0	20	0	106	85-125	21.49	1.64	30	
Bromochloromethane	18.56	1.0	20	0	92.8	75-130	19.3	3.91	30	
Bromodichloromethane	21.54	1.0	20	0	108	75-125	21.4	0.652	30	
Bromoform	20.81	1.0	20	0	104	60-125	20.65	0.772	30	
Bromomethane	23.47	1.0	20	0	117	30-185	23.51	0.17	30	
Carbon disulfide	23.73	1.0	20	0	119	60-165	23.13	2.56	30	
Carbon tetrachloride	21.55	1.0	20	0	108	65-140	21.69	0.648	30	
Chlorobenzene	21.93	1.0	20	0	110	80-120	21.97	0.182	30	
Chloroethane	21.5	1.0	20	0	108	50-140	20.27	5.89	30	
Chloroform	20.11	1.0	20	0	101	80-130	20.07	0.199	30	
Chloromethane	19.63	1.0	20	0	98.2	50-130	18.98	3.37	30	
cis-1,2-Dichloroethene	19.68	1.0	20	0	98.4	75-134	19.93	1.26	30	
cis-1,3-Dichloropropene	20.17	1.0	20	0	101	70-130	20.56	1.92	30	
Dibromochloromethane	19.57	1.0	20	0	97.8	60-115	19.52	0.256	30	
Dibromomethane	21.73	1.0	20	0	109	85-125	22.57	3.79	30	
Dichlorodifluoromethane	23.23	1.0	20	0	116	20-120	22.24	4.35	30	
Ethylbenzene	21.76	1.0	20	0	109	85-125	21.91	0.687	30	
Hexachloroethane	16.49	1.0	20	0	82.4	50-124	16.91	2.51	30	
Isopropylbenzene	23.13	1.0	20	0	116	80-127	22.86	1.17	30	
m,p-Xylene	44.3	2.0	40	0	111	75-130	44.8	1.12	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608866
 Project: ECT (Merit Harland 36 Gas Plant)

QC BATCH REPORT

Batch ID: R193781A	Instrument ID VMS7			Method: SW8260B						
Methyl iodide	29.24	1.0	20	0	146	60-160	27.8	5.05	30	
Methyl tert-butyl ether	19.79	1.0	20	0	99	80-130	19.69	0.507	30	
Methylene chloride	22.59	5.0	20	0	113	75-140	20.02	12.1	30	
Naphthalene	20.83	5.0	20	0	104	55-160	20.72	0.529	30	
n-Propylbenzene	22.46	1.0	20	0	112	78-120	22.47	0.0445	30	
o-Xylene	21.23	1.0	20	0	106	80-125	21.37	0.657	30	
Styrene	23.25	1.0	20	0	116	85-125	23.26	0.043	30	
Tetrachloroethene	25.94	1.0	20	0	130	77-138	24.72	4.82	30	
Toluene	21.23	1.0	20	0	106	85-125	21.42	0.891	30	
trans-1,2-Dichloroethene	20.09	1.0	20	0	100	80-140	19.93	0.8	30	
trans-1,3-Dichloropropene	19.96	1.0	20	0	99.8	72-120	20.08	0.599	30	
trans-1,4-Dichloro-2-butene	17.93	2.0	20	0	89.6	46-118	18.35	2.32	30	
Trichloroethene	22.39	1.0	20	0	112	84-130	22.15	1.08	30	
Trichlorofluoromethane	22.8	1.0	20	0	114	60-140	21.57	5.54	30	
Vinyl chloride	21.73	1.0	20	0	109	50-136	20.86	4.09	30	
Xylenes, Total	65.53	3.0	60	0	109	80-126	66.17	0.972	30	
<i>Surr: 1,2-Dichloroethane-d4</i>	19.15	0	20	0	95.8	75-120	19.51	1.86	30	
<i>Surr: 4-Bromofluorobenzene</i>	20.2	0	20	0	101	80-110	20.92	3.5	30	
<i>Surr: Dibromofluoromethane</i>	19.96	0	20	0	99.8	85-115	20.21	1.24	30	
<i>Surr: Toluene-d8</i>	19.66	0	20	0	98.3	85-110	19.71	0.254	30	

The following samples were analyzed in this batch:

1608866-01A	1608866-02A	1608866-03A
1608866-04A	1608866-05A	1608866-06A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Project: ECT (Merit Harland 36 Gas Plant)
WorkOrder: 1608866

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **16-Aug-16 09:30**

Work Order: **1608866**

Received by: **MEB**

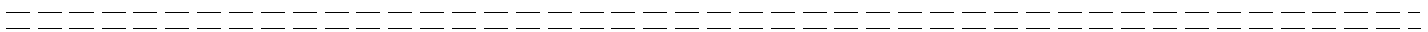
Checklist completed by Meghan Broadbent 16-Aug-16
eSignature Date

Reviewed by: Gary Byar 16-Aug-16
eSignature Date

Matrices: water
Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.2/3.2</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<input type="text"/>		
Date/Time sample(s) sent to storage:	<u>8/16/2016 11:02:21 AM</u>		
Water - VOA vials have zero headspace?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<input type="text"/>		

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



RETURN SAMPLES TO:
 ALS Environmental
 781 Industrial Cir, Ste 3
 Traverse City, Michigan 49686
 (Tel) 231.421.3204
 (Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

ALS Environmental
 3352 128th Avenue
 Holland, Michigan 49424
 (Tel) 616.399.6070
 (Fax) 616.399.6185

Customer Information		Project Information					Parameter/Method Request for Analysis											
Purchase Order		Project Name	Hartland 36 Gas Plant			A	Full VOCs 8260					(2) 40 ml vials w HCL						
Work Order		Project Number				B	Sulfolane & DIPA 8270					(2) Amber Liters						
Company Name	ECT, Inc.	Bill To Company	MEC			C												
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven			D												
Address	3399 Veterans Dr.	Address	1510 Thomas Rd			E												
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI			F												
Phone	231-946-8200	Phone	231-258-6369			G												
Fax	231-946-8208	Fax				H												
e-Mail Address	jl Lewandowski@ectinc.com					I												
						J												
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold	
	13966 Lone Tree Rd	8/15/16	0845	Water	1	5	X	X										
	13988 Lone Tree Rd (south)		0930		1	4	X	X										
	13988 Lone Tree Road (north)		1000		1	5	X	X										
	13624 Sheila Lane		1100		1	3	X	X										
	13634 Highland Rd (Hartland)		1200		1	4	X	X										
	920 Erin Lane		1245	✓	1	4	X	X										
Sampler(s): Please Print & Sign <i>Jason Bartholomew</i>		Shipment Method: cooler - UPS		Required Turnaround Time: (Check Box) <input type="checkbox"/> 10 Wk Days <input type="checkbox"/> 5-7 Wk Days <input checked="" type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				Results Due Date:										
Relinquished by: <i>Jason Bartholomew</i>		Date: 8/15/16	Time: 1545	Received by:		Date:	Time:	Notes: ALS Project: MERITENERGY - Misc										
Relinquished by:		Date: 8/16/16	Time: 930	Received by (Laboratory): <i>MPB</i>		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)								
Logged by (Laboratory): <i>MPB</i>		Date: 8/16/16	Time: 1050	Checked by (Laboratory): <i>GRB</i>					3.2	<input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data		<input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV						
										<input type="checkbox"/> Level IV: SW846 Methods/CLP like								
								<input type="checkbox"/> Other:										
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C											Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.							

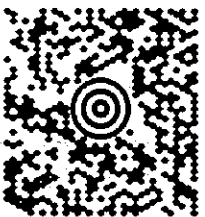
65 LBS

1 OF 1

FROM:
LISA ZUBER
(517) 272-9200
ECT, INC.
3125 SOVEREIGN DRIVE
LANSING MI 48911-4240

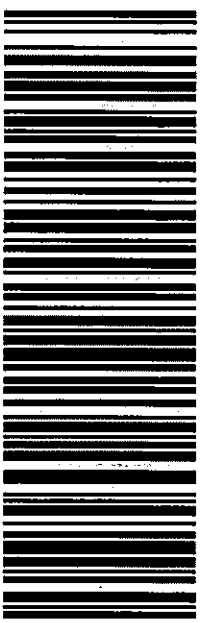
SHIP TO:
SAMPLE RECEIVING
(616) 399-6070
ALS LABORATORY GROUP
3352 128TH AVENUE
HOLLAND MI 49424-9263

REF 1:130685, 2000



MI 495 9-04


UPS NEXT DAY AIR 1
TRACKING #: 1Z V54 9W4 01 5042 6226



BILLING: 3RD PARTY

Fold here and place in label pouch



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit -887 S. Tipsico Lake Rd.)**

Work Order: **1609801**

Dear Sean,

ALS Environmental received 1 sample on 15-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 8.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit -887 S. Tipsico Lake Rd.)
Work Order: 1609801

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609801-01	887 S. Tipsico Lake Rd.	Water		9/14/2016 15:50	9/15/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy

Project: ECT (Merit -887 S. Tipsico Lake Rd.)

Work Order: 1609801

Sample ID: 887 S. Tipsico Lake Rd.

Lab ID: 1609801-01

Collection Date: 9/14/2016 03:50 PM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/16/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/19/2016 03:34 AM
Surr: 2,4,6-Tribromophenol	62.2		38-115	%REC	1	9/19/2016 03:34 AM
Surr: 2-Fluorobiphenyl	63.6		32-100	%REC	1	9/19/2016 03:34 AM
Surr: 2-Fluorophenol	33.8		22-59	%REC	1	9/19/2016 03:34 AM
Surr: 4-Terphenyl-d14	69.6		23-112	%REC	1	9/19/2016 03:34 AM
Surr: Nitrobenzene-d5	65.4		31-93	%REC	1	9/19/2016 03:34 AM
Surr: Phenol-d6	19.4		13-36	%REC	1	9/19/2016 03:34 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
 Work Order: 1609801
 Project: ECT (Merit -887 S. Tipsico Lake Rd.)

QC BATCH REPORT

Batch ID: **91481** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:03 PM			
Client ID:		Run ID: SVMS8_160918A				SeqNo: 4038353		Prep Date: 9/16/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
Surr: 2,4,6-Tribromophenol	30.02	0	50	0	60	38-115	0				
Surr: 2-Fluorobiphenyl	31.92	0	50	0	63.8	32-100	0				
Surr: 2-Fluorophenol	18.02	0	50	0	36	22-59	0				
Surr: 4-Terphenyl-d14	35.62	0	50	0	71.2	23-112	0				
Surr: Nitrobenzene-d5	32.13	0	50	0	64.3	31-93	0				
Surr: Phenol-d6	9.75	0	50	0	19.5	13-36	0				

LCS		Sample ID: SLCSW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:23 PM			
Client ID:		Run ID: SVMS8_160918A				SeqNo: 4038354		Prep Date: 9/16/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	52.35	10	100	0	52.4	30-100	0				
Surr: 2,4,6-Tribromophenol	35.21	0	50	0	70.4	38-115	0				
Surr: 2-Fluorobiphenyl	31.44	0	50	0	62.9	32-100	0				
Surr: 2-Fluorophenol	17.86	0	50	0	35.7	22-59	0				
Surr: 4-Terphenyl-d14	37.56	0	50	0	75.1	23-112	0				
Surr: Nitrobenzene-d5	33.06	0	50	0	66.1	31-93	0				
Surr: Phenol-d6	10.51	0	50	0	21	13-36	0				

LCSD		Sample ID: SLCSDW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:43 PM			
Client ID:		Run ID: SVMS8_160918A				SeqNo: 4038355		Prep Date: 9/16/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	59.44	10	100	0	59.4	30-100	52.35	12.7	30		
Surr: 2,4,6-Tribromophenol	32.69	0	50	0	65.4	38-115	35.21	7.42	30		
Surr: 2-Fluorobiphenyl	35.15	0	50	0	70.3	32-100	31.44	11.1	30		
Surr: 2-Fluorophenol	20.65	0	50	0	41.3	22-59	17.86	14.5	30		
Surr: 4-Terphenyl-d14	37.72	0	50	0	75.4	23-112	37.56	0.425	30		
Surr: Nitrobenzene-d5	31.01	0	50	0	62	31-93	33.06	6.4	30		
Surr: Phenol-d6	12.14	0	50	0	24.3	13-36	10.51	14.4	30		

The following samples were analyzed in this batch: 1609801-01A

Client: Merit Energy
Project: ECT (Merit -887 S. Tipsico Lake Rd.)
WorkOrder: 1609801

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **15-Sep-16 10:00**

Work Order: **1609801**

Received by: **MBB**

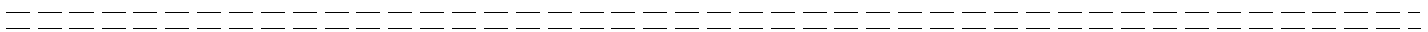
Checklist completed by Meghan Broadbent 15-Sep-16
eSignature Date

Reviewed by: Gary Byar 15-Sep-16
eSignature Date

Matrices: water
Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.0/3.0</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>9/15/2016 12:12:51 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<u></u>		

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



ALS Environmental
781 Industrial Cir, Ste 3
Traverse City, Michigan 49686
(Tel) 231.421.3204
(Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

ALS Project Manager: Gary Byar		ALS Work Order #: 1009801																
Customer Information		Project Information		Parameter/Method Request for Analysis														
Purchase Order		Project Name	Hartland 36 Gas Plant	A	Sulfolane (1) Amber Liter													
Work Order		Project Number		B														
Company Name	ECT, Inc.	Bill To Company	MEC	C														
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven	D														
Address	3399 Veterans Dr.	Address	1510 Thomas Rd	E														
				F														
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI	G														
Phone	231-946-8200	Phone	231-258-6389	H														
Fax	231-946-8208	Fax		I														
e-Mail Address	jl Lewandowski@ectinc.com			J														
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold	
	887 S. Tipsico Lake Rd	9/14/16	1550	Water	8	1	X											
Sampler(s): Please Print & Sign <i>Jason B. Anderson</i>		Shipment Method: UPS Ground		Required Turnaround Time: (Check Box) <input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				Results Due Date:										
Relinquished by: <i>Jason B. Anderson</i>		Date: 9/14/16	Time: 1626	Received by:		Date:	Time:	Notes: ALS Project: MERITENERGY - Misc										
Relinquished by: <i>MB</i>		Date: 9/15/16	Time: 1000	Received by (Laboratory): <i>MB</i>		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)								
Logged by (Laboratory): <i>MB</i>		Date: 9/15/16	Time: 1210	Checked by (Lab): <i>GRB</i>					3.0	<input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data		<input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV						
										<input type="checkbox"/> Level IV: SW846 Methods/CLP like <input type="checkbox"/> Other:								
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C																		
Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.																		

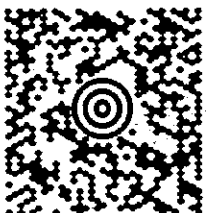
40 LBS

1 OF 1

FROM:
LISA ZUBER
(617) 272-9200
ECT, INC.
3125 SOVEREIGN DRIVE
LANSING MI 48911-4240

SHIP TO:
SAMPLE RECEIVING
(616) 399-6070
ALS ENVIRONMENTAL
3352 128TH AVENUE
HOLLAND MI 49424-9263

REF 1:130685, 2001



MI 495 9-04


UPS NEXT DAY AIR 1
TRACKING #: 1Z V54 9W4 01 5007 8424



BILLING: 3RD PARTY

WS 10/24 Xerox WorkCentre 7824A 07/2010

Fold here and place in label pouch



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit -925 S. Tipsico Lake Rd.)**

Work Order: **1609800**

Dear Sean,

ALS Environmental received 1 sample on 15-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit -925 S. Tipsico Lake Rd.)
Work Order: 1609800

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609800-01	925 S. Tipsico Lake Rd.	Water		9/14/2016 14:55	9/15/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy

Project: ECT (Merit -925 S. Tipsico Lake Rd.)

Work Order: 1609800

Sample ID: 925 S. Tipsico Lake Rd.

Lab ID: 1609800-01

Collection Date: 9/14/2016 02:55 PM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/16/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/19/2016 03:14 AM
Surr: 2,4,6-Tribromophenol	62.6		38-115	%REC	1	9/19/2016 03:14 AM
Surr: 2-Fluorobiphenyl	66.6		32-100	%REC	1	9/19/2016 03:14 AM
Surr: 2-Fluorophenol	36.7		22-59	%REC	1	9/19/2016 03:14 AM
Surr: 4-Terphenyl-d14	72.3		23-112	%REC	1	9/19/2016 03:14 AM
Surr: Nitrobenzene-d5	65.2		31-93	%REC	1	9/19/2016 03:14 AM
Surr: Phenol-d6	19.4		13-36	%REC	1	9/19/2016 03:14 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
 Work Order: 1609800
 Project: ECT (Merit -925 S. Tipsico Lake Rd.)

QC BATCH REPORT

Batch ID: **91481** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:03 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038353		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
<i>Surr: 2,4,6-Tribromophenol</i>	30.02	0	50	0	60	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	31.92	0	50	0	63.8	32-100	0				
<i>Surr: 2-Fluorophenol</i>	18.02	0	50	0	36	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	35.62	0	50	0	71.2	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	32.13	0	50	0	64.3	31-93	0				
<i>Surr: Phenol-d6</i>	9.75	0	50	0	19.5	13-36	0				

LCS		Sample ID: SLCSW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:23 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038354		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	52.35	10	100	0	52.4	30-100	0				
<i>Surr: 2,4,6-Tribromophenol</i>	35.21	0	50	0	70.4	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	31.44	0	50	0	62.9	32-100	0				
<i>Surr: 2-Fluorophenol</i>	17.86	0	50	0	35.7	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	37.56	0	50	0	75.1	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	33.06	0	50	0	66.1	31-93	0				
<i>Surr: Phenol-d6</i>	10.51	0	50	0	21	13-36	0				

LCSD		Sample ID: SLCSDW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:43 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038355		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	59.44	10	100	0	59.4	30-100	52.35	12.7	30		
<i>Surr: 2,4,6-Tribromophenol</i>	32.69	0	50	0	65.4	38-115	35.21	7.42	30		
<i>Surr: 2-Fluorobiphenyl</i>	35.15	0	50	0	70.3	32-100	31.44	11.1	30		
<i>Surr: 2-Fluorophenol</i>	20.65	0	50	0	41.3	22-59	17.86	14.5	30		
<i>Surr: 4-Terphenyl-d14</i>	37.72	0	50	0	75.4	23-112	37.56	0.425	30		
<i>Surr: Nitrobenzene-d5</i>	31.01	0	50	0	62	31-93	33.06	6.4	30		
<i>Surr: Phenol-d6</i>	12.14	0	50	0	24.3	13-36	10.51	14.4	30		

The following samples were analyzed in this batch: 1609800-01A

Client: Merit Energy
Project: ECT (Merit -925 S. Tipsico Lake Rd.)
WorkOrder: 1609800

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **15-Sep-16 10:00**

Work Order: **1609800**

Received by: **MBB**

Checklist completed by Meghan Broadbent 15-Sep-16
eSignature Date

Reviewed by: Gary Byar 15-Sep-16
eSignature Date

Matrices: water
Carrier name: UPS

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No
- Sample(s) received on ice? Yes No

Temperature(s)/Thermometer(s): 3.0/3.0 SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 9/15/2016 12:10:18 PM

Water - VOA vials have zero headspace? Yes No No VOA vials submitted

Water - pH acceptable upon receipt? Yes No N/A

pH adjusted? Yes No N/A

pH adjusted by:

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



ALS Environmental
781 Industrial Cir, Ste 3
Traverse City, Michigan 49686
(Tel) 231.421.3204
(Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

Customer Information			Project Information				Parameter/Method Request for Analysis										
Purchase Order		Project Name	Hartland 36 Gas Plant		A	Sulfolane (1) Amber Liter											
Work Order		Project Number			B												
Company Name	ECT, Inc.	Bill To Company	MEC		C												
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven		D												
Address	3399 Veterans Dr.	Address	1510 Thomas Rd		E												
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI		F												
Phone	231-946-8200	Phone	231-258-6369		G												
Fax	231-946-8208	Fax			H												
e-Mail Address	jlewandowski@ectinc.com				I												
					J												
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
	925 S. Tipsico Lake Rd	9/14/16	1455	Water	8	1	X										
Sampler(s): Please Print & Sign <i>Jason Bartholomew</i>			Shipment Method: UPS Ground		Required Turnaround Time: (Check Box) <input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour					Results Due Date:							
Relinquished by: <i>Jason Bartholomew</i>		Date: 9/14/16	Time: 1455	Received by:		Date:	Time:	Notes: ALS Project: MERITENERGY - Misc									
Relinquished by: <i>MB</i>		Date: 9/15/16	Time: 1000	Received by (Laboratory): <i>MB</i>		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)							
Logged by (Laboratory): <i>MB</i>		Date: 9/15/16	Time: 1200	Checked by (Laboratory): <i>GRB</i>					3.0	<input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data		<input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV					
										<input type="checkbox"/> Level IV: SW846 Methods/CLP like		<input type="checkbox"/> Other:					
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C											Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.						



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit -1074 S. Tipsico Lake Rd.)**

Work Order: **1609798**

Dear Sean,

ALS Environmental received 1 sample on 15-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit -1074 S. Tipsico Lake Rd.)
Work Order: 1609798

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609798-01	1074 S. Tipsico Lake Rd.	Water		9/14/2016 11:50	9/15/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy
Project: ECT (Merit -1074 S. Tipsico Lake Rd.)
Sample ID: 1074 S. Tipsico Lake Rd.
Collection Date: 9/14/2016 11:50 AM

Work Order: 1609798
Lab ID: 1609798-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/16/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/19/2016 02:54 AM
Surr: 2,4,6-Tribromophenol	57.6		38-115	%REC	1	9/19/2016 02:54 AM
Surr: 2-Fluorobiphenyl	58.8		32-100	%REC	1	9/19/2016 02:54 AM
Surr: 2-Fluorophenol	31.5		22-59	%REC	1	9/19/2016 02:54 AM
Surr: 4-Terphenyl-d14	65.1		23-112	%REC	1	9/19/2016 02:54 AM
Surr: Nitrobenzene-d5	55.4		31-93	%REC	1	9/19/2016 02:54 AM
Surr: Phenol-d6	16.8		13-36	%REC	1	9/19/2016 02:54 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
 Work Order: 1609798
 Project: ECT (Merit -1074 S. Tipsico Lake Rd.)

QC BATCH REPORT

Batch ID: **91481** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:03 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038353		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
Surr: 2,4,6-Tribromophenol	30.02	0	50	0	60	38-115	0				
Surr: 2-Fluorobiphenyl	31.92	0	50	0	63.8	32-100	0				
Surr: 2-Fluorophenol	18.02	0	50	0	36	22-59	0				
Surr: 4-Terphenyl-d14	35.62	0	50	0	71.2	23-112	0				
Surr: Nitrobenzene-d5	32.13	0	50	0	64.3	31-93	0				
Surr: Phenol-d6	9.75	0	50	0	19.5	13-36	0				

LCS		Sample ID: SLCSW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:23 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038354		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	52.35	10	100	0	52.4	30-100	0				
Surr: 2,4,6-Tribromophenol	35.21	0	50	0	70.4	38-115	0				
Surr: 2-Fluorobiphenyl	31.44	0	50	0	62.9	32-100	0				
Surr: 2-Fluorophenol	17.86	0	50	0	35.7	22-59	0				
Surr: 4-Terphenyl-d14	37.56	0	50	0	75.1	23-112	0				
Surr: Nitrobenzene-d5	33.06	0	50	0	66.1	31-93	0				
Surr: Phenol-d6	10.51	0	50	0	21	13-36	0				

LCSD		Sample ID: SLCSDW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:43 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038355		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	59.44	10	100	0	59.4	30-100	52.35	12.7	30		
Surr: 2,4,6-Tribromophenol	32.69	0	50	0	65.4	38-115	35.21	7.42	30		
Surr: 2-Fluorobiphenyl	35.15	0	50	0	70.3	32-100	31.44	11.1	30		
Surr: 2-Fluorophenol	20.65	0	50	0	41.3	22-59	17.86	14.5	30		
Surr: 4-Terphenyl-d14	37.72	0	50	0	75.4	23-112	37.56	0.425	30		
Surr: Nitrobenzene-d5	31.01	0	50	0	62	31-93	33.06	6.4	30		
Surr: Phenol-d6	12.14	0	50	0	24.3	13-36	10.51	14.4	30		

The following samples were analyzed in this batch: 1609798-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Project: ECT (Merit -1074 S. Tipsico Lake Rd.)
WorkOrder: 1609798

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **15-Sep-16 10:00**

Work Order: **1609798**

Received by: **MBB**

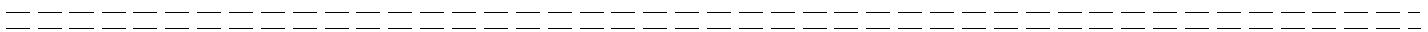
Checklist completed by Meghan Broadbent 15-Sep-16
eSignature Date

Reviewed by: Gary Byar 16-Sep-16
eSignature Date

Matrices: water
Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<input type="text" value="3.0/3.0"/>		<input type="text" value="SR2"/>
Cooler(s)/Kit(s):	<input type="text"/>		
Date/Time sample(s) sent to storage:	<input type="text" value="9/15/2016 5:21:42 PM"/>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<input type="text"/>		

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



ALS Environmental
 781 Industrial Cir, Ste 3
 Traverse City, Michigan 49686
 (Tel) 231.421.3204
 (Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
 ALS Environmental
 3352 128th Avenue
 Holland, Michigan 49424
 (Tel) 616.399.6070
 (Fax) 616.399.6185

ALS Project Manager: Gary Byar ALS Work Order #: 1609798

Customer Information		Project Information		Parameter/Method Request for Analysis											
Purchase Order		Project Name	Hartland 36 Gas Plant	A	Sulfolane (1) Amber Liter										
Work Order		Project Number		B											
Company Name	ECT, Inc.	Bill To Company	MEC	C											
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven	D											
Address	3399 Veterans Dr.	Address	1510 Thomas Rd	E											
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI	F											
Phone	231-946-8200	Phone	231-258-6369	G											
Fax	231-946-8208	Fax		H											
e-Mail Address	jlewandowski@ectinc.com			I											
				J											

No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
	1074 S. Tipsico Lake Rd	9/14/16	1150	Water	8	1	X										

Sampler(s): Please Print & Sign Jason Bartholomew Shipment Method: UPS Ground Required Turnaround Time: (Check Box) 10 Wk Days 5-7 Wk Days 3 Wk Days 2 Wk Days 24 Hour Other _____ Results Due Date: _____

Relinquished by: Jason Bartholomew Date: 9/14/16 Time: 1626 Received by: _____ Date: _____ Time: _____ Notes: ALS Project MERITENERGY - Misc

Relinquished by: _____ Date: 9/15/16 Time: 1000 Received by (Laboratory): MB Date: _____ Time: _____ ALS Cooler ID: _____ Cooler Temp: _____ QC Package: (Check Box Below) Level II: Standard QC Level III: Raw Data

Logged by (Laboratory): MB Date: 9/15/16 Time: 1200 Checked by (Laboratory): GRB ALS Cooler ID: _____ Cooler Temp: 3.0 TRRP LRC TRRP Level IV

Preservative Key: 1-HCl 2-HNO₃ 3-H₂SO₄ 4-NaOH 5-Na₂S₂O₃ 6-NaHSO₄ 7-Other 8-4°C Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit -1055 S. Tipsico Lake Rd.)**

Work Order: **1609796**

Dear Sean,

ALS Environmental received 1 sample on 15-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit -1055 S. Tipsico Lake Rd.)
Work Order: 1609796

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609796-01	1055 S. Tipsico Lake Rd.	Water		9/14/2016 10:20	9/15/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy

Project: ECT (Merit -1055 S. Tipsico Lake Rd.)

Work Order: 1609796

Sample ID: 1055 S. Tipsico Lake Rd.

Lab ID: 1609796-01

Collection Date: 9/14/2016 10:20 AM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/16/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/19/2016 02:15 AM
Surr: 2,4,6-Tribromophenol	58.9		38-115	%REC	1	9/19/2016 02:15 AM
Surr: 2-Fluorobiphenyl	60.7		32-100	%REC	1	9/19/2016 02:15 AM
Surr: 2-Fluorophenol	30.9		22-59	%REC	1	9/19/2016 02:15 AM
Surr: 4-Terphenyl-d14	67.0		23-112	%REC	1	9/19/2016 02:15 AM
Surr: Nitrobenzene-d5	59.2		31-93	%REC	1	9/19/2016 02:15 AM
Surr: Phenol-d6	17.4		13-36	%REC	1	9/19/2016 02:15 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
 Work Order: 1609796
 Project: ECT (Merit -1055 S. Tipsico Lake Rd.)

QC BATCH REPORT

Batch ID: **91481** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:03 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038353		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
<i>Surr: 2,4,6-Tribromophenol</i>	30.02	0	50	0	60	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	31.92	0	50	0	63.8	32-100	0				
<i>Surr: 2-Fluorophenol</i>	18.02	0	50	0	36	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	35.62	0	50	0	71.2	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	32.13	0	50	0	64.3	31-93	0				
<i>Surr: Phenol-d6</i>	9.75	0	50	0	19.5	13-36	0				

LCS		Sample ID: SLCSW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:23 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038354		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	52.35	10	100	0	52.4	30-100	0				
<i>Surr: 2,4,6-Tribromophenol</i>	35.21	0	50	0	70.4	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	31.44	0	50	0	62.9	32-100	0				
<i>Surr: 2-Fluorophenol</i>	17.86	0	50	0	35.7	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	37.56	0	50	0	75.1	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	33.06	0	50	0	66.1	31-93	0				
<i>Surr: Phenol-d6</i>	10.51	0	50	0	21	13-36	0				

LCSD		Sample ID: SLCSDW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:43 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038355		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	59.44	10	100	0	59.4	30-100	52.35	12.7	30		
<i>Surr: 2,4,6-Tribromophenol</i>	32.69	0	50	0	65.4	38-115	35.21	7.42	30		
<i>Surr: 2-Fluorobiphenyl</i>	35.15	0	50	0	70.3	32-100	31.44	11.1	30		
<i>Surr: 2-Fluorophenol</i>	20.65	0	50	0	41.3	22-59	17.86	14.5	30		
<i>Surr: 4-Terphenyl-d14</i>	37.72	0	50	0	75.4	23-112	37.56	0.425	30		
<i>Surr: Nitrobenzene-d5</i>	31.01	0	50	0	62	31-93	33.06	6.4	30		
<i>Surr: Phenol-d6</i>	12.14	0	50	0	24.3	13-36	10.51	14.4	30		

The following samples were analyzed in this batch: 1609796-01A

Client: Merit Energy
Project: ECT (Merit -1055 S. Tipsico Lake Rd.)
WorkOrder: 1609796

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **15-Sep-16 10:00**

Work Order: **1609796**

Received by: **MBB**

Checklist completed by Meghan Broadbent 15-Sep-16
eSignature Date

Reviewed by: Gary Byar 15-Sep-16
eSignature Date

Matrices: water
Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.0/3.0</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<input type="text"/>		
Date/Time sample(s) sent to storage:	<u>9/15/2016 12:03:22 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<input type="text"/>		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



ALS Environmental
 781 Industrial Cir, Ste 3
 Traverse City, Michigan 49686
 (Tel) 231.421.3204
 (Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
 ALS Environmental
 3352 128th Avenue
 Holland, Michigan 49424
 (Tel) 616.399.6070
 (Fax) 616.399.6185

Customer Information			Project Information				Parameter/Method Request for Analysis											
Purchase Order		Project Name	Hartland 36 Gas Plant		A	Sulfolane (1) Amber Liter												
Work Order		Project Number			B													
Company Name	ECT, Inc.	Bill To Company	MEC		C													
Sand Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven		D													
Address	3399 Veterans Dr.	Address	1510 Thomas Rd		E													
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI		F													
Phone	231-946-8200	Phone	231-258-6369		G													
Fax	231-946-8208	Fax			H													
e-Mail Address	jl Lewandowski@ectinc.com				I													
					J													
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold	
	1055 S. Tropic Lake Rd	9/14/16	1020	Water	8	1	X											
Sampler(s): Please Print & Sign <i>Jason Beaholment</i>			Shipment Method: UPS Ground		Required Turnaround Time: (Check Box) <input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour						Results Due Date:							
Relinquished by: <i>Jan Beaholment</i>		Date: 9/14/16	Time: 1626	Received by:		Date:	Time:	Notes: ALS Project: MERITENERGY - Misc										
Relinquished by:		Date: 9/15/16	Time: 1000	Received by (Laboratory): <i>MB</i>		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below) <input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data <input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV: SW846 Methods/CLP Rte <input type="checkbox"/> Other:								
Logged by (Laboratory): <i>MB</i>		Date: 9/15/16	Time: 1202	Checked by (Laboratory): <i>GRB</i>					30									
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C							Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.											



21-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 1380 Windmill Lane)**

Work Order: **1609824**

Dear Sean,

ALS Environmental received 1 sample on 15-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 1380 Windmill Lane)
Work Order: 1609824

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609824-01	1380 Windmill Lane	Water		9/14/2016 14:40	9/15/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 21-Sep-16

Client: Merit Energy
Project: ECT (Merit - 1380 Windmill Lane)
Sample ID: 1380 Windmill Lane
Collection Date: 9/14/2016 02:40 PM

Work Order: 1609824
Lab ID: 1609824-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/20/16	Analyst: RM
Sulfolane	ND		11	µg/L	1	9/20/2016 11:11 PM
Surr: 2,4,6-Tribromophenol	49.4		38-115	%REC	1	9/20/2016 11:11 PM
Surr: 2-Fluorobiphenyl	45.5		32-100	%REC	1	9/20/2016 11:11 PM
Surr: 2-Fluorophenol	27.9		22-59	%REC	1	9/20/2016 11:11 PM
Surr: 4-Terphenyl-d14	70.9		23-112	%REC	1	9/20/2016 11:11 PM
Surr: Nitrobenzene-d5	46.3		31-93	%REC	1	9/20/2016 11:11 PM
Surr: Phenol-d6	17.6		13-36	%REC	1	9/20/2016 11:11 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
Project: ECT (Merit - 1380 Windmill Lane)
WorkOrder: 1609824

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **15-Sep-16 10:00**

Work Order: **1609824**

Received by: **MBB**

Checklist completed by Meghan Broadbent 15-Sep-16
eSignature Date

Reviewed by: Gary Byar 15-Sep-16
eSignature Date

Matrices: water

Carrier name: UPS

Shipping container/cooler in good condition? Yes No Not Present

Custody seals intact on shipping container/cooler? Yes No Not Present

Custody seals intact on sample bottles? Yes No Not Present

Chain of custody present? Yes No

Chain of custody signed when relinquished and received? Yes No

Chain of custody agrees with sample labels? Yes No

Samples in proper container/bottle? Yes No

Sample containers intact? Yes No

Sufficient sample volume for indicated test? Yes No

All samples received within holding time? Yes No

Container/Temp Blank temperature in compliance? Yes No

Sample(s) received on ice? Yes No

Temperature(s)/Thermometer(s): 3.6/3.6 SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 9/15/2016 12:57:47 PM

Water - VOA vials have zero headspace? Yes No No VOA vials submitted

Water - pH acceptable upon receipt? Yes No N/A

pH adjusted? Yes No N/A

pH adjusted by:

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



ALS Environmental
 781 Industrial Cir, Ste 3
 Traverse City, Michigan 49688
 (Tel) 231.421.3204
 (Call) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
 ALS Environmental
 3352 128th Avenue
 Holland, Michigan 49424
 (Tel) 616.399.6070
 (Fax) 616.399.6185

Customer Information			Project Information				Parameter/Method Request for Analysis											
Purchase Order		Project Name	Hartland 38 Gas Plant		A	Sulfolane (1) Amber Liter												
Work Order		Project Number			B													
Company Name	ECT, Inc.	Bill To Company	MEC		C													
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven		D													
Address	3399 Veterans Dr.	Address	1510 Thomas Rd		E													
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI		F													
Phone	231-946-8200	Phone	231-258-6369		G													
Fax	231-946-8208	Fax			H													
e-Mail Address	jl Lewandowski@ectinc.com				I													
					J													
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold	
	1380 WINDMILL LAKE	9/14/16	1440	Water	8	1	X											
Sampler(s): Please Print & Sign <i>Jason Kratt</i>		Shipment Method: UPS Ground		Required Turnaround Time: (Check Box) <input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				Other		Results Due Date:								
Relinquished by: <i>Jason Kratt</i>		Date: 9/14/16	Time: 1625	Received by:		Date:	Time:	Notes: ALS Project: MERITENERGY - Misc										
Relinquished by:		Date: 9/15/16	Time: 1000	Received by (Laboratory): <i>MTB</i>		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below) <input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data <input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV: SW846 Methods/CLP like <input type="checkbox"/> Other:								
Logged by (Laboratory): <i>MTB</i>		Date: 9/15/16	Time: 1255	Checked by (Laboratory): <i>GRB</i>														
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C							Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.											

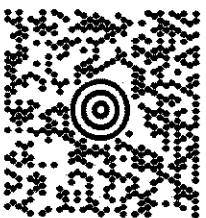
40 LBS

1 OF 1

FROM:
LISA ZUBER
(617) 272-9200
ECT, INC.
3125 SOVEREIGN DRIVE
LANSING MI 48911-4240

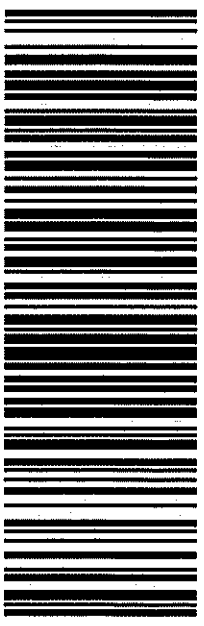
SHIP TO:
SAMPLE RECEIVING
(616) 399-6070
ALS ENVIRONMENTAL
3352 128TH AVENUE
HOLLAND MI 49424-9263

REF 1:130685, 2001



MI 495 9-04


UPS NEXT DAY AIR 1
TRACKING #: 1Z V54 9W4 01 5246 0373



BILLING: 3RD PARTY

Fold here and place in label pouch



10-Aug-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Hartland - 1385 Pleasant Valley)**

Work Order: **1608294**

Dear Sean,

ALS Environmental received 1 sample on 05-Aug-2016 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 18.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Hartland - 1385 Pleasant Valley)
Work Order: 1608294

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1608294-01	1385 Pleasant Valley Rd	Groundwater		8/3/2016 13:04	8/5/2016 09:30	<input type="checkbox"/>

ALS Group USA, Corp

Date: 10-Aug-16

Client: Merit Energy
Project: ECT (Hartland - 1385 Pleasant Valley)
Sample ID: 1385 Pleasant Valley Rd
Collection Date: 8/3/2016 01:04 PM

Work Order: 1608294
Lab ID: 1608294-01
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 8/5/16	Analyst: RM
Diisopropanolamine	ND		50	µg/L	1	8/9/2016 03:30 AM
Sulfolane	ND		10	µg/L	1	8/9/2016 03:30 AM
Surr: 2,4,6-Tribromophenol	66.6		38-115	%REC	1	8/9/2016 03:30 AM
Surr: 2-Fluorobiphenyl	72.4		32-100	%REC	1	8/9/2016 03:30 AM
Surr: 2-Fluorophenol	36.6		22-59	%REC	1	8/9/2016 03:30 AM
Surr: 4-Terphenyl-d14	89.1		23-112	%REC	1	8/9/2016 03:30 AM
Surr: Nitrobenzene-d5	71.1		31-93	%REC	1	8/9/2016 03:30 AM
Surr: Phenol-d6	20.3		13-36	%REC	1	8/9/2016 03:30 AM
VOLATILE ORGANIC COMPOUNDS			SW8260B			Analyst: AK
1,1,1,2-Tetrachloroethane	ND		1.0	µg/L	1	8/5/2016 07:46 PM
1,1,1-Trichloroethane	ND		1.0	µg/L	1	8/5/2016 07:46 PM
1,1,2,2-Tetrachloroethane	ND		1.0	µg/L	1	8/5/2016 07:46 PM
1,1,2-Trichloroethane	ND		1.0	µg/L	1	8/5/2016 07:46 PM
1,1,2-Trichlorotrifluoroethane	ND		1.0	µg/L	1	8/5/2016 07:46 PM
1,1-Dichloroethane	ND		1.0	µg/L	1	8/5/2016 07:46 PM
1,1-Dichloroethene	ND		1.0	µg/L	1	8/5/2016 07:46 PM
1,2,3-Trichloropropane	ND		1.0	µg/L	1	8/5/2016 07:46 PM
1,2,4-Trichlorobenzene	ND		1.0	µg/L	1	8/5/2016 07:46 PM
1,2,4-Trimethylbenzene	ND		1.0	µg/L	1	8/5/2016 07:46 PM
1,2-Dibromo-3-chloropropane	ND		1.0	µg/L	1	8/5/2016 07:46 PM
1,2-Dibromoethane	ND		1.0	µg/L	1	8/5/2016 07:46 PM
1,2-Dichlorobenzene	ND		1.0	µg/L	1	8/5/2016 07:46 PM
1,2-Dichloroethane	ND		1.0	µg/L	1	8/5/2016 07:46 PM
1,2-Dichloropropane	ND		1.0	µg/L	1	8/5/2016 07:46 PM
1,3,5-Trimethylbenzene	ND		1.0	µg/L	1	8/5/2016 07:46 PM
1,3-Dichlorobenzene	ND		1.0	µg/L	1	8/5/2016 07:46 PM
1,4-Dichlorobenzene	ND		1.0	µg/L	1	8/5/2016 07:46 PM
2-Butanone	ND		5.0	µg/L	1	8/5/2016 07:46 PM
2-Hexanone	ND		5.0	µg/L	1	8/5/2016 07:46 PM
2-Methylnaphthalene	ND		5.0	µg/L	1	8/5/2016 07:46 PM
4-Methyl-2-pentanone	ND		1.0	µg/L	1	8/5/2016 07:46 PM
Acetone	ND		10	µg/L	1	8/5/2016 07:46 PM
Acrylonitrile	ND		1.0	µg/L	1	8/5/2016 07:46 PM
Benzene	ND		1.0	µg/L	1	8/5/2016 07:46 PM
Bromochloromethane	ND		1.0	µg/L	1	8/5/2016 07:46 PM
Bromodichloromethane	ND		1.0	µg/L	1	8/5/2016 07:46 PM
Bromoform	ND		1.0	µg/L	1	8/5/2016 07:46 PM
Bromomethane	ND		1.0	µg/L	1	8/5/2016 07:46 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 10-Aug-16

Client: Merit Energy
Project: ECT (Hartland - 1385 Pleasant Valley)
Sample ID: 1385 Pleasant Valley Rd
Collection Date: 8/3/2016 01:04 PM

Work Order: 1608294
Lab ID: 1608294-01
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		1.0	µg/L	1	8/5/2016 07:46 PM
Carbon tetrachloride	ND		1.0	µg/L	1	8/5/2016 07:46 PM
Chlorobenzene	ND		1.0	µg/L	1	8/5/2016 07:46 PM
Chloroethane	ND		1.0	µg/L	1	8/5/2016 07:46 PM
Chloroform	ND		1.0	µg/L	1	8/5/2016 07:46 PM
Chloromethane	ND		1.0	µg/L	1	8/5/2016 07:46 PM
cis-1,2-Dichloroethene	ND		1.0	µg/L	1	8/5/2016 07:46 PM
cis-1,3-Dichloropropene	ND		1.0	µg/L	1	8/5/2016 07:46 PM
Dibromochloromethane	ND		1.0	µg/L	1	8/5/2016 07:46 PM
Dibromomethane	ND		1.0	µg/L	1	8/5/2016 07:46 PM
Dichlorodifluoromethane	ND		1.0	µg/L	1	8/5/2016 07:46 PM
Diethyl ether	ND		1.0	µg/L	1	8/5/2016 07:46 PM
Ethylbenzene	ND		1.0	µg/L	1	8/5/2016 07:46 PM
Hexachloroethane	ND		1.0	µg/L	1	8/5/2016 07:46 PM
Isopropylbenzene	ND		1.0	µg/L	1	8/5/2016 07:46 PM
m,p-Xylene	ND		2.0	µg/L	1	8/5/2016 07:46 PM
Methyl iodide	ND		1.0	µg/L	1	8/5/2016 07:46 PM
Methyl tert-butyl ether	ND		1.0	µg/L	1	8/5/2016 07:46 PM
Methylene chloride	ND		5.0	µg/L	1	8/5/2016 07:46 PM
Naphthalene	ND		5.0	µg/L	1	8/5/2016 07:46 PM
n-Propylbenzene	ND		1.0	µg/L	1	8/5/2016 07:46 PM
o-Xylene	ND		1.0	µg/L	1	8/5/2016 07:46 PM
Styrene	ND		1.0	µg/L	1	8/5/2016 07:46 PM
Tetrachloroethene	ND		1.0	µg/L	1	8/5/2016 07:46 PM
Toluene	ND		1.0	µg/L	1	8/5/2016 07:46 PM
trans-1,2-Dichloroethene	ND		1.0	µg/L	1	8/5/2016 07:46 PM
trans-1,3-Dichloropropene	ND		1.0	µg/L	1	8/5/2016 07:46 PM
trans-1,4-Dichloro-2-butene	ND		2.0	µg/L	1	8/5/2016 07:46 PM
Trichloroethene	ND		1.0	µg/L	1	8/5/2016 07:46 PM
Trichlorofluoromethane	ND		1.0	µg/L	1	8/5/2016 07:46 PM
Vinyl acetate	ND		5.0	µg/L	1	8/5/2016 07:46 PM
Vinyl chloride	ND		1.0	µg/L	1	8/5/2016 07:46 PM
Xylenes, Total	ND		3.0	µg/L	1	8/5/2016 07:46 PM
Surr: 1,2-Dichloroethane-d4	85.4		75-120	%REC	1	8/5/2016 07:46 PM
Surr: 4-Bromofluorobenzene	97.6		80-110	%REC	1	8/5/2016 07:46 PM
Surr: Dibromofluoromethane	87.2		85-115	%REC	1	8/5/2016 07:46 PM
Surr: Toluene-d8	99.6		85-110	%REC	1	8/5/2016 07:46 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
Project: ECT (Hartland - 1385 Pleasant Valley)
Work Order: 1608294

Case Narrative

Batch R193219A Sample VLCSW1-160805 The LCS recovery for Volatile compound Tetrachloroethene was above the upper control limit. All the sample results in the batch were non-detect. No qualification is necessary for this analyte.

Batch R193219A The MS/MSD data for Volatiles is no related to this projects sample. No data requires qualification.

Client: Merit Energy

QC BATCH REPORT

Work Order: 1608294

Project: ECT (Hartland - 1385 Pleasant Valley)

Batch ID: **89682**

Instrument ID **SVMS8**

Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-89682-89682				Units: µg/L		Analysis Date: 8/8/2016 08:51 PM			
Client ID:		Run ID: SVMS8_160808A				SeqNo: 3968850		Prep Date: 8/5/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Diisopropanolamine	ND	50									
Sulfolane	ND	10									
<i>Surr: 2,4,6-Tribromophenol</i>	32.35	0	50	0	64.7	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	36.53	0	50	0	73.1	32-100	0				
<i>Surr: 2-Fluorophenol</i>	19.03	0	50	0	38.1	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	45.48	0	50	0	91	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	36.58	0	50	0	73.2	31-93	0				
<i>Surr: Phenol-d6</i>	9.38	0	50	0	18.8	13-36	0				

LCS		Sample ID: SLCSW1-89682-89682				Units: µg/L		Analysis Date: 8/8/2016 09:12 PM			
Client ID:		Run ID: SVMS8_160808A				SeqNo: 3968851		Prep Date: 8/5/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Diisopropanolamine	3.57	50	20	0	17.8	10-50	0				
Sulfolane	11.76	10	20	0	58.8	30-100	0				
<i>Surr: 2,4,6-Tribromophenol</i>	32.34	0	50	0	64.7	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	37.17	0	50	0	74.3	32-100	0				
<i>Surr: 2-Fluorophenol</i>	19.78	0	50	0	39.6	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	49.38	0	50	0	98.8	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	35.31	0	50	0	70.6	31-93	0				
<i>Surr: Phenol-d6</i>	11.13	0	50	0	22.3	13-36	0				

LCSD		Sample ID: SLCSDW1-89682-89682				Units: µg/L		Analysis Date: 8/8/2016 09:33 PM			
Client ID:		Run ID: SVMS8_160808A				SeqNo: 3968852		Prep Date: 8/5/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Diisopropanolamine	3.35	50	20	0	16.8	10-50	3.57	0	50		
Sulfolane	12.03	10	20	0	60.2	30-100	11.76	2.27	50		
<i>Surr: 2,4,6-Tribromophenol</i>	32.73	0	50	0	65.5	38-115	32.34	1.2	40		
<i>Surr: 2-Fluorobiphenyl</i>	38.09	0	50	0	76.2	32-100	37.17	2.44	40		
<i>Surr: 2-Fluorophenol</i>	18.36	0	50	0	36.7	22-59	19.78	7.45	40		
<i>Surr: 4-Terphenyl-d14</i>	48.18	0	50	0	96.4	23-112	49.38	2.46	40		
<i>Surr: Nitrobenzene-d5</i>	36.74	0	50	0	73.5	31-93	35.31	3.97	40		
<i>Surr: Phenol-d6</i>	10.18	0	50	0	20.4	13-36	11.13	8.92	40		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608294
 Project: ECT (Hartland - 1385 Pleasant Valley)

QC BATCH REPORT

Batch ID: 89682 Instrument ID SVMS8 Method: SW846 8270D

MS		Sample ID: 1608284-01B MS				Units: µg/L		Analysis Date: 8/8/2016 11:24 PM		
Client ID:		Run ID: SVMS8_160808A		SeqNo: 3968855		Prep Date: 8/5/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	3.25	50	20	0	16.2	10-50		0		
Sulfolane	12.15	10	20	0	60.8	30-100		0		
<i>Surr: 2,4,6-Tribromophenol</i>	34.22	0	50	0	68.4	38-115		0		
<i>Surr: 2-Fluorobiphenyl</i>	38.42	0	50	0	76.8	32-100		0		
<i>Surr: 2-Fluorophenol</i>	17.81	0	50	0	35.6	22-59		0		
<i>Surr: 4-Terphenyl-d14</i>	42.35	0	50	0	84.7	23-112		0		
<i>Surr: Nitrobenzene-d5</i>	37.97	0	50	0	75.9	31-93		0		
<i>Surr: Phenol-d6</i>	9.23	0	50	0	18.5	13-36		0		

DUP		Sample ID: 1608285-01B DUP				Units: µg/L		Analysis Date: 8/9/2016 12:05 AM		
Client ID:		Run ID: SVMS8_160808A		SeqNo: 3968857		Prep Date: 8/5/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	ND	50	0	0	0			0	0	50
Sulfolane	ND	10	0	0	0			0	0	50
<i>Surr: 2,4,6-Tribromophenol</i>	36.71	0	50	0	73.4	38-115	33.33	9.65	40	
<i>Surr: 2-Fluorobiphenyl</i>	42.42	0	50	0	84.8	32-100	36.64	14.6	40	
<i>Surr: 2-Fluorophenol</i>	20.27	0	50	0	40.5	22-59	20.78	2.48	40	
<i>Surr: 4-Terphenyl-d14</i>	46.4	0	50	0	92.8	23-112	45.62	1.7	40	
<i>Surr: Nitrobenzene-d5</i>	39.3	0	50	0	78.6	31-93	37.49	4.71	40	
<i>Surr: Phenol-d6</i>	10.33	0	50	0	20.7	13-36	10.9	5.37	40	

The following samples were analyzed in this batch:

1608294-01B

Client: Merit Energy
 Work Order: 1608294
 Project: ECT (Hartland - 1385 Pleasant Valley)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

MBLK		Sample ID: VBLKW1-160805-R193219A				Units: µg/L		Analysis Date: 8/5/2016 04:16 PM		
Client ID:		Run ID: VMS7_160805A		SeqNo: 3965976		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
1,1,2-Trichlorotrifluoroethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2,3-Trichloropropane	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	1.0								
1,2-Dibromoethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,2-Dichloroethane	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
2-Butanone	ND	5.0								
2-Hexanone	ND	5.0								
2-Methylnaphthalene	ND	5.0								
4-Methyl-2-pentanone	ND	1.0								
Acetone	ND	10								
Acrylonitrile	ND	1.0								
Benzene	ND	1.0								
Bromochloromethane	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	1.0								
Carbon disulfide	ND	1.0								
Carbon tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	1.0								
Chloroform	ND	1.0								
Chloromethane	ND	1.0								
cis-1,2-Dichloroethene	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
Diethyl ether	ND	1.0								
Ethylbenzene	ND	1.0								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Work Order: 1608294
Project: ECT (Hartland - 1385 Pleasant Valley)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7	Method: SW8260B						
Hexachloroethane	ND	1.0						
Isopropylbenzene	ND	1.0						
m,p-Xylene	ND	2.0						
Methyl iodide	ND	1.0						
Methyl tert-butyl ether	ND	1.0						
Methylene chloride	ND	5.0						
Naphthalene	ND	5.0						
n-Propylbenzene	ND	1.0						
o-Xylene	ND	1.0						
Styrene	ND	1.0						
Tetrachloroethene	ND	1.0						
Toluene	ND	1.0						
trans-1,2-Dichloroethene	ND	1.0						
trans-1,3-Dichloropropene	ND	1.0						
trans-1,4-Dichloro-2-butene	ND	2.0						
Trichloroethene	ND	1.0						
Trichlorofluoromethane	ND	1.0						
Vinyl acetate	ND	5.0						
Vinyl chloride	ND	1.0						
Xylenes, Total	ND	3.0						
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>16.65</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>83.2</i>	<i>75-120</i>	<i>0</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.46</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>97.3</i>	<i>80-110</i>	<i>0</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>17.64</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>88.2</i>	<i>85-115</i>	<i>0</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>19.85</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>99.2</i>	<i>85-110</i>	<i>0</i>	<i>0</i>

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608294
 Project: ECT (Hartland - 1385 Pleasant Valley)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

LCS		Sample ID: VLCSW1-160805-R193219A				Units: µg/L		Analysis Date: 8/5/2016 03:05 PM		
Client ID:		Run ID: VMS7_160805A			SeqNo: 3965975		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.56	1.0	20	0	97.8	80-130	0			
1,1,1-Trichloroethane	19.1	1.0	20	0	95.5	75-130	0			
1,1,2,2-Tetrachloroethane	21.28	1.0	20	0	106	75-130	0			
1,1,2-Trichloroethane	21.61	1.0	20	0	108	75-125	0			
1,1-Dichloroethane	20.97	1.0	20	0	105	75-133	0			
1,1-Dichloroethene	23.78	1.0	20	0	119	70-145	0			
1,2,3-Trichloropropane	21.08	1.0	20	0	105	75-125	0			
1,2,4-Trichlorobenzene	20.33	1.0	20	0	102	70-135	0			
1,2,4-Trimethylbenzene	21.21	1.0	20	0	106	75-130	0			
1,2-Dibromo-3-chloropropane	18.89	1.0	20	0	94.4	60-130	0			
1,2-Dibromoethane	25.21	1.0	20	0	126	80-150	0			
1,2-Dichlorobenzene	21.24	1.0	20	0	106	70-130	0			
1,2-Dichloroethane	18.28	1.0	20	0	91.4	78-125	0			
1,2-Dichloropropane	21.36	1.0	20	0	107	75-125	0			
1,3,5-Trimethylbenzene	21.95	1.0	20	0	110	75-130	0			
1,3-Dichlorobenzene	21.41	1.0	20	0	107	75-130	0			
1,4-Dichlorobenzene	21.42	1.0	20	0	107	75-130	0			
2-Butanone	21.67	5.0	20	0	108	55-150	0			
2-Hexanone	21.04	5.0	20	0	105	60-135	0			
4-Methyl-2-pentanone	24.27	1.0	20	0	121	77-178	0			
Acetone	21.61	10	20	0	108	60-160	0			
Acrylonitrile	22.04	1.0	20	0	110	60-140	0			
Benzene	22.09	1.0	20	0	110	85-125	0			
Bromochloromethane	21.07	1.0	20	0	105	75-130	0			
Bromodichloromethane	18.63	1.0	20	0	93.2	75-125	0			
Bromoform	17.48	1.0	20	0	87.4	60-125	0			
Bromomethane	20.46	1.0	20	0	102	30-185	0			
Carbon disulfide	21.83	1.0	20	0	109	60-165	0			
Carbon tetrachloride	16.88	1.0	20	0	84.4	65-140	0			
Chlorobenzene	21.43	1.0	20	0	107	80-120	0			
Chloroethane	17.4	1.0	20	0	87	50-140	0			
Chloroform	18.37	1.0	20	0	91.8	80-130	0			
Chloromethane	17.48	1.0	20	0	87.4	50-130	0			
cis-1,2-Dichloroethene	19.7	1.0	20	0	98.5	75-134	0			
cis-1,3-Dichloropropene	20.55	1.0	20	0	103	70-130	0			
Dibromochloromethane	17.89	1.0	20	0	89.4	60-115	0			
Dibromomethane	20.41	1.0	20	0	102	85-125	0			
Dichlorodifluoromethane	11.7	1.0	20	0	58.5	20-120	0			
Ethylbenzene	21.34	1.0	20	0	107	85-125	0			
Hexachloroethane	13.53	1.0	20	0	67.6	50-124	0			
Isopropylbenzene	21.64	1.0	20	0	108	80-127	0			
m,p-Xylene	42.52	2.0	40	0	106	75-130	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Work Order: 1608294
Project: ECT (Hartland - 1385 Pleasant Valley)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7		Method: SW8260B					
Methyl iodide	21.79	1.0	20	0	109	60-160	0	
Methyl tert-butyl ether	20.91	1.0	20	0	105	80-130	0	
Methylene chloride	20.55	5.0	20	0	103	75-140	0	
Naphthalene	21.8	5.0	20	0	109	55-160	0	
n-Propylbenzene	21.26	1.0	20	0	106	78-120	0	
o-Xylene	20.78	1.0	20	0	104	80-125	0	
Styrene	22.53	1.0	20	0	113	85-125	0	
Tetrachloroethene	28.15	1.0	20	0	141	77-138	0	S
Toluene	21.45	1.0	20	0	107	85-125	0	
trans-1,2-Dichloroethene	21.02	1.0	20	0	105	80-140	0	
trans-1,3-Dichloropropene	19	1.0	20	0	95	81-123	0	
trans-1,4-Dichloro-2-butene	16.54	2.0	20	0	82.7	46-118	0	
Trichloroethene	21.19	1.0	20	0	106	84-130	0	
Trichlorofluoromethane	15.48	1.0	20	0	77.4	60-140	0	
Vinyl chloride	17.28	1.0	20	0	86.4	50-136	0	
Xylenes, Total	63.3	3.0	60	0	106	80-126	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	17.26	0	20	0	86.3	75-120	0	
<i>Surr: 4-Bromofluorobenzene</i>	19.64	0	20	0	98.2	80-110	0	
<i>Surr: Dibromofluoromethane</i>	19	0	20	0	95	85-115	0	
<i>Surr: Toluene-d8</i>	19.74	0	20	0	98.7	85-110	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608294
 Project: ECT (Hartland - 1385 Pleasant Valley)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

MS		Sample ID: 1608291-01A MS				Units: µg/L		Analysis Date: 8/5/2016 11:40 PM		
Client ID:		Run ID: VMS7_160805A			SeqNo: 3965989		Prep Date:		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	187.1	10	200	0	93.6	80-130	0			
1,1,1-Trichloroethane	194.5	10	200	0	97.2	75-130	0			
1,1,2,2-Tetrachloroethane	209.2	10	200	0	105	75-130	0			
1,1,2-Trichloroethane	221.6	10	200	0	111	75-125	0			
1,1-Dichloroethane	212.9	10	200	0	106	75-133	0			
1,1-Dichloroethene	266.4	10	200	0	133	70-145	0			
1,2,3-Trichloropropane	217.6	10	200	0	109	75-125	0			
1,2,4-Trichlorobenzene	200.5	10	200	0	100	70-135	0			
1,2,4-Trimethylbenzene	218.4	10	200	0	109	75-130	0			
1,2-Dibromo-3-chloropropane	157.8	10	200	0	78.9	60-130	0			
1,2-Dibromoethane	259.8	10	200	0	130	80-150	0			
1,2-Dichlorobenzene	219.2	10	200	0	110	70-130	0			
1,2-Dichloroethane	193.1	10	200	0	96.6	78-125	0			
1,2-Dichloropropane	223.3	10	200	0	112	75-125	0			
1,3,5-Trimethylbenzene	223.2	10	200	0	112	75-130	0			
1,3-Dichlorobenzene	223.6	10	200	0	112	75-130	0			
1,4-Dichlorobenzene	215.7	10	200	0	108	75-130	0			
2-Butanone	208.6	50	200	0	104	55-150	0			
2-Hexanone	205.6	50	200	0	103	60-135	0			
4-Methyl-2-pentanone	232.8	10	200	0	116	77-178	0			
Acetone	216	100	200	0	108	60-160	0			
Acrylonitrile	224.6	10	200	0	112	60-140	0			
Benzene	234.1	10	200	0	117	85-125	0			
Bromochloromethane	215.1	10	200	0	108	75-130	0			
Bromodichloromethane	184.5	10	200	0	92.2	75-125	0			
Bromoform	152.4	10	200	0	76.2	60-125	0			
Bromomethane	187.7	10	200	0	93.8	30-185	0			
Carbon disulfide	231.8	10	200	0	116	60-165	0			
Carbon tetrachloride	162.5	10	200	0	81.2	65-140	0			
Chlorobenzene	226.8	10	200	0	113	80-120	0			
Chloroethane	185.3	10	200	0	92.6	50-140	0			
Chloroform	191.8	10	200	0	95.9	80-130	0			
Chloromethane	179.5	10	200	0	89.8	50-130	0			
cis-1,2-Dichloroethene	199.8	10	200	0	99.9	75-134	0			
cis-1,3-Dichloropropene	195.6	10	200	0	97.8	70-130	0			
Dibromochloromethane	163.3	10	200	0	81.6	60-115	0			
Dibromomethane	207.6	10	200	0	104	85-125	0			
Dichlorodifluoromethane	149.1	10	200	0	74.6	20-120	0			
Ethylbenzene	225.8	10	200	0	113	85-125	0			
Hexachloroethane	108	10	200	0	54	50-124	0			
Isopropylbenzene	227.9	10	200	0	114	80-127	0			
m,p-Xylene	445.8	20	400	0	111	75-130	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Work Order: 1608294
Project: ECT (Hartland - 1385 Pleasant Valley)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7		Method: SW8260B					
Methyl iodide	282	10	200	0	141	60-160	0	
Methyl tert-butyl ether	211	10	200	0	106	80-130	0	
Methylene chloride	218.8	50	200	0	109	75-140	0	
Naphthalene	216.1	50	200	0	108	55-160	0	
n-Propylbenzene	219.2	10	200	0	110	78-120	0	
o-Xylene	218.1	10	200	0	109	80-125	0	
Styrene	232.8	10	200	0	116	85-125	0	
Tetrachloroethene	318.4	10	200	0	159	77-138	0	S
Toluene	225	10	200	0	112	85-125	0	
trans-1,2-Dichloroethene	222.5	10	200	0	111	80-140	0	
trans-1,3-Dichloropropene	174.7	10	200	0	87.4	81-123	0	
trans-1,4-Dichloro-2-butene	136	20	200	0	68	46-118	0	
Trichloroethene	228.6	10	200	0	114	84-130	0	
Trichlorofluoromethane	161.4	10	200	0	80.7	60-140	0	
Vinyl chloride	177.6	10	200	0	88.8	50-136	0	
Xylenes, Total	663.9	30	600	0	111	80-126	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>166.8</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>83.4</i>	<i>75-120</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>195.6</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>97.8</i>	<i>80-110</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>187</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>93.5</i>	<i>85-115</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>197.9</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>99</i>	<i>85-110</i>	<i>0</i>	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608294
 Project: ECT (Hartland - 1385 Pleasant Valley)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

MSD		Sample ID: 1608291-01A MSD				Units: µg/L		Analysis Date: 8/6/2016 12:03 PM		
Client ID:		Run ID: VMS7_160805A				SeqNo: 3965990		Prep Date:		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	172.3	10	200	0	86.2	80-130	187.1	8.24	30	
1,1,1-Trichloroethane	186.1	10	200	0	93	75-130	194.5	4.41	30	
1,1,2,2-Tetrachloroethane	195.1	10	200	0	97.6	75-130	209.2	6.98	30	
1,1,2-Trichloroethane	207.7	10	200	0	104	75-125	221.6	6.48	30	
1,1-Dichloroethane	202.7	10	200	0	101	75-133	212.9	4.91	30	
1,1-Dichloroethene	242.4	10	200	0	121	70-145	266.4	9.43	30	
1,2,3-Trichloropropane	197.1	10	200	0	98.6	75-125	217.6	9.89	30	
1,2,4-Trichlorobenzene	195.7	10	200	0	97.8	70-135	200.5	2.42	30	
1,2,4-Trimethylbenzene	204.2	10	200	0	102	75-130	218.4	6.72	30	
1,2-Dibromo-3-chloropropane	151.7	10	200	0	75.8	60-130	157.8	3.94	30	
1,2-Dibromoethane	239.5	10	200	0	120	80-150	259.8	8.13	30	
1,2-Dichlorobenzene	207.3	10	200	0	104	70-130	219.2	5.58	30	
1,2-Dichloroethane	179.2	10	200	0	89.6	78-125	193.1	7.47	30	
1,2-Dichloropropane	205.9	10	200	0	103	75-125	223.3	8.11	30	
1,3,5-Trimethylbenzene	212	10	200	0	106	75-130	223.2	5.15	30	
1,3-Dichlorobenzene	213.2	10	200	0	107	75-130	223.6	4.76	30	
1,4-Dichlorobenzene	207.7	10	200	0	104	75-130	215.7	3.78	30	
2-Butanone	194.4	50	200	0	97.2	55-150	208.6	7.05	30	
2-Hexanone	183.1	50	200	0	91.6	60-135	205.6	11.6	30	
4-Methyl-2-pentanone	211	10	200	0	106	77-178	232.8	9.82	30	
Acetone	201.4	100	200	0	101	60-160	216	7	30	
Acrylonitrile	205.6	10	200	0	103	60-140	224.6	8.83	30	
Benzene	219.9	10	200	0	110	85-125	234.1	6.26	30	
Bromochloromethane	204.4	10	200	0	102	75-130	215.1	5.1	30	
Bromodichloromethane	171.9	10	200	0	86	75-125	184.5	7.07	30	
Bromoform	145.2	10	200	0	72.6	60-125	152.4	4.84	30	
Bromomethane	164.2	10	200	0	82.1	30-185	187.7	13.4	30	
Carbon disulfide	216.9	10	200	0	108	60-165	231.8	6.64	30	
Carbon tetrachloride	154.6	10	200	0	77.3	65-140	162.5	4.98	30	
Chlorobenzene	212.3	10	200	0	106	80-120	226.8	6.6	30	
Chloroethane	164.2	10	200	0	82.1	50-140	185.3	12.1	30	
Chloroform	182.6	10	200	0	91.3	80-130	191.8	4.91	30	
Chloromethane	174.5	10	200	0	87.2	50-130	179.5	2.82	30	
cis-1,2-Dichloroethene	186.4	10	200	0	93.2	75-134	199.8	6.94	30	
cis-1,3-Dichloropropene	183.4	10	200	0	91.7	70-130	195.6	6.44	30	
Dibromochloromethane	154.8	10	200	0	77.4	60-115	163.3	5.34	30	
Dibromomethane	196.7	10	200	0	98.4	85-125	207.6	5.39	30	
Dichlorodifluoromethane	137.6	10	200	0	68.8	20-120	149.1	8.02	30	
Ethylbenzene	212	10	200	0	106	85-125	225.8	6.3	30	
Hexachloroethane	111.2	10	200	0	55.6	50-124	108	2.92	30	
Isopropylbenzene	215.6	10	200	0	108	80-127	227.9	5.55	30	
m,p-Xylene	428.1	20	400	0	107	75-130	445.8	4.05	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608294
 Project: ECT (Hartland - 1385 Pleasant Valley)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7			Method: SW8260B						
Methyl iodide	247.4	10	200	0	124	60-160	282	13.1	30	
Methyl tert-butyl ether	199	10	200	0	99.5	80-130	211	5.85	30	
Methylene chloride	206	50	200	0	103	75-140	218.8	6.03	30	
Naphthalene	204.1	50	200	0	102	55-160	216.1	5.71	30	
n-Propylbenzene	206.4	10	200	0	103	78-120	219.2	6.02	30	
o-Xylene	203.4	10	200	0	102	80-125	218.1	6.98	30	
Styrene	219.8	10	200	0	110	85-125	232.8	5.74	30	
Tetrachloroethene	290.1	10	200	0	145	77-138	318.4	9.3	30	S
Toluene	210.6	10	200	0	105	85-125	225	6.61	30	
trans-1,2-Dichloroethene	208.6	10	200	0	104	80-140	222.5	6.45	30	
trans-1,3-Dichloropropene	162	10	200	0	81	81-123	174.7	7.54	30	
trans-1,4-Dichloro-2-butene	129.9	20	200	0	65	46-118	136	4.59	30	
Trichloroethene	215.2	10	200	0	108	84-130	228.6	6.04	30	
Trichlorofluoromethane	151.8	10	200	0	75.9	60-140	161.4	6.13	30	
Vinyl chloride	173.9	10	200	0	87	50-136	177.6	2.11	30	
Xylenes, Total	631.5	30	600	0	105	80-126	663.9	5	30	
<i>Surr: 1,2-Dichloroethane-d4</i>	167.5	0	200	0	83.8	75-120	166.8	0.419	30	
<i>Surr: 4-Bromofluorobenzene</i>	187.9	0	200	0	94	80-110	195.6	4.02	30	
<i>Surr: Dibromofluoromethane</i>	182.2	0	200	0	91.1	85-115	187	2.6	30	
<i>Surr: Toluene-d8</i>	196	0	200	0	98	85-110	197.9	0.965	30	

The following samples were analyzed in this batch:

1608294-01A

Client: Merit Energy
Project: ECT (Hartland - 1385 Pleasant Valley)
WorkOrder: 1608294

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **05-Aug-16 09:30**

Work Order: **1608294**

Received by: **MEB**

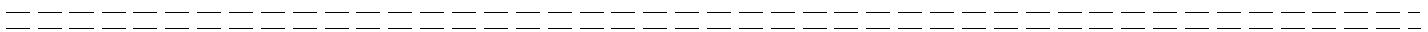
Checklist completed by Meghan Broadbent 05-Aug-16
eSignature Date

Reviewed by: Gary Byar 05-Aug-16
eSignature Date

Matrices: water
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.2/3.2</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<input type="text"/>		
Date/Time sample(s) sent to storage:	<u>8/5/2016 10:41:23 AM</u>		
Water - VOA vials have zero headspace?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<input type="text"/>		

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



RETURN SAMPLES TO:
 ALS Environmental
 781 Industrial Cir, Ste 3
 Traverse City, Michigan 49686
 (Tel) 231.421.3204
 (Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

ALS Environmental
 3352 128th Avenue
 Holland, Michigan 49424
 (Tel) 616.399.6070
 (Fax) 616.399.6185

ALS Project Manager: Gary Byar		ALS Work Order #: 1608294			
Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Hartland 36 Gas Plant	A	Full VOCs 8260 (2) 40 ml vials w HCL
Work Order		Project Number		B	Sulfolane & DIPA 8270 (2) Amber Liters
Company Name	ECT, Inc.	Bill To Company	MEC	C	
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven	D	
Address	3399 Veterans Dr.	Address	1510 Thomas Rd	E	
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI	F	
Phone	231-946-8200	Phone	231-258-6369	G	
Fax	231-946-8208	Fax		H	
e-Mail Address	jlewandowski@ectinc.com			I	
				J	

RUSH

No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
	1385 PLEASANT VALLEY RD	8-3-16	1304	GW	1	4	X	X									

Sampler(s): Please Print & Sign *Jeremy Lewandowski* Shipment Method: _____ Required Turnaround Time: (Check Box) 10 Wk Days 5-7 Wk Days 3 Wk Days 2 Wk Days 24 Hour Other Results Due Date: _____

Relinquished by: *[Signature]* Date: 8-3-16 Time: 2130 Received by: ECT SAMPLE STORAGE Date: 8-3-16 Time: 2130 Notes: 8-4-16 1215 Received by Lab. 8/15/16

Relinquished by: ECT SAMPLE STORAGE / *[Signature]* Date: 8-4-16 Time: 1130 Received by (Laboratory): *[Signature]* Date: 8-4-16 Time: 1130 ALS Cooler ID: _____ Cooler Temp: 3.0C QC Package: (Check Box Below) Level II: Standard QC Level III: Raw Data TRRP LRC TRRP Level IV Level IV: SW846 Methods/CLP like Other: _____

Logged by (Laboratory): *[Signature]* Date: 8/5/16 Time: 1010 Checked by (Laboratory): *[Signature]*

Preservative Key: 1-HCl 2-HNO₃ 3-H₂SO₄ 4-NaOH 5-Na₂S₂O₃ 6-NaHSO₄ 7-Other 8-4°C Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.



21-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 1340 Windmill Lane)**

Work Order: **1609823**

Dear Sean,

ALS Environmental received 1 sample on 15-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 1340 Windmill Lane)
Work Order: 1609823

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609823-01	1340 Windmill Lane	Water		9/14/2016 15:15	9/15/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 21-Sep-16

Client: Merit Energy
Project: ECT (Merit - 1340 Windmill Lane)
Sample ID: 1340 Windmill Lane
Collection Date: 9/14/2016 03:15 PM

Work Order: 1609823
Lab ID: 1609823-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/20/16	Analyst: RM
Sulfolane	ND		11	µg/L	1	9/20/2016 10:52 PM
Surr: 2,4,6-Tribromophenol	52.3		38-115	%REC	1	9/20/2016 10:52 PM
Surr: 2-Fluorobiphenyl	41.8		32-100	%REC	1	9/20/2016 10:52 PM
Surr: 2-Fluorophenol	27.6		22-59	%REC	1	9/20/2016 10:52 PM
Surr: 4-Terphenyl-d14	61.1		23-112	%REC	1	9/20/2016 10:52 PM
Surr: Nitrobenzene-d5	38.2		31-93	%REC	1	9/20/2016 10:52 PM
Surr: Phenol-d6	14.4		13-36	%REC	1	9/20/2016 10:52 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
Work Order: 1609823
Project: ECT (Merit - 1340 Windmill Lane)

QC BATCH REPORT

Batch ID: **91632** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91632-91632				Units: µg/L		Analysis Date: 9/20/2016 08:14 PM			
Client ID:		Run ID: SVMS8_160920A		SeqNo: 4038986		Prep Date: 9/20/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
<i>Surr: 2,4,6-Tribromophenol</i>	32.38	0	50	0	64.8	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	27.78	0	50	0	55.6	32-100	0				
<i>Surr: 2-Fluorophenol</i>	18.06	0	50	0	36.1	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	32.47	0	50	0	64.9	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	26.59	0	50	0	53.2	31-93	0				
<i>Surr: Phenol-d6</i>	11.3	0	50	0	22.6	13-36	0				

LCS		Sample ID: SLCSW1-91632-91632				Units: µg/L		Analysis Date: 9/20/2016 08:34 PM			
Client ID:		Run ID: SVMS8_160920A		SeqNo: 4038987		Prep Date: 9/20/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	65.13	10	100	0	65.1	30-100	0				
<i>Surr: 2,4,6-Tribromophenol</i>	37.32	0	50	0	74.6	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	33.25	0	50	0	66.5	32-100	0				
<i>Surr: 2-Fluorophenol</i>	19.89	0	50	0	39.8	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	34.73	0	50	0	69.5	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	32.45	0	50	0	64.9	31-93	0				
<i>Surr: Phenol-d6</i>	13.43	0	50	0	26.9	13-36	0				

LCSD		Sample ID: SLCSDW1-91632-91632				Units: µg/L		Analysis Date: 9/20/2016 08:53 PM			
Client ID:		Run ID: SVMS8_160920A		SeqNo: 4038988		Prep Date: 9/20/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	53.64	10	100	0	53.6	30-100	65.13	19.3	30		
<i>Surr: 2,4,6-Tribromophenol</i>	37.96	0	50	0	75.9	38-115	37.32	1.7	30		
<i>Surr: 2-Fluorobiphenyl</i>	34.35	0	50	0	68.7	32-100	33.25	3.25	30		
<i>Surr: 2-Fluorophenol</i>	20.18	0	50	0	40.4	22-59	19.89	1.45	30		
<i>Surr: 4-Terphenyl-d14</i>	35.47	0	50	0	70.9	23-112	34.73	2.11	30		
<i>Surr: Nitrobenzene-d5</i>	32.05	0	50	0	64.1	31-93	32.45	1.24	30		
<i>Surr: Phenol-d6</i>	13.29	0	50	0	26.6	13-36	13.43	1.05	30		

The following samples were analyzed in this batch: 1609823-01A

Client: Merit Energy
Project: ECT (Merit - 1340 Windmill Lane)
WorkOrder: 1609823

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **15-Sep-16 10:00**

Work Order: **1609823**

Received by: **MBB**

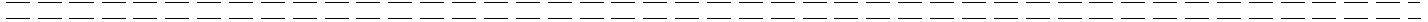
Checklist completed by Meghan Broadbent 15-Sep-16
eSignature Date

Reviewed by: Gary Byar 15-Sep-16
eSignature Date

Matrices: water
Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.6/3.6</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>9/15/2016 12:54:18 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<u></u>		

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



ALS Environmental
 781 Industrial Cir, Ste 3
 Traverse City, Michigan 49686
 (Tel) 231.421.3204
 (Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
 ALS Environmental
 3352 128th Avenue
 Holland, Michigan 49424
 (Tel) 616.399.6070
 (Fax) 616.399.6185

Customer Information				Project Information			Parameter/Method Request for Analysis										
Purchase Order		Project Name	Hartland 36 Gas Plant	A	Sulfolane (1) Amber Liter												
Work Order		Project Number		B													
Company Name	ECT, Inc.	Bill To Company	MEC	C													
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven	D													
Address	3399 Veterans Dr.	Address	1510 Thomas Rd	E													
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI	F													
Phone	231-946-8200	Phone	231-258-8369	G													
Fax	231-946-8208	Fax		H													
e-Mail Address	jlewandowski@ectinc.com			I													
				J													
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
	1340 Windmill Lane	9/14/16	1515	Water	B	1	X										
Sampler(s): Please Print & Sign <i>JAMES KURTZ</i>			Shipment Method: UPS Ground		Required Turnaround Time: (Check Box) <input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour					Results Due Date:							
Relinquished by: <i>James Kurtz</i>		Date: 9/14/16	Time: 1625	Received by:		Date:	Time:	Notes: ALS Project: MERITENERGY - Misc									
Relinquished by:		Date: 9/15/16	Time: 1000	Received by (Laboratory): <i>MB</i>		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)							
Logged by (Laboratory): <i>MB</i>		Date: 9/15/16	Time: 1252	Checked by (Laboratory): <i>GRB</i>					36	<input checked="" type="checkbox"/> Level II: Standard QC		<input type="checkbox"/> Level III: Raw Data					
										<input type="checkbox"/> TRRP LRC		<input type="checkbox"/> TRRP Level IV					
										<input type="checkbox"/> Level IV: SW846 Methods/CLP like							
										<input type="checkbox"/> Other:							
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C										Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.							



23-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 1300 Windmill Lane)**

Work Order: **1609958**

Dear Sean,

ALS Environmental received 1 sample on 16-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 1300 Windmill Lane)
Work Order: 1609958

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609958-01	1300 Windmill Lane	Water		9/15/2016 14:35	9/16/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 23-Sep-16

Client: Merit Energy
Project: ECT (Merit - 1300 Windmill Lane)
Sample ID: 1300 Windmill Lane
Collection Date: 9/15/2016 02:35 PM

Work Order: 1609958
Lab ID: 1609958-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/21/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/22/2016 10:23 PM
Surr: 2,4,6-Tribromophenol	74.9		38-115	%REC	1	9/22/2016 10:23 PM
Surr: 2-Fluorobiphenyl	69.6		32-100	%REC	1	9/22/2016 10:23 PM
Surr: 2-Fluorophenol	33.7		22-59	%REC	1	9/22/2016 10:23 PM
Surr: 4-Terphenyl-d14	76.1		23-112	%REC	1	9/22/2016 10:23 PM
Surr: Nitrobenzene-d5	60.5		31-93	%REC	1	9/22/2016 10:23 PM
Surr: Phenol-d6	18.3		13-36	%REC	1	9/22/2016 10:23 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
Work Order: 1609958
Project: ECT (Merit - 1300 Windmill Lane)

QC BATCH REPORT

Batch ID: **91708** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91708-91708				Units: µg/L		Analysis Date: 9/22/2016 08:02 PM			
Client ID:		Run ID: SVMS8_160922A		SeqNo: 4043705		Prep Date: 9/21/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
<i>Surr: 2,4,6-Tribromophenol</i>	29.44	0	50	0	58.9	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	24.22	0	50	0	48.4	32-100	0				
<i>Surr: 2-Fluorophenol</i>	12.56	0	50	0	25.1	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	41.7	0	50	0	83.4	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	21.08	0	50	0	42.2	31-93	0				
<i>Surr: Phenol-d6</i>	7.14	0	50	0	14.3	13-36	0				

LCS		Sample ID: SLCSW1-91708-91708				Units: µg/L		Analysis Date: 9/22/2016 08:22 PM			
Client ID:		Run ID: SVMS8_160922A		SeqNo: 4043706		Prep Date: 9/21/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	61.39	10	100	0	61.4	30-100	0				
<i>Surr: 2,4,6-Tribromophenol</i>	39.71	0	50	0	79.4	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	38.37	0	50	0	76.7	32-100	0				
<i>Surr: 2-Fluorophenol</i>	19.07	0	50	0	38.1	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	46.06	0	50	0	92.1	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	33.46	0	50	0	66.9	31-93	0				
<i>Surr: Phenol-d6</i>	10.74	0	50	0	21.5	13-36	0				

LCSD		Sample ID: SLCSDW1-91708-91708				Units: µg/L		Analysis Date: 9/22/2016 08:42 PM			
Client ID:		Run ID: SVMS8_160922A		SeqNo: 4043707		Prep Date: 9/21/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	66.28	10	100	0	66.3	30-100	61.39	7.66	30		
<i>Surr: 2,4,6-Tribromophenol</i>	41.04	0	50	0	82.1	38-115	39.71	3.29	30		
<i>Surr: 2-Fluorobiphenyl</i>	39.55	0	50	0	79.1	32-100	38.37	3.03	30		
<i>Surr: 2-Fluorophenol</i>	18.82	0	50	0	37.6	22-59	19.07	1.32	30		
<i>Surr: 4-Terphenyl-d14</i>	46.82	0	50	0	93.6	23-112	46.06	1.64	30		
<i>Surr: Nitrobenzene-d5</i>	34.79	0	50	0	69.6	31-93	33.46	3.9	30		
<i>Surr: Phenol-d6</i>	10.71	0	50	0	21.4	13-36	10.74	0.28	30		

The following samples were analyzed in this batch: 1609958-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Project: ECT (Merit - 1300 Windmill Lane)
WorkOrder: 1609958

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **16-Sep-16 10:00**

Work Order: **1609958**

Received by: **MBB**

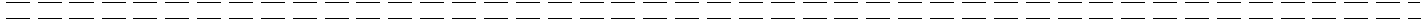
Checklist completed by Meghan Broadbent 16-Sep-16
eSignature Date

Reviewed by: Gary Byar 16-Sep-16
eSignature Date

Matrices: water
Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>4.2/4.2</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<input type="text"/>		
Date/Time sample(s) sent to storage:	<u>9/16/2016 4:25:33 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<input type="text"/>		

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



ALS Environmental
781 Industrial Cir, Ste 3
Traverse City, Michigan 49686
(Tel) 231.421.3204
(Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

ALS Project Manager: Gary Byar		ALS Work Order #: 1069958																
Customer Information		Project Information		Parameter/Method Request for Analysis														
Purchase Order		Project Name	Hartland 36 Gas Plant	A	Sulfolane (1) Amber Liter													
Work Order		Project Number		B														
Company Name	ECT, Inc.	Bill To Company	MEC	C														
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven	D														
Address	3399 Veterans Dr.	Address	1510 Thomas Rd	E														
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI	F														
Phone	231-946-8200	Phone	231-258-6369	G														
Fax	231-946-8208	Fax		H														
e-Mail Address	jl Lewandowski@ectinc.com			I														
				J														
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold	
	1300 Windmill Ln	9/15/16	1435	Water	8	1	X											
Sampler(s): Please Print & Sign		Shipment Method:		Required Turnaround Time: (Check Box)				Results Due Date:										
Jason Bartholomew		UPS Ground		<input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour														
Relinquished by:		Date:	Time:	Received by:		Date:	Time:	Notes:										
Jon Bartholomew		9/15/16	1515	MB Breaux				ALS Project: MERITENERGY - Misc										
Relinquished by:		Date:	Time:	Received by (Laboratory):		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)								
MB		9/16/16	1000	MB Breaux					4.2	<input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data <input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV: SWB46 Methods/CLP like <input type="checkbox"/> Other:								
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):														
MB		9/16/16	1625	GRB														

Preservative Key: 1-HCl 2-HNO₃ 3-H₂SO₄ 4-NaOH 5-Na₂S₂O₃ 6-NaHSO₄ 7-Other 8-4°C

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit -1198 S. Tipsico Lake Rd.)**

Work Order: **1609797**

Dear Sean,

ALS Environmental received 1 sample on 15-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit -1198 S. Tipsico Lake Rd.)
Work Order: 1609797

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609797-01	1198 S. Tipsico Lake Rd.	Water		9/14/2016 11:10	9/15/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy

Project: ECT (Merit -1198 S. Tipsico Lake Rd.)

Work Order: 1609797

Sample ID: 1198 S. Tipsico Lake Rd.

Lab ID: 1609797-01

Collection Date: 9/14/2016 11:10 AM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/16/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/19/2016 02:34 AM
Surr: 2,4,6-Tribromophenol	56.3		38-115	%REC	1	9/19/2016 02:34 AM
Surr: 2-Fluorobiphenyl	56.5		32-100	%REC	1	9/19/2016 02:34 AM
Surr: 2-Fluorophenol	29.8		22-59	%REC	1	9/19/2016 02:34 AM
Surr: 4-Terphenyl-d14	63.2		23-112	%REC	1	9/19/2016 02:34 AM
Surr: Nitrobenzene-d5	63.8		31-93	%REC	1	9/19/2016 02:34 AM
Surr: Phenol-d6	16.3		13-36	%REC	1	9/19/2016 02:34 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
 Work Order: 1609797
 Project: ECT (Merit -1198 S. Tipsico Lake Rd.)

QC BATCH REPORT

Batch ID: **91481** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:03 PM			
Client ID:		Run ID: SVMS8_160918A				SeqNo: 4038353		Prep Date: 9/16/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
<i>Surr: 2,4,6-Tribromophenol</i>	30.02	0	50	0	60	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	31.92	0	50	0	63.8	32-100	0				
<i>Surr: 2-Fluorophenol</i>	18.02	0	50	0	36	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	35.62	0	50	0	71.2	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	32.13	0	50	0	64.3	31-93	0				
<i>Surr: Phenol-d6</i>	9.75	0	50	0	19.5	13-36	0				

LCS		Sample ID: SLCSW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:23 PM			
Client ID:		Run ID: SVMS8_160918A				SeqNo: 4038354		Prep Date: 9/16/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	52.35	10	100	0	52.4	30-100	0				
<i>Surr: 2,4,6-Tribromophenol</i>	35.21	0	50	0	70.4	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	31.44	0	50	0	62.9	32-100	0				
<i>Surr: 2-Fluorophenol</i>	17.86	0	50	0	35.7	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	37.56	0	50	0	75.1	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	33.06	0	50	0	66.1	31-93	0				
<i>Surr: Phenol-d6</i>	10.51	0	50	0	21	13-36	0				

LCSD		Sample ID: SLCSDW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:43 PM			
Client ID:		Run ID: SVMS8_160918A				SeqNo: 4038355		Prep Date: 9/16/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	59.44	10	100	0	59.4	30-100	52.35	12.7	30		
<i>Surr: 2,4,6-Tribromophenol</i>	32.69	0	50	0	65.4	38-115	35.21	7.42	30		
<i>Surr: 2-Fluorobiphenyl</i>	35.15	0	50	0	70.3	32-100	31.44	11.1	30		
<i>Surr: 2-Fluorophenol</i>	20.65	0	50	0	41.3	22-59	17.86	14.5	30		
<i>Surr: 4-Terphenyl-d14</i>	37.72	0	50	0	75.4	23-112	37.56	0.425	30		
<i>Surr: Nitrobenzene-d5</i>	31.01	0	50	0	62	31-93	33.06	6.4	30		
<i>Surr: Phenol-d6</i>	12.14	0	50	0	24.3	13-36	10.51	14.4	30		

The following samples were analyzed in this batch: 1609797-01A

Client: Merit Energy
Project: ECT (Merit -1198 S. Tipsico Lake Rd.)
WorkOrder: 1609797

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **15-Sep-16 10:00**

Work Order: **1609797**

Received by: **MBB**

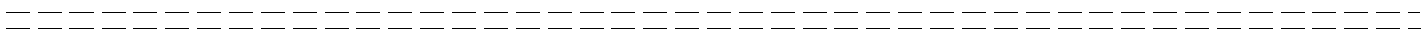
Checklist completed by Meghan Broadbent 15-Sep-16
eSignature Date

Reviewed by: Gary Byar 15-Sep-16
eSignature Date

Matrices: water
Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.0/3.0</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>9/15/2016 12:05:36 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<u></u>		

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



ALS Environmental
781 Industrial Cir, Ste 3
Traverse City, Michigan 49686
(Tel) 231.421.3204
(Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

ALS Project Manager: Gary Byar ALS Work Order #: 1169797

Customer Information		Project Information			Parameter/Method Request for Analysis											
Purchase Order		Project Name	Hartland 36 Gas Plant	A	Sulfolane (1) Amber Liter											
Work Order		Project Number		B												
Company Name	ECT, Inc.	Bill To Company	MEC	C												
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven	D												
Address	3399 Veterans Dr.	Address	1510 Thomas Rd	E												
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI	F												
Phone	231-946-8200	Phone	231-258-6369	G												
Fax	231-946-8208	Fax		H												
e-Mail Address	jlewandowski@ectinc.com			I												
				J												

No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
	1198 S. Tipsiro Lake Rd	9/14/16	1110	Water	8	1	X										

Sampler(s): Please Print & Sign Jason Bartholomew Shipment Method: UPS Ground Required Turnaround Time: (Check Box) 10 Wk Days 5-7 Wk Days 3 Wk Days 2 Wk Days 24 Hour Other _____ Results Due Date: _____

Relinquished by: Jan Bartholomew Date: 9/14/16 Time: 1626 Received by: _____ Date: _____ Time: _____ Notes: ALS Project: MERITENERGY - Misc

Relinquished by: _____ Date: 9/15/16 Time: 1000 Received by (Laboratory): MB Berron Date: _____ Time: _____ ALS Cooler ID: _____ Cooler Temp: 3.0 QC Package: (Check Box Below) Level II: Standard QC Level III: Raw Data

Logged by (Laboratory): MB Date: 9/15/16 Time: 1205 Checked by (Laboratory): GRB TRRP LRC TRRP Level IV Level IV: SW846 Methods/CLP like Other: _____

Preservative Key: 1-HCl 2-HNO₃ 3-H₂SO₄ 4-NaOH 5-Na₂S₂O₅ 6-NaHSO₄ 7-Other 8-4°C Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.



10-Aug-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Hartland - 1225 Pleasant Valley Rd)**

Work Order: **1608297**

Dear Sean,

ALS Environmental received 1 sample on 05-Aug-2016 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 19.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Hartland - 1225 Pleasant Valley Rd)
Work Order: 1608297

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1608297-01	1225 Pleasant Valley Rd	Groundwater		8/3/2016 13:32	8/5/2016 09:30	<input type="checkbox"/>

ALS Group USA, Corp

Date: 10-Aug-16

Client: Merit Energy

Project: ECT (Hartland - 1225 Pleasant Valley Rd)

Work Order: 1608297

Sample ID: 1225 Pleasant Valley Rd

Lab ID: 1608297-01

Collection Date: 8/3/2016 01:32 PM

Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 8/5/16	Analyst: RM
Diisopropanolamine	ND		50	µg/L	1	8/9/2016 04:30 AM
Sulfolane	ND		10	µg/L	1	8/9/2016 04:30 AM
Surr: 2,4,6-Tribromophenol	73.6		38-115	%REC	1	8/9/2016 04:30 AM
Surr: 2-Fluorobiphenyl	74.4		32-100	%REC	1	8/9/2016 04:30 AM
Surr: 2-Fluorophenol	41.7		22-59	%REC	1	8/9/2016 04:30 AM
Surr: 4-Terphenyl-d14	98.0		23-112	%REC	1	8/9/2016 04:30 AM
Surr: Nitrobenzene-d5	69.5		31-93	%REC	1	8/9/2016 04:30 AM
Surr: Phenol-d6	20.9		13-36	%REC	1	8/9/2016 04:30 AM
VOLATILE ORGANIC COMPOUNDS			SW8260B			Analyst: AK
1,1,1,2-Tetrachloroethane	ND		1.0	µg/L	1	8/5/2016 08:57 PM
1,1,1-Trichloroethane	ND		1.0	µg/L	1	8/5/2016 08:57 PM
1,1,2,2-Tetrachloroethane	ND		1.0	µg/L	1	8/5/2016 08:57 PM
1,1,2-Trichloroethane	ND		1.0	µg/L	1	8/5/2016 08:57 PM
1,1,2-Trichlorotrifluoroethane	ND		1.0	µg/L	1	8/5/2016 08:57 PM
1,1-Dichloroethane	ND		1.0	µg/L	1	8/5/2016 08:57 PM
1,1-Dichloroethene	ND		1.0	µg/L	1	8/5/2016 08:57 PM
1,2,3-Trichloropropane	ND		1.0	µg/L	1	8/5/2016 08:57 PM
1,2,4-Trichlorobenzene	ND		1.0	µg/L	1	8/5/2016 08:57 PM
1,2,4-Trimethylbenzene	ND		1.0	µg/L	1	8/5/2016 08:57 PM
1,2-Dibromo-3-chloropropane	ND		1.0	µg/L	1	8/5/2016 08:57 PM
1,2-Dibromoethane	ND		1.0	µg/L	1	8/5/2016 08:57 PM
1,2-Dichlorobenzene	ND		1.0	µg/L	1	8/5/2016 08:57 PM
1,2-Dichloroethane	ND		1.0	µg/L	1	8/5/2016 08:57 PM
1,2-Dichloropropane	ND		1.0	µg/L	1	8/5/2016 08:57 PM
1,3,5-Trimethylbenzene	ND		1.0	µg/L	1	8/5/2016 08:57 PM
1,3-Dichlorobenzene	ND		1.0	µg/L	1	8/5/2016 08:57 PM
1,4-Dichlorobenzene	ND		1.0	µg/L	1	8/5/2016 08:57 PM
2-Butanone	ND		5.0	µg/L	1	8/5/2016 08:57 PM
2-Hexanone	ND		5.0	µg/L	1	8/5/2016 08:57 PM
2-Methylnaphthalene	ND		5.0	µg/L	1	8/5/2016 08:57 PM
4-Methyl-2-pentanone	ND		1.0	µg/L	1	8/5/2016 08:57 PM
Acetone	ND		10	µg/L	1	8/5/2016 08:57 PM
Acrylonitrile	ND		1.0	µg/L	1	8/5/2016 08:57 PM
Benzene	ND		1.0	µg/L	1	8/5/2016 08:57 PM
Bromochloromethane	ND		1.0	µg/L	1	8/5/2016 08:57 PM
Bromodichloromethane	ND		1.0	µg/L	1	8/5/2016 08:57 PM
Bromoform	ND		1.0	µg/L	1	8/5/2016 08:57 PM
Bromomethane	ND		1.0	µg/L	1	8/5/2016 08:57 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 10-Aug-16

Client: Merit Energy

Project: ECT (Hartland - 1225 Pleasant Valley Rd)

Work Order: 1608297

Sample ID: 1225 Pleasant Valley Rd

Lab ID: 1608297-01

Collection Date: 8/3/2016 01:32 PM

Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		1.0	µg/L	1	8/5/2016 08:57 PM
Carbon tetrachloride	ND		1.0	µg/L	1	8/5/2016 08:57 PM
Chlorobenzene	ND		1.0	µg/L	1	8/5/2016 08:57 PM
Chloroethane	ND		1.0	µg/L	1	8/5/2016 08:57 PM
Chloroform	ND		1.0	µg/L	1	8/5/2016 08:57 PM
Chloromethane	ND		1.0	µg/L	1	8/5/2016 08:57 PM
cis-1,2-Dichloroethene	ND		1.0	µg/L	1	8/5/2016 08:57 PM
cis-1,3-Dichloropropene	ND		1.0	µg/L	1	8/5/2016 08:57 PM
Dibromochloromethane	ND		1.0	µg/L	1	8/5/2016 08:57 PM
Dibromomethane	ND		1.0	µg/L	1	8/5/2016 08:57 PM
Dichlorodifluoromethane	ND		1.0	µg/L	1	8/5/2016 08:57 PM
Diethyl ether	ND		1.0	µg/L	1	8/5/2016 08:57 PM
Ethylbenzene	ND		1.0	µg/L	1	8/5/2016 08:57 PM
Hexachloroethane	ND		1.0	µg/L	1	8/5/2016 08:57 PM
Isopropylbenzene	ND		1.0	µg/L	1	8/5/2016 08:57 PM
m,p-Xylene	ND		2.0	µg/L	1	8/5/2016 08:57 PM
Methyl iodide	ND		1.0	µg/L	1	8/5/2016 08:57 PM
Methyl tert-butyl ether	ND		1.0	µg/L	1	8/5/2016 08:57 PM
Methylene chloride	ND		5.0	µg/L	1	8/5/2016 08:57 PM
Naphthalene	ND		5.0	µg/L	1	8/5/2016 08:57 PM
n-Propylbenzene	ND		1.0	µg/L	1	8/5/2016 08:57 PM
o-Xylene	ND		1.0	µg/L	1	8/5/2016 08:57 PM
Styrene	ND		1.0	µg/L	1	8/5/2016 08:57 PM
Tetrachloroethene	ND		1.0	µg/L	1	8/5/2016 08:57 PM
Toluene	ND		1.0	µg/L	1	8/5/2016 08:57 PM
trans-1,2-Dichloroethene	ND		1.0	µg/L	1	8/5/2016 08:57 PM
trans-1,3-Dichloropropene	ND		1.0	µg/L	1	8/5/2016 08:57 PM
trans-1,4-Dichloro-2-butene	ND		2.0	µg/L	1	8/5/2016 08:57 PM
Trichloroethene	ND		1.0	µg/L	1	8/5/2016 08:57 PM
Trichlorofluoromethane	ND		1.0	µg/L	1	8/5/2016 08:57 PM
Vinyl acetate	ND		5.0	µg/L	1	8/5/2016 08:57 PM
Vinyl chloride	ND		1.0	µg/L	1	8/5/2016 08:57 PM
Xylenes, Total	ND		3.0	µg/L	1	8/5/2016 08:57 PM
Surr: 1,2-Dichloroethane-d4	84.4		75-120	%REC	1	8/5/2016 08:57 PM
Surr: 4-Bromofluorobenzene	98.4		80-110	%REC	1	8/5/2016 08:57 PM
Surr: Dibromofluoromethane	89.0		85-115	%REC	1	8/5/2016 08:57 PM
Surr: Toluene-d8	99.7		85-110	%REC	1	8/5/2016 08:57 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
Project: ECT (Hartland - 1225 Pleasant Valley Rd)
Work Order: 1608297

Case Narrative

Batch R193219A Sample VLCSW1-160805 The LCS recovery for Volatile compound Tetrachloroethene was above the upper control limit. All the sample results in the batch were non-detect. No qualification is necessary for this analyte.

Batch R193219A The MS/MSD data for Volatiles is not related to this projects sample. No data requires qualification.

Client: Merit Energy

QC BATCH REPORT

Work Order: 1608297

Project: ECT (Hartland - 1225 Pleasant Valley Rd)

Batch ID: **89682**

Instrument ID **SVMS8**

Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-89682-89682				Units: µg/L		Analysis Date: 8/8/2016 08:51 PM		
Client ID:		Run ID: SVMS8_160808A				SeqNo: 3968850		Prep Date: 8/5/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	ND	50								
Sulfolane	ND	10								
<i>Surr: 2,4,6-Tribromophenol</i>	32.35	0	50	0	64.7	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	36.53	0	50	0	73.1	32-100	0			
<i>Surr: 2-Fluorophenol</i>	19.03	0	50	0	38.1	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	45.48	0	50	0	91	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	36.58	0	50	0	73.2	31-93	0			
<i>Surr: Phenol-d6</i>	9.38	0	50	0	18.8	13-36	0			

LCS		Sample ID: SLCSW1-89682-89682				Units: µg/L		Analysis Date: 8/8/2016 09:12 PM		
Client ID:		Run ID: SVMS8_160808A				SeqNo: 3968851		Prep Date: 8/5/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	3.57	50	20	0	17.8	10-50	0			
Sulfolane	11.76	10	20	0	58.8	30-100	0			
<i>Surr: 2,4,6-Tribromophenol</i>	32.34	0	50	0	64.7	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	37.17	0	50	0	74.3	32-100	0			
<i>Surr: 2-Fluorophenol</i>	19.78	0	50	0	39.6	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	49.38	0	50	0	98.8	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	35.31	0	50	0	70.6	31-93	0			
<i>Surr: Phenol-d6</i>	11.13	0	50	0	22.3	13-36	0			

LCSD		Sample ID: SLCSDW1-89682-89682				Units: µg/L		Analysis Date: 8/8/2016 09:33 PM		
Client ID:		Run ID: SVMS8_160808A				SeqNo: 3968852		Prep Date: 8/5/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	3.35	50	20	0	16.8	10-50	3.57	0	50	
Sulfolane	12.03	10	20	0	60.2	30-100	11.76	2.27	50	
<i>Surr: 2,4,6-Tribromophenol</i>	32.73	0	50	0	65.5	38-115	32.34	1.2	40	
<i>Surr: 2-Fluorobiphenyl</i>	38.09	0	50	0	76.2	32-100	37.17	2.44	40	
<i>Surr: 2-Fluorophenol</i>	18.36	0	50	0	36.7	22-59	19.78	7.45	40	
<i>Surr: 4-Terphenyl-d14</i>	48.18	0	50	0	96.4	23-112	49.38	2.46	40	
<i>Surr: Nitrobenzene-d5</i>	36.74	0	50	0	73.5	31-93	35.31	3.97	40	
<i>Surr: Phenol-d6</i>	10.18	0	50	0	20.4	13-36	11.13	8.92	40	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608297
 Project: ECT (Hartland - 1225 Pleasant Valley Rd)

QC BATCH REPORT

Batch ID: **89682** Instrument ID **SVMS8** Method: **SW846 8270D**

MS		Sample ID: 1608284-01B MS				Units: µg/L		Analysis Date: 8/8/2016 11:24 PM		
Client ID:		Run ID: SVMS8_160808A		SeqNo: 3968855		Prep Date: 8/5/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	3.25	50	20	0	16.2	10-50		0		
Sulfolane	12.15	10	20	0	60.8	30-100		0		
<i>Surr: 2,4,6-Tribromophenol</i>	34.22	0	50	0	68.4	38-115		0		
<i>Surr: 2-Fluorobiphenyl</i>	38.42	0	50	0	76.8	32-100		0		
<i>Surr: 2-Fluorophenol</i>	17.81	0	50	0	35.6	22-59		0		
<i>Surr: 4-Terphenyl-d14</i>	42.35	0	50	0	84.7	23-112		0		
<i>Surr: Nitrobenzene-d5</i>	37.97	0	50	0	75.9	31-93		0		
<i>Surr: Phenol-d6</i>	9.23	0	50	0	18.5	13-36		0		

DUP		Sample ID: 1608285-01B DUP				Units: µg/L		Analysis Date: 8/9/2016 12:05 AM		
Client ID:		Run ID: SVMS8_160808A		SeqNo: 3968857		Prep Date: 8/5/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	ND	50	0	0	0			0	0	50
Sulfolane	ND	10	0	0	0			0	0	50
<i>Surr: 2,4,6-Tribromophenol</i>	36.71	0	50	0	73.4	38-115	33.33	9.65	40	
<i>Surr: 2-Fluorobiphenyl</i>	42.42	0	50	0	84.8	32-100	36.64	14.6	40	
<i>Surr: 2-Fluorophenol</i>	20.27	0	50	0	40.5	22-59	20.78	2.48	40	
<i>Surr: 4-Terphenyl-d14</i>	46.4	0	50	0	92.8	23-112	45.62	1.7	40	
<i>Surr: Nitrobenzene-d5</i>	39.3	0	50	0	78.6	31-93	37.49	4.71	40	
<i>Surr: Phenol-d6</i>	10.33	0	50	0	20.7	13-36	10.9	5.37	40	

The following samples were analyzed in this batch:

1608297-01B

Client: Merit Energy
 Work Order: 1608297
 Project: ECT (Hartland - 1225 Pleasant Valley Rd)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

MBLK		Sample ID: VBLKW1-160805-R193219A				Units: µg/L		Analysis Date: 8/5/2016 04:16 PM		
Client ID:		Run ID: VMS7_160805A		SeqNo: 3965976		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
1,1,2-Trichlorotrifluoroethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2,3-Trichloropropane	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	1.0								
1,2-Dibromoethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,2-Dichloroethane	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
2-Butanone	ND	5.0								
2-Hexanone	ND	5.0								
2-Methylnaphthalene	ND	5.0								
4-Methyl-2-pentanone	ND	1.0								
Acetone	ND	10								
Acrylonitrile	ND	1.0								
Benzene	ND	1.0								
Bromochloromethane	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	1.0								
Carbon disulfide	ND	1.0								
Carbon tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	1.0								
Chloroform	ND	1.0								
Chloromethane	ND	1.0								
cis-1,2-Dichloroethene	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
Diethyl ether	ND	1.0								
Ethylbenzene	ND	1.0								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Work Order: 1608297
Project: ECT (Hartland - 1225 Pleasant Valley Rd)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7	Method: SW8260B						
Hexachloroethane	ND	1.0						
Isopropylbenzene	ND	1.0						
m,p-Xylene	ND	2.0						
Methyl iodide	ND	1.0						
Methyl tert-butyl ether	ND	1.0						
Methylene chloride	ND	5.0						
Naphthalene	ND	5.0						
n-Propylbenzene	ND	1.0						
o-Xylene	ND	1.0						
Styrene	ND	1.0						
Tetrachloroethene	ND	1.0						
Toluene	ND	1.0						
trans-1,2-Dichloroethene	ND	1.0						
trans-1,3-Dichloropropene	ND	1.0						
trans-1,4-Dichloro-2-butene	ND	2.0						
Trichloroethene	ND	1.0						
Trichlorofluoromethane	ND	1.0						
Vinyl acetate	ND	5.0						
Vinyl chloride	ND	1.0						
Xylenes, Total	ND	3.0						
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>16.65</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>83.2</i>	<i>75-120</i>	<i>0</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.46</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>97.3</i>	<i>80-110</i>	<i>0</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>17.64</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>88.2</i>	<i>85-115</i>	<i>0</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>19.85</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>99.2</i>	<i>85-110</i>	<i>0</i>	<i>0</i>

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608297
 Project: ECT (Hartland - 1225 Pleasant Valley Rd)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

LCS		Sample ID: VLCSW1-160805-R193219A				Units: µg/L		Analysis Date: 8/5/2016 03:05 PM		
Client ID:		Run ID: VMS7_160805A			SeqNo: 3965975		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.56	1.0	20	0	97.8	80-130	0			
1,1,1-Trichloroethane	19.1	1.0	20	0	95.5	75-130	0			
1,1,2,2-Tetrachloroethane	21.28	1.0	20	0	106	75-130	0			
1,1,2-Trichloroethane	21.61	1.0	20	0	108	75-125	0			
1,1-Dichloroethane	20.97	1.0	20	0	105	75-133	0			
1,1-Dichloroethene	23.78	1.0	20	0	119	70-145	0			
1,2,3-Trichloropropane	21.08	1.0	20	0	105	75-125	0			
1,2,4-Trichlorobenzene	20.33	1.0	20	0	102	70-135	0			
1,2,4-Trimethylbenzene	21.21	1.0	20	0	106	75-130	0			
1,2-Dibromo-3-chloropropane	18.89	1.0	20	0	94.4	60-130	0			
1,2-Dibromoethane	25.21	1.0	20	0	126	80-150	0			
1,2-Dichlorobenzene	21.24	1.0	20	0	106	70-130	0			
1,2-Dichloroethane	18.28	1.0	20	0	91.4	78-125	0			
1,2-Dichloropropane	21.36	1.0	20	0	107	75-125	0			
1,3,5-Trimethylbenzene	21.95	1.0	20	0	110	75-130	0			
1,3-Dichlorobenzene	21.41	1.0	20	0	107	75-130	0			
1,4-Dichlorobenzene	21.42	1.0	20	0	107	75-130	0			
2-Butanone	21.67	5.0	20	0	108	55-150	0			
2-Hexanone	21.04	5.0	20	0	105	60-135	0			
4-Methyl-2-pentanone	24.27	1.0	20	0	121	77-178	0			
Acetone	21.61	10	20	0	108	60-160	0			
Acrylonitrile	22.04	1.0	20	0	110	60-140	0			
Benzene	22.09	1.0	20	0	110	85-125	0			
Bromochloromethane	21.07	1.0	20	0	105	75-130	0			
Bromodichloromethane	18.63	1.0	20	0	93.2	75-125	0			
Bromoform	17.48	1.0	20	0	87.4	60-125	0			
Bromomethane	20.46	1.0	20	0	102	30-185	0			
Carbon disulfide	21.83	1.0	20	0	109	60-165	0			
Carbon tetrachloride	16.88	1.0	20	0	84.4	65-140	0			
Chlorobenzene	21.43	1.0	20	0	107	80-120	0			
Chloroethane	17.4	1.0	20	0	87	50-140	0			
Chloroform	18.37	1.0	20	0	91.8	80-130	0			
Chloromethane	17.48	1.0	20	0	87.4	50-130	0			
cis-1,2-Dichloroethene	19.7	1.0	20	0	98.5	75-134	0			
cis-1,3-Dichloropropene	20.55	1.0	20	0	103	70-130	0			
Dibromochloromethane	17.89	1.0	20	0	89.4	60-115	0			
Dibromomethane	20.41	1.0	20	0	102	85-125	0			
Dichlorodifluoromethane	11.7	1.0	20	0	58.5	20-120	0			
Ethylbenzene	21.34	1.0	20	0	107	85-125	0			
Hexachloroethane	13.53	1.0	20	0	67.6	50-124	0			
Isopropylbenzene	21.64	1.0	20	0	108	80-127	0			
m,p-Xylene	42.52	2.0	40	0	106	75-130	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Work Order: 1608297
Project: ECT (Hartland - 1225 Pleasant Valley Rd)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7		Method: SW8260B					
Methyl iodide	21.79	1.0	20	0	109	60-160	0	
Methyl tert-butyl ether	20.91	1.0	20	0	105	80-130	0	
Methylene chloride	20.55	5.0	20	0	103	75-140	0	
Naphthalene	21.8	5.0	20	0	109	55-160	0	
n-Propylbenzene	21.26	1.0	20	0	106	78-120	0	
o-Xylene	20.78	1.0	20	0	104	80-125	0	
Styrene	22.53	1.0	20	0	113	85-125	0	
Tetrachloroethene	28.15	1.0	20	0	141	77-138	0	S
Toluene	21.45	1.0	20	0	107	85-125	0	
trans-1,2-Dichloroethene	21.02	1.0	20	0	105	80-140	0	
trans-1,3-Dichloropropene	19	1.0	20	0	95	81-123	0	
trans-1,4-Dichloro-2-butene	16.54	2.0	20	0	82.7	46-118	0	
Trichloroethene	21.19	1.0	20	0	106	84-130	0	
Trichlorofluoromethane	15.48	1.0	20	0	77.4	60-140	0	
Vinyl chloride	17.28	1.0	20	0	86.4	50-136	0	
Xylenes, Total	63.3	3.0	60	0	106	80-126	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	17.26	0	20	0	86.3	75-120	0	
<i>Surr: 4-Bromofluorobenzene</i>	19.64	0	20	0	98.2	80-110	0	
<i>Surr: Dibromofluoromethane</i>	19	0	20	0	95	85-115	0	
<i>Surr: Toluene-d8</i>	19.74	0	20	0	98.7	85-110	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608297
 Project: ECT (Hartland - 1225 Pleasant Valley Rd)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

MS		Sample ID: 1608291-01A MS				Units: µg/L		Analysis Date: 8/5/2016 11:40 PM		
Client ID:		Run ID: VMS7_160805A			SeqNo: 3965989		Prep Date:		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	187.1	10	200	0	93.6	80-130	0			
1,1,1-Trichloroethane	194.5	10	200	0	97.2	75-130	0			
1,1,2,2-Tetrachloroethane	209.2	10	200	0	105	75-130	0			
1,1,2-Trichloroethane	221.6	10	200	0	111	75-125	0			
1,1-Dichloroethane	212.9	10	200	0	106	75-133	0			
1,1-Dichloroethene	266.4	10	200	0	133	70-145	0			
1,2,3-Trichloropropane	217.6	10	200	0	109	75-125	0			
1,2,4-Trichlorobenzene	200.5	10	200	0	100	70-135	0			
1,2,4-Trimethylbenzene	218.4	10	200	0	109	75-130	0			
1,2-Dibromo-3-chloropropane	157.8	10	200	0	78.9	60-130	0			
1,2-Dibromoethane	259.8	10	200	0	130	80-150	0			
1,2-Dichlorobenzene	219.2	10	200	0	110	70-130	0			
1,2-Dichloroethane	193.1	10	200	0	96.6	78-125	0			
1,2-Dichloropropane	223.3	10	200	0	112	75-125	0			
1,3,5-Trimethylbenzene	223.2	10	200	0	112	75-130	0			
1,3-Dichlorobenzene	223.6	10	200	0	112	75-130	0			
1,4-Dichlorobenzene	215.7	10	200	0	108	75-130	0			
2-Butanone	208.6	50	200	0	104	55-150	0			
2-Hexanone	205.6	50	200	0	103	60-135	0			
4-Methyl-2-pentanone	232.8	10	200	0	116	77-178	0			
Acetone	216	100	200	0	108	60-160	0			
Acrylonitrile	224.6	10	200	0	112	60-140	0			
Benzene	234.1	10	200	0	117	85-125	0			
Bromochloromethane	215.1	10	200	0	108	75-130	0			
Bromodichloromethane	184.5	10	200	0	92.2	75-125	0			
Bromoform	152.4	10	200	0	76.2	60-125	0			
Bromomethane	187.7	10	200	0	93.8	30-185	0			
Carbon disulfide	231.8	10	200	0	116	60-165	0			
Carbon tetrachloride	162.5	10	200	0	81.2	65-140	0			
Chlorobenzene	226.8	10	200	0	113	80-120	0			
Chloroethane	185.3	10	200	0	92.6	50-140	0			
Chloroform	191.8	10	200	0	95.9	80-130	0			
Chloromethane	179.5	10	200	0	89.8	50-130	0			
cis-1,2-Dichloroethene	199.8	10	200	0	99.9	75-134	0			
cis-1,3-Dichloropropene	195.6	10	200	0	97.8	70-130	0			
Dibromochloromethane	163.3	10	200	0	81.6	60-115	0			
Dibromomethane	207.6	10	200	0	104	85-125	0			
Dichlorodifluoromethane	149.1	10	200	0	74.6	20-120	0			
Ethylbenzene	225.8	10	200	0	113	85-125	0			
Hexachloroethane	108	10	200	0	54	50-124	0			
Isopropylbenzene	227.9	10	200	0	114	80-127	0			
m,p-Xylene	445.8	20	400	0	111	75-130	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Work Order: 1608297
Project: ECT (Hartland - 1225 Pleasant Valley Rd)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7		Method: SW8260B					
Methyl iodide	282	10	200	0	141	60-160	0	
Methyl tert-butyl ether	211	10	200	0	106	80-130	0	
Methylene chloride	218.8	50	200	0	109	75-140	0	
Naphthalene	216.1	50	200	0	108	55-160	0	
n-Propylbenzene	219.2	10	200	0	110	78-120	0	
o-Xylene	218.1	10	200	0	109	80-125	0	
Styrene	232.8	10	200	0	116	85-125	0	
Tetrachloroethene	318.4	10	200	0	159	77-138	0	S
Toluene	225	10	200	0	112	85-125	0	
trans-1,2-Dichloroethene	222.5	10	200	0	111	80-140	0	
trans-1,3-Dichloropropene	174.7	10	200	0	87.4	81-123	0	
trans-1,4-Dichloro-2-butene	136	20	200	0	68	46-118	0	
Trichloroethene	228.6	10	200	0	114	84-130	0	
Trichlorofluoromethane	161.4	10	200	0	80.7	60-140	0	
Vinyl chloride	177.6	10	200	0	88.8	50-136	0	
Xylenes, Total	663.9	30	600	0	111	80-126	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>166.8</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>83.4</i>	<i>75-120</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>195.6</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>97.8</i>	<i>80-110</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>187</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>93.5</i>	<i>85-115</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>197.9</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>99</i>	<i>85-110</i>	<i>0</i>	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608297
 Project: ECT (Hartland - 1225 Pleasant Valley Rd)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

MSD		Sample ID: 1608291-01A MSD				Units: µg/L		Analysis Date: 8/6/2016 12:03 PM		
Client ID:		Run ID: VMS7_160805A				SeqNo: 3965990		Prep Date:		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	172.3	10	200	0	86.2	80-130	187.1	8.24	30	
1,1,1-Trichloroethane	186.1	10	200	0	93	75-130	194.5	4.41	30	
1,1,2,2-Tetrachloroethane	195.1	10	200	0	97.6	75-130	209.2	6.98	30	
1,1,2-Trichloroethane	207.7	10	200	0	104	75-125	221.6	6.48	30	
1,1-Dichloroethane	202.7	10	200	0	101	75-133	212.9	4.91	30	
1,1-Dichloroethene	242.4	10	200	0	121	70-145	266.4	9.43	30	
1,2,3-Trichloropropane	197.1	10	200	0	98.6	75-125	217.6	9.89	30	
1,2,4-Trichlorobenzene	195.7	10	200	0	97.8	70-135	200.5	2.42	30	
1,2,4-Trimethylbenzene	204.2	10	200	0	102	75-130	218.4	6.72	30	
1,2-Dibromo-3-chloropropane	151.7	10	200	0	75.8	60-130	157.8	3.94	30	
1,2-Dibromoethane	239.5	10	200	0	120	80-150	259.8	8.13	30	
1,2-Dichlorobenzene	207.3	10	200	0	104	70-130	219.2	5.58	30	
1,2-Dichloroethane	179.2	10	200	0	89.6	78-125	193.1	7.47	30	
1,2-Dichloropropane	205.9	10	200	0	103	75-125	223.3	8.11	30	
1,3,5-Trimethylbenzene	212	10	200	0	106	75-130	223.2	5.15	30	
1,3-Dichlorobenzene	213.2	10	200	0	107	75-130	223.6	4.76	30	
1,4-Dichlorobenzene	207.7	10	200	0	104	75-130	215.7	3.78	30	
2-Butanone	194.4	50	200	0	97.2	55-150	208.6	7.05	30	
2-Hexanone	183.1	50	200	0	91.6	60-135	205.6	11.6	30	
4-Methyl-2-pentanone	211	10	200	0	106	77-178	232.8	9.82	30	
Acetone	201.4	100	200	0	101	60-160	216	7	30	
Acrylonitrile	205.6	10	200	0	103	60-140	224.6	8.83	30	
Benzene	219.9	10	200	0	110	85-125	234.1	6.26	30	
Bromochloromethane	204.4	10	200	0	102	75-130	215.1	5.1	30	
Bromodichloromethane	171.9	10	200	0	86	75-125	184.5	7.07	30	
Bromoform	145.2	10	200	0	72.6	60-125	152.4	4.84	30	
Bromomethane	164.2	10	200	0	82.1	30-185	187.7	13.4	30	
Carbon disulfide	216.9	10	200	0	108	60-165	231.8	6.64	30	
Carbon tetrachloride	154.6	10	200	0	77.3	65-140	162.5	4.98	30	
Chlorobenzene	212.3	10	200	0	106	80-120	226.8	6.6	30	
Chloroethane	164.2	10	200	0	82.1	50-140	185.3	12.1	30	
Chloroform	182.6	10	200	0	91.3	80-130	191.8	4.91	30	
Chloromethane	174.5	10	200	0	87.2	50-130	179.5	2.82	30	
cis-1,2-Dichloroethene	186.4	10	200	0	93.2	75-134	199.8	6.94	30	
cis-1,3-Dichloropropene	183.4	10	200	0	91.7	70-130	195.6	6.44	30	
Dibromochloromethane	154.8	10	200	0	77.4	60-115	163.3	5.34	30	
Dibromomethane	196.7	10	200	0	98.4	85-125	207.6	5.39	30	
Dichlorodifluoromethane	137.6	10	200	0	68.8	20-120	149.1	8.02	30	
Ethylbenzene	212	10	200	0	106	85-125	225.8	6.3	30	
Hexachloroethane	111.2	10	200	0	55.6	50-124	108	2.92	30	
Isopropylbenzene	215.6	10	200	0	108	80-127	227.9	5.55	30	
m,p-Xylene	428.1	20	400	0	107	75-130	445.8	4.05	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608297
 Project: ECT (Hartland - 1225 Pleasant Valley Rd)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7		Method: SW8260B							
Methyl iodide	247.4	10	200	0	124	60-160	282	13.1	30	
Methyl tert-butyl ether	199	10	200	0	99.5	80-130	211	5.85	30	
Methylene chloride	206	50	200	0	103	75-140	218.8	6.03	30	
Naphthalene	204.1	50	200	0	102	55-160	216.1	5.71	30	
n-Propylbenzene	206.4	10	200	0	103	78-120	219.2	6.02	30	
o-Xylene	203.4	10	200	0	102	80-125	218.1	6.98	30	
Styrene	219.8	10	200	0	110	85-125	232.8	5.74	30	
Tetrachloroethene	290.1	10	200	0	145	77-138	318.4	9.3	30 S	
Toluene	210.6	10	200	0	105	85-125	225	6.61	30	
trans-1,2-Dichloroethene	208.6	10	200	0	104	80-140	222.5	6.45	30	
trans-1,3-Dichloropropene	162	10	200	0	81	81-123	174.7	7.54	30	
trans-1,4-Dichloro-2-butene	129.9	20	200	0	65	46-118	136	4.59	30	
Trichloroethene	215.2	10	200	0	108	84-130	228.6	6.04	30	
Trichlorofluoromethane	151.8	10	200	0	75.9	60-140	161.4	6.13	30	
Vinyl chloride	173.9	10	200	0	87	50-136	177.6	2.11	30	
Xylenes, Total	631.5	30	600	0	105	80-126	663.9	5	30	
<i>Surr: 1,2-Dichloroethane-d4</i>	167.5	0	200	0	83.8	75-120	166.8	0.419	30	
<i>Surr: 4-Bromofluorobenzene</i>	187.9	0	200	0	94	80-110	195.6	4.02	30	
<i>Surr: Dibromofluoromethane</i>	182.2	0	200	0	91.1	85-115	187	2.6	30	
<i>Surr: Toluene-d8</i>	196	0	200	0	98	85-110	197.9	0.965	30	

The following samples were analyzed in this batch:

1608297-01A

Client: Merit Energy
Project: ECT (Hartland - 1225 Pleasant Valley Rd)
WorkOrder: 1608297

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **05-Aug-16 09:30**

Work Order: **1608297**

Received by: **MEB**

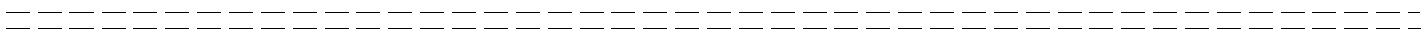
Checklist completed by Meghan Broadbent 05-Aug-16
eSignature Date

Reviewed by: Gary Byar 05-Aug-16
eSignature Date

Matrices: water
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.2/3.2</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>8/5/2016 10:50:11 AM</u>		
Water - VOA vials have zero headspace?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<u></u>		

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



RETURN SAMPLES TO:
 ALS Environmental
 781 Industrial Cir, Ste 3
 Traverse City, Michigan 49886
 (Tel) 231.421.3204
 (Call) 231.944.3459

Chain of Custody Form

Page 1 of 1

ALS Environmental
 3352 128th Avenue
 Holland, Michigan 49424
 (Tel) 616.399.6070
 (Fax) 616.399.6185

ALS Project Manager: Gary Byar ALS Work Order #: 1608297

Customer Information		Project Information		Parameter/Method Request for Analysis												
Purchase Order		Project Name	Hartland 36 Gas Plant	A	Full VOCs 8260			(2) 40 ml vials w HCL								
Work Order		Project Number		B	Sulfolane & DIPA 8270			(2) Amber Liters								
Company Name	ECT, Inc.	Bill To Company	MEC	C												
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven	D												
Address	3399 Veterans Dr.	Address	1510 Thomas Rd	E												
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI	F												
Phone	231-946-8200	Phone	231-258-6369	G												
Fax	231-946-8208	Fax		H												
e-Mail Address	jlewandowski@ectinc.com			I												
				J												

RUSH

No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
	1225 PLEASANT VALLEY RD	8-3-16	1332	GW	1	4	X	X									

Sampler(s): Please Print & Sign *Jeremy Lewandowski* Shipment Method: _____ Required Turnaround Time: (Check Box) Other _____ Results Due Date: _____
 10 Wk Days 5-7 Wk Days 3 Wk Days 2 Wk Days 24 Hour

Relinquished by: *[Signature]* Date: 8-3-16 Time: 2130 Received by: *[Signature]* Date: 8-3-16 Time: 2130 Notes: *[Signature]* 8-4-16 1215 KCUS...
 ALS Project: MERITENERGY - Misc Rec'd by Lab: *[Signature]* 8/5/16 930

Relinquished by: *ECT SAMPLE STORAGE* Date: 8-4-16 Time: 1130 Received by (Laboratory): *[Signature]* Date: 8-4-16 Time: 1130 ALS Cooler ID: _____ Cooler Temp: _____ QC Package: (Check Box Below)
 Level II: Standard QC Level III: Raw Data

Logged by (Laboratory): *[Signature]* Date: 8/5/16 Time: 1048 Checked by (Laboratory): *[Signature]* TRRP LRC: TRRP Level IV:
 Level IV: SW846 Methods/CLP like Other: _____

Preservative Key: 1-HCl 2-HNO₃ 3-H₂SO₄ 4-NaOH 5-Na₂S₂O₃ 6-NaHSO₄ 7-Other 8-4°C Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.

8/4/2016

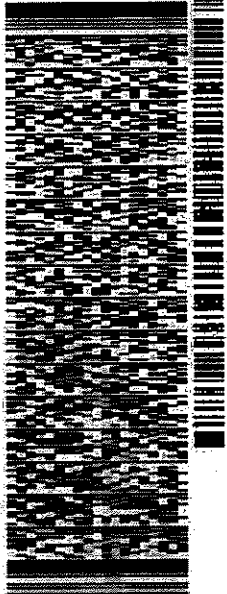
FedEx Ship Manager - Print Your Label(s)

ORIGIN D:TVCA (231) 421-3204
GARY BYAR
ALS ENVIRONMENTAL
781 INDUSTRIAL CIRCLE
UNIT #3
TRAVERSE CITY, MI 49686
UNITED STATES US

SHIP DATE: 04AUG16
ACT WT: 42.80 LB
DIM: 22x20x15
DIM S: 14x25x15
BILL SENDER

TO **SAMPLE RECEIVING**
ALS LABORATORY GROUP
3352 128TH AVENUE

HOLLAND MI 49424
REF: ALS-TC
DEPT:
PO: 3

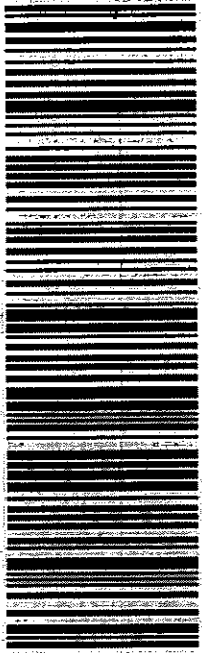


4 of 6
MST# 7769 2326 3179
MST# 7769 2326 3606

FRI - 05 AUG 3:00P
STANDARD OVERNIGHT

68 HLMA

49424
GRR
M-US



8940761449

ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
Tel. +1 616 399 6070
Fax. +1 616 399 6185



CUSTODY SEAL

Date: 8-4-16
Time: 1630

Name: J. BYAR
Company: ALS-TC

Seal Broken By:

Date:



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 1401 Stone Barn Rd.)**

Work Order: **1609726**

Dear Sean,

ALS Environmental received 1 sample on 14-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 1401 Stone Barn Rd.)
Work Order: 1609726

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609726-01	1401 Stone Barn Rd.	Water		9/13/2016 09:30	9/14/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy
Project: ECT (Merit - 1401 Stone Barn Rd.)
Sample ID: 1401 Stone Barn Rd.
Collection Date: 9/13/2016 09:30 AM

Work Order: 1609726
Lab ID: 1609726-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/15/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/18/2016 10:28 PM
Surr: 2,4,6-Tribromophenol	57.0		38-115	%REC	1	9/18/2016 10:28 PM
Surr: 2-Fluorobiphenyl	57.0		32-100	%REC	1	9/18/2016 10:28 PM
Surr: 2-Fluorophenol	33.5		22-59	%REC	1	9/18/2016 10:28 PM
Surr: 4-Terphenyl-d14	65.2		23-112	%REC	1	9/18/2016 10:28 PM
Surr: Nitrobenzene-d5	51.7		31-93	%REC	1	9/18/2016 10:28 PM
Surr: Phenol-d6	19.7		13-36	%REC	1	9/18/2016 10:28 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
 Work Order: 1609726
 Project: ECT (Merit - 1401 Stone Barn Rd.)

QC BATCH REPORT

Batch ID: **91411** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:03 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038350		Prep Date: 9/15/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
<i>Surr: 2,4,6-Tribromophenol</i>	27.6	0	50	0	55.2	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	25.19	0	50	0	50.4	32-100	0				
<i>Surr: 2-Fluorophenol</i>	15.86	0	50	0	31.7	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	32.97	0	50	0	65.9	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	24.52	0	50	0	49	31-93	0				
<i>Surr: Phenol-d6</i>	9.85	0	50	0	19.7	13-36	0				

LCS		Sample ID: SLCSW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:23 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038351		Prep Date: 9/15/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	56.19	10	100	0	56.2	30-100	0				
<i>Surr: 2,4,6-Tribromophenol</i>	34.23	0	50	0	68.5	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	32.05	0	50	0	64.1	32-100	0				
<i>Surr: 2-Fluorophenol</i>	19.67	0	50	0	39.3	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	38.75	0	50	0	77.5	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	34.48	0	50	0	69	31-93	0				
<i>Surr: Phenol-d6</i>	11.72	0	50	0	23.4	13-36	0				

LCSD		Sample ID: SLCSDW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:43 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038352		Prep Date: 9/15/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	56.47	10	100	0	56.5	30-100	56.19	0.497	30		
<i>Surr: 2,4,6-Tribromophenol</i>	35.01	0	50	0	70	38-115	34.23	2.25	30		
<i>Surr: 2-Fluorobiphenyl</i>	34.71	0	50	0	69.4	32-100	32.05	7.97	30		
<i>Surr: 2-Fluorophenol</i>	18.78	0	50	0	37.6	22-59	19.67	4.63	30		
<i>Surr: 4-Terphenyl-d14</i>	44.18	0	50	0	88.4	23-112	38.75	13.1	30		
<i>Surr: Nitrobenzene-d5</i>	34.43	0	50	0	68.9	31-93	34.48	0.145	30		
<i>Surr: Phenol-d6</i>	10.96	0	50	0	21.9	13-36	11.72	6.7	30		

The following samples were analyzed in this batch: 1609726-01A

Client: Merit Energy
Project: ECT (Merit - 1401 Stone Barn Rd.)
WorkOrder: 1609726

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **14-Sep-16 10:00**

Work Order: **1609726**

Received by: **MBB**

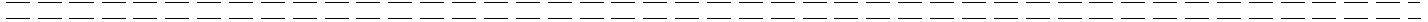
Checklist completed by Meghan Broadbent 14-Sep-16
eSignature Date

Reviewed by: Gary Byar 14-Sep-16
eSignature Date

Matrices: water
Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.2/3.2</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<input type="text"/>		
Date/Time sample(s) sent to storage:	<u>9/14/2016 2:30:47 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<input type="text"/>		

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



ALS Environmental
 781 Industrial Cir, Ste 3
 Traverse City, Michigan 49686
 (Tel) 231.421.3204
 (Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
 ALS Environmental
 3352 128th Avenue
 Holland, Michigan 49424
 (Tel) 616.399.6070
 (Fax) 616.399.6185

Customer Information			Project Information				Parameter/Method Request for Analysis										
Purchase Order		Project Name	Hartland 36 Gas Plant		A	Sulfolane (1) Amber Liter											
Work Order		Project Number			B												
Company Name	ECT, Inc.	Bill To Company	MEC		C												
Send Report To	Jeremy Lawandowski	Invoice Attn.	Sean Craven		D												
Address	3399 Veterans Dr.	Address	1510 Thomas Rd		E												
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI		F												
Phone	231-946-8200	Phone	231-258-6369		G												
Fax	231-946-8208	Fax			H												
e-Mail Address	jlawandowski@ectinc.com				I												
					J												
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
	1401 Stone Barn Rd	9/13/16	0930	Water	8	1	X										
Sampler(s): Please Print & Sign <i>Jason Bartholomeo</i>			Shipment Method: UPS Ground		Required Turnaround Time: (Check Box) <input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour						Results Due Date:						
Relinquished by: <i>Jason Bartholomeo</i>		Date: 9/13/16	Time: 0950	Received by:		Date:	Time:	Notes: ALS Project: MERITENERGY - Misc									
Relinquished by:		Date: 9/14/16	Time: 1000	Received by (Laboratory): <i>MB</i>		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)							
Logged by (Laboratory): <i>MB</i>		Date: 9/14/16	Time: 1430	Checked by (Laboratory): <i>GRB</i>					3.2	<input checked="" type="checkbox"/> Level II: Standard QC		<input type="checkbox"/> Level III: Raw Data					
										<input type="checkbox"/> TRRP LRC		<input type="checkbox"/> TRRP Level IV					
										<input type="checkbox"/> Level IV: SW846 Methods/CLP like							
										<input type="checkbox"/> Other:							
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C											Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.						



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit -1600 S. Tipsico Lake Rd.)**

Work Order: **1609794**

Dear Sean,

ALS Environmental received 1 sample on 15-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit -1600 S. Tipsico Lake Rd.)
Work Order: 1609794

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609794-01	1600 S. Tipsico Lake Rd.	Water		9/14/2016 09:20	9/15/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy

Project: ECT (Merit -1600 S. Tipsico Lake Rd.)

Work Order: 1609794

Sample ID: 1600 S. Tipsico Lake Rd.

Lab ID: 1609794-01

Collection Date: 9/14/2016 09:20 AM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/16/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/19/2016 01:55 AM
Surr: 2,4,6-Tribromophenol	58.5		38-115	%REC	1	9/19/2016 01:55 AM
Surr: 2-Fluorobiphenyl	62.1		32-100	%REC	1	9/19/2016 01:55 AM
Surr: 2-Fluorophenol	33.4		22-59	%REC	1	9/19/2016 01:55 AM
Surr: 4-Terphenyl-d14	68.9		23-112	%REC	1	9/19/2016 01:55 AM
Surr: Nitrobenzene-d5	57.8		31-93	%REC	1	9/19/2016 01:55 AM
Surr: Phenol-d6	18.0		13-36	%REC	1	9/19/2016 01:55 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
 Work Order: 1609794
 Project: ECT (Merit -1600 S. Tipsico Lake Rd.)

QC BATCH REPORT

Batch ID: **91481** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:03 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038353		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
<i>Surr: 2,4,6-Tribromophenol</i>	30.02	0	50	0	60	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	31.92	0	50	0	63.8	32-100	0				
<i>Surr: 2-Fluorophenol</i>	18.02	0	50	0	36	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	35.62	0	50	0	71.2	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	32.13	0	50	0	64.3	31-93	0				
<i>Surr: Phenol-d6</i>	9.75	0	50	0	19.5	13-36	0				

LCS		Sample ID: SLCSW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:23 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038354		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	52.35	10	100	0	52.4	30-100	0				
<i>Surr: 2,4,6-Tribromophenol</i>	35.21	0	50	0	70.4	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	31.44	0	50	0	62.9	32-100	0				
<i>Surr: 2-Fluorophenol</i>	17.86	0	50	0	35.7	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	37.56	0	50	0	75.1	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	33.06	0	50	0	66.1	31-93	0				
<i>Surr: Phenol-d6</i>	10.51	0	50	0	21	13-36	0				

LCSD		Sample ID: SLCSDW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:43 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038355		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	59.44	10	100	0	59.4	30-100	52.35	12.7	30		
<i>Surr: 2,4,6-Tribromophenol</i>	32.69	0	50	0	65.4	38-115	35.21	7.42	30		
<i>Surr: 2-Fluorobiphenyl</i>	35.15	0	50	0	70.3	32-100	31.44	11.1	30		
<i>Surr: 2-Fluorophenol</i>	20.65	0	50	0	41.3	22-59	17.86	14.5	30		
<i>Surr: 4-Terphenyl-d14</i>	37.72	0	50	0	75.4	23-112	37.56	0.425	30		
<i>Surr: Nitrobenzene-d5</i>	31.01	0	50	0	62	31-93	33.06	6.4	30		
<i>Surr: Phenol-d6</i>	12.14	0	50	0	24.3	13-36	10.51	14.4	30		

The following samples were analyzed in this batch: 1609794-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Project: ECT (Merit -1600 S. Tipsico Lake Rd.)
WorkOrder: 1609794

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **15-Sep-16 10:00**

Work Order: **1609794**

Received by: **MBB**

Checklist completed by Meghan Broadbent 15-Sep-16
eSignature Date

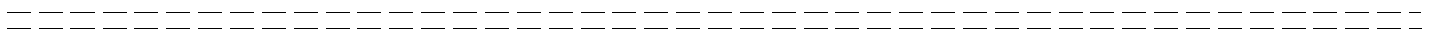
Reviewed by: Gary Byar 15-Sep-16
eSignature Date

Matrices: water

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<input type="text" value="3.0/3.0"/>		<input type="text" value="SR2"/>
Cooler(s)/Kit(s):	<input type="text"/>		
Date/Time sample(s) sent to storage:	<input type="text" value="9/15/2016 12:01:08 PM"/>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<input type="text"/>		

Login Notes:



Client Contacted: _____ Date Contacted: _____ Person Contacted: _____

Contacted By: _____ Regarding: _____

Comments:

CorrectiveAction:



ALS Environmental
781 Industrial Cir, Ste 3
Traverse City, Michigan 49686
(Tel) 231.421.3204
(Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

ALS Project Manager: Gary Byar		ALS Work Order #: 1009794															
Customer Information		Project Information		Parameter/Method Request for Analysis													
Purchase Order		Project Name	Hartland 36 Gas Plant	A	Sulfolane (1) Amber Liter												
Work Order		Project Number		B													
Company Name	ECT, Inc.	Bill To Company	MEC	C													
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven	D													
Address	3399 Veterans Dr.	Address	1510 Thomas Rd	E													
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI	F													
Phone	231-946-8200	Phone	231-258-6369	G													
Fax	231-946-8208	Fax		H													
e-Mail Address	jl Lewandowski@ectinc.com			I													
				J													
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
	1600 S. Tipsico Lake Rd	9/14/16	0920	Water	8	1	X										
Sampler(s): Please Print & Sign Jason B. Holman		Shipment Method: UPS Ground		Required Turnaround Time: (Check Box) <input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour								Results Due Date:					
Relinquished by: Jason B. Holman		Date: 9/14/16	Time: 1626	Received by:		Date:	Time:	Notes: ALS Project: MERITENERGY - Misc									
Relinquished by:		Date: 9/15/16	Time: 1000	Received by (Laboratory): MB		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)							
Logged by (Laboratory): MB		Date: 9/15/16	Time: 1200	Checked by (Laboratory): GRB					3.0	<input checked="" type="checkbox"/> Level II: Standard QC		<input type="checkbox"/> Level III: Raw Data					
										<input type="checkbox"/> TRRP LRC		<input type="checkbox"/> TRRP Level IV					
										<input type="checkbox"/> Level IV: SW846 Methods/CLP like		<input type="checkbox"/> Other:					
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C												Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.					



23-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 3630 Lone Tree Rd.)**

Work Order: **1609953**

Dear Sean,

ALS Environmental received 1 sample on 16-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 3630 Lone Tree Rd.)
Work Order: 1609953

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609953-01	3630 Lone Tree Rd.	Water		9/15/2016 10:35	9/16/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 23-Sep-16

Client: Merit Energy
Project: ECT (Merit - 3630 Lone Tree Rd.)
Sample ID: 3630 Lone Tree Rd.
Collection Date: 9/15/2016 10:35 AM

Work Order: 1609953
Lab ID: 1609953-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/21/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/22/2016 09:02 PM
Surr: 2,4,6-Tribromophenol	69.2		38-115	%REC	1	9/22/2016 09:02 PM
Surr: 2-Fluorobiphenyl	59.6		32-100	%REC	1	9/22/2016 09:02 PM
Surr: 2-Fluorophenol	28.8		22-59	%REC	1	9/22/2016 09:02 PM
Surr: 4-Terphenyl-d14	83.5		23-112	%REC	1	9/22/2016 09:02 PM
Surr: Nitrobenzene-d5	51.9		31-93	%REC	1	9/22/2016 09:02 PM
Surr: Phenol-d6	16.2		13-36	%REC	1	9/22/2016 09:02 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
 Work Order: 1609953
 Project: ECT (Merit - 3630 Lone Tree Rd.)

QC BATCH REPORT

Batch ID: **91708** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91708-91708				Units: µg/L		Analysis Date: 9/22/2016 08:02 PM			
Client ID:		Run ID: SVMS8_160922A		SeqNo: 4043705		Prep Date: 9/21/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
<i>Surr: 2,4,6-Tribromophenol</i>	29.44	0	50	0	58.9	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	24.22	0	50	0	48.4	32-100	0				
<i>Surr: 2-Fluorophenol</i>	12.56	0	50	0	25.1	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	41.7	0	50	0	83.4	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	21.08	0	50	0	42.2	31-93	0				
<i>Surr: Phenol-d6</i>	7.14	0	50	0	14.3	13-36	0				

LCS		Sample ID: SLCSW1-91708-91708				Units: µg/L		Analysis Date: 9/22/2016 08:22 PM			
Client ID:		Run ID: SVMS8_160922A		SeqNo: 4043706		Prep Date: 9/21/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	61.39	10	100	0	61.4	30-100	0				
<i>Surr: 2,4,6-Tribromophenol</i>	39.71	0	50	0	79.4	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	38.37	0	50	0	76.7	32-100	0				
<i>Surr: 2-Fluorophenol</i>	19.07	0	50	0	38.1	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	46.06	0	50	0	92.1	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	33.46	0	50	0	66.9	31-93	0				
<i>Surr: Phenol-d6</i>	10.74	0	50	0	21.5	13-36	0				

LCSD		Sample ID: SLCSDW1-91708-91708				Units: µg/L		Analysis Date: 9/22/2016 08:42 PM			
Client ID:		Run ID: SVMS8_160922A		SeqNo: 4043707		Prep Date: 9/21/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	66.28	10	100	0	66.3	30-100	61.39	7.66	30		
<i>Surr: 2,4,6-Tribromophenol</i>	41.04	0	50	0	82.1	38-115	39.71	3.29	30		
<i>Surr: 2-Fluorobiphenyl</i>	39.55	0	50	0	79.1	32-100	38.37	3.03	30		
<i>Surr: 2-Fluorophenol</i>	18.82	0	50	0	37.6	22-59	19.07	1.32	30		
<i>Surr: 4-Terphenyl-d14</i>	46.82	0	50	0	93.6	23-112	46.06	1.64	30		
<i>Surr: Nitrobenzene-d5</i>	34.79	0	50	0	69.6	31-93	33.46	3.9	30		
<i>Surr: Phenol-d6</i>	10.71	0	50	0	21.4	13-36	10.74	0.28	30		

The following samples were analyzed in this batch: 1609953-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Project: ECT (Merit - 3630 Lone Tree Rd.)
WorkOrder: 1609953

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **16-Sep-16 10:00**

Work Order: **1609953**

Received by: **MBB**

Checklist completed by Meghan Broadbent 16-Sep-16
eSignature Date

Reviewed by: Gary Byar 16-Sep-16
eSignature Date

Matrices: water
Carrier name: UPS

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No
- Sample(s) received on ice? Yes No

Temperature(s)/Thermometer(s): 4.2/4.2 SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 9/16/2016 4:19:05 PM

Water - VOA vials have zero headspace? Yes No No VOA vials submitted

Water - pH acceptable upon receipt? Yes No N/A

pH adjusted? Yes No N/A

pH adjusted by:

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



ALS Environmental
781 Industrial Cir, Ste 3
Traverse City, Michigan 49688
(Tel) 231.421.3204
(Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Hartland 36 Gas Plant	A	Sulfolane (1) Amber Liter
Work Order		Project Number		B	
Company Name	ECT, Inc.	Bill To Company	MEC	C	
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven	D	
Address	3399 Veterans Dr.	Address	1510 Thomas Rd	E	
				F	
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI	G	
Phone	231-946-8200	Phone	231-258-6369	H	
Fax	231-946-8208	Fax		I	
e-Mail Address	jl Lewandowski@ectinc.com			J	

No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
	3630 Lane Tree Rd	9/15/16	1035	Water	8	1	X										

Sampler(s): Please Print & Sign <i>Susan Bartholomew</i>		Shipment Method: UPS Ground		Required Turnaround Time: (Check Box) <input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour			Results Due Date:	
Relinquished by: <i>Jean Bourdette</i>	Date: 9/15/16	Time: 1158	Received by:	Date:	Time:	Notes: ALS Project: MERITENERGY - Misc		
Relinquished by:	Date: 9/16/16	Time: 1000	Received by (Laboratory): <i>MT Breaux</i>	Date:	Time:	ALS Cooler ID:	Cooler Temp: 4.2	QC Package: (Check Box Below)
Logged by (Laboratory): <i>MB</i>	Date: 9/16/16	Time: 1617	Checked by (Laboratory): <i>GRB</i>				<input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data	
						<input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV		
						<input type="checkbox"/> Level IV: SW846 Methods/CLP like		
						<input type="checkbox"/> Other:		

Preservative Key: 1-HCl 2-HNO₃ 3-H₂SO₄ 4-NaOH 5-Na₂S₂O₃ 6-NaHSO₄ 7-Other 8-4°C

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit -1661 S. Tipsico Lake Rd.)**

Work Order: **1609793**

Dear Sean,

ALS Environmental received 1 sample on 15-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit -1661 S. Tipsico Lake Rd.)
Work Order: 1609793

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609793-01	1661 S. Tipsico Lake Rd.	Water		9/14/2016 08:35	9/15/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy

Project: ECT (Merit -1661 S. Tipsico Lake Rd.)

Work Order: 1609793

Sample ID: 1661 S. Tipsico Lake Rd.

Lab ID: 1609793-01

Collection Date: 9/14/2016 08:35 AM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/16/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/19/2016 01:35 AM
Surr: 2,4,6-Tribromophenol	56.6		38-115	%REC	1	9/19/2016 01:35 AM
Surr: 2-Fluorobiphenyl	56.5		32-100	%REC	1	9/19/2016 01:35 AM
Surr: 2-Fluorophenol	31.6		22-59	%REC	1	9/19/2016 01:35 AM
Surr: 4-Terphenyl-d14	61.9		23-112	%REC	1	9/19/2016 01:35 AM
Surr: Nitrobenzene-d5	60.1		31-93	%REC	1	9/19/2016 01:35 AM
Surr: Phenol-d6	17.7		13-36	%REC	1	9/19/2016 01:35 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
 Work Order: 1609793
 Project: ECT (Merit -1661 S. Tipsico Lake Rd.)

QC BATCH REPORT

Batch ID: **91481** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:03 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038353		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
<i>Surr: 2,4,6-Tribromophenol</i>	30.02	0	50	0	60	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	31.92	0	50	0	63.8	32-100	0				
<i>Surr: 2-Fluorophenol</i>	18.02	0	50	0	36	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	35.62	0	50	0	71.2	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	32.13	0	50	0	64.3	31-93	0				
<i>Surr: Phenol-d6</i>	9.75	0	50	0	19.5	13-36	0				

LCS		Sample ID: SLCSW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:23 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038354		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	52.35	10	100	0	52.4	30-100	0				
<i>Surr: 2,4,6-Tribromophenol</i>	35.21	0	50	0	70.4	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	31.44	0	50	0	62.9	32-100	0				
<i>Surr: 2-Fluorophenol</i>	17.86	0	50	0	35.7	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	37.56	0	50	0	75.1	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	33.06	0	50	0	66.1	31-93	0				
<i>Surr: Phenol-d6</i>	10.51	0	50	0	21	13-36	0				

LCSD		Sample ID: SLCSDW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:43 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038355		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	59.44	10	100	0	59.4	30-100	52.35	12.7	30		
<i>Surr: 2,4,6-Tribromophenol</i>	32.69	0	50	0	65.4	38-115	35.21	7.42	30		
<i>Surr: 2-Fluorobiphenyl</i>	35.15	0	50	0	70.3	32-100	31.44	11.1	30		
<i>Surr: 2-Fluorophenol</i>	20.65	0	50	0	41.3	22-59	17.86	14.5	30		
<i>Surr: 4-Terphenyl-d14</i>	37.72	0	50	0	75.4	23-112	37.56	0.425	30		
<i>Surr: Nitrobenzene-d5</i>	31.01	0	50	0	62	31-93	33.06	6.4	30		
<i>Surr: Phenol-d6</i>	12.14	0	50	0	24.3	13-36	10.51	14.4	30		

The following samples were analyzed in this batch: 1609793-01A

Client: Merit Energy
Project: ECT (Merit -1661 S. Tipsico Lake Rd.)
WorkOrder: 1609793

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **15-Sep-16 10:00**

Work Order: **1609793**

Received by: **MBB**

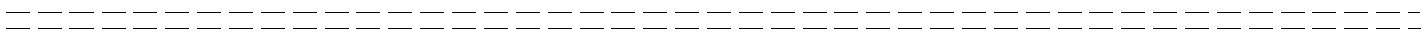
Checklist completed by Meghan Broadbent 15-Sep-16
eSignature Date

Reviewed by: Gary Byar 15-Sep-16
eSignature Date

Matrices: water
Carrier name: UPS

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No
- Sample(s) received on ice? Yes No
- Temperature(s)/Thermometer(s):
- Cooler(s)/Kit(s):
- Date/Time sample(s) sent to storage:
- Water - VOA vials have zero headspace? Yes No No VOA vials submitted
- Water - pH acceptable upon receipt? Yes No N/A
- pH adjusted? Yes No N/A
- pH adjusted by:

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



ALS Environmental
781 Industrial Cir, Ste 3
Traverse City, Michigan 49688
(Tel) 231.421.3204
(Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

ALS Project Manager: Gary Byar		ALS Work Order #: 1009793																	
Customer Information				Project Information				Parameter/Method Request for Analysis											
Purchase Order		Project Name	Hartland 36 Gas Plant	A	Sulfolane (1) Amber Liter														
Work Order		Project Number		B															
Company Name	ECT, Inc.	Bill To Company	MEC	C															
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven	D															
Address	3399 Veterans Dr.	Address	1510 Thomas Rd	E															
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI	F															
Phone	231-946-8200	Phone	231-258-6369	G															
Fax	231-946-8208	Fax		H															
e-Mail Address	jl Lewandowski@ectinc.com			I															
				J															
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold		
	1661 S. Tipsico Lateral	9/14/16	0835	Water	8	1	X												
Sampler(s): Please Print & Sign Jason Bartholomeu		Shipment Method: UPS Ground		Required Turnaround Time: (Check Box) <input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				Other		Results Due Date:									
Relinquished by: Jason Bartholomeu		Date: 9/14/16	Time: 1426	Received by:		Date:	Time:	Notes: ALS Project: MERITENERGY - Misc											
Relinquished by:		Date: 9/15/16	Time: 1000	Received by (Laboratory): MB		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)									
Logged by (Laboratory): MB		Date: 9/15/16	Time: 1150	Checked by (Laboratory): GRB					30	<input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data									
										<input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV									
										<input type="checkbox"/> Level IV: SW846 Methods/CLP like									
										<input type="checkbox"/> Other:									
Preservative Key: 1-H ₂ O 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C												Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.							



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 4322 Lone Tree Rd.)**

Work Order: **1609732**

Dear Sean,

ALS Environmental received 1 sample on 14-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 4322 Lone Tree Rd.)
Work Order: 1609732

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609732-01	4322 Lone Tree Rd.	Water		9/13/2016 13:15	9/14/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy
Project: ECT (Merit - 4322 Lone Tree Rd.)
Sample ID: 4322 Lone Tree Rd.
Collection Date: 9/13/2016 01:15 PM

Work Order: 1609732
Lab ID: 1609732-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/16/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/19/2016 12:35 AM
Surr: 2,4,6-Tribromophenol	71.1		38-115	%REC	1	9/19/2016 12:35 AM
Surr: 2-Fluorobiphenyl	70.5		32-100	%REC	1	9/19/2016 12:35 AM
Surr: 2-Fluorophenol	32.6		22-59	%REC	1	9/19/2016 12:35 AM
Surr: 4-Terphenyl-d14	75.7		23-112	%REC	1	9/19/2016 12:35 AM
Surr: Nitrobenzene-d5	62.3		31-93	%REC	1	9/19/2016 12:35 AM
Surr: Phenol-d6	18.9		13-36	%REC	1	9/19/2016 12:35 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
 Work Order: 1609732
 Project: ECT (Merit - 4322 Lone Tree Rd.)

QC BATCH REPORT

Batch ID: **91481** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:03 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038353		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
Surr: 2,4,6-Tribromophenol	30.02	0	50	0	60	38-115	0				
Surr: 2-Fluorobiphenyl	31.92	0	50	0	63.8	32-100	0				
Surr: 2-Fluorophenol	18.02	0	50	0	36	22-59	0				
Surr: 4-Terphenyl-d14	35.62	0	50	0	71.2	23-112	0				
Surr: Nitrobenzene-d5	32.13	0	50	0	64.3	31-93	0				
Surr: Phenol-d6	9.75	0	50	0	19.5	13-36	0				

LCS		Sample ID: SLCSW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:23 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038354		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	52.35	10	100	0	52.4	30-100	0				
Surr: 2,4,6-Tribromophenol	35.21	0	50	0	70.4	38-115	0				
Surr: 2-Fluorobiphenyl	31.44	0	50	0	62.9	32-100	0				
Surr: 2-Fluorophenol	17.86	0	50	0	35.7	22-59	0				
Surr: 4-Terphenyl-d14	37.56	0	50	0	75.1	23-112	0				
Surr: Nitrobenzene-d5	33.06	0	50	0	66.1	31-93	0				
Surr: Phenol-d6	10.51	0	50	0	21	13-36	0				

LCSD		Sample ID: SLCSDW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:43 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038355		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	59.44	10	100	0	59.4	30-100	52.35	12.7	30		
Surr: 2,4,6-Tribromophenol	32.69	0	50	0	65.4	38-115	35.21	7.42	30		
Surr: 2-Fluorobiphenyl	35.15	0	50	0	70.3	32-100	31.44	11.1	30		
Surr: 2-Fluorophenol	20.65	0	50	0	41.3	22-59	17.86	14.5	30		
Surr: 4-Terphenyl-d14	37.72	0	50	0	75.4	23-112	37.56	0.425	30		
Surr: Nitrobenzene-d5	31.01	0	50	0	62	31-93	33.06	6.4	30		
Surr: Phenol-d6	12.14	0	50	0	24.3	13-36	10.51	14.4	30		

The following samples were analyzed in this batch: 1609732-01A

Client: Merit Energy
Project: ECT (Merit - 4322 Lone Tree Rd.)
WorkOrder: 1609732

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **14-Sep-16 10:00**

Work Order: **1609732**

Received by: **MBB**

Checklist completed by Meghan Broadbent 14-Sep-16
eSignature Date

Reviewed by: Gary Byar 14-Sep-16
eSignature Date

Matrices: water
Carrier name: UPS

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No
- Sample(s) received on ice? Yes No

Temperature(s)/Thermometer(s): 3.2/3.2 SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 9/14/2016 2:38:04 PM

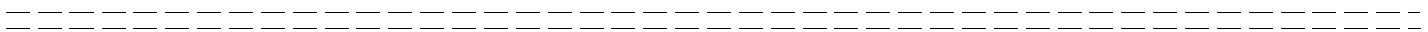
Water - VOA vials have zero headspace? Yes No No VOA vials submitted

Water - pH acceptable upon receipt? Yes No N/A

pH adjusted? Yes No N/A

pH adjusted by:

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



ALS Environmental
781 Industrial Cir, Ste 3
Traverse City, Michigan 49686
(Tel) 231.421.3204
(Cell) 231.844.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

Customer Information		Project Information					Parameter/Method Request for Analysis												
Purchase Order		Project Name	Hartland 36 Gas Plant			A	Sulfolane (1) Amber Liter												
Work Order		Project Number				B													
Company Name	ECT, Inc.	Bill To Company	MEC			C													
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven			D													
Address	3399 Veterans Dr.	Address	1510 Thomas Rd			E													
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI			F													
Phone	231-946-8200	Phone	231-258-6369			G													
Fax	231-946-8208	Fax				H													
e-Mail Address	jlwandowski@ectinc.com					I													
						J													
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold		
	4322 Lone Tree Rd	9/13/15	1315	Water	8	1	X												
Sampler(s): Please Print & Sign		Shipment Method:		Required Turnaround Time: (Check Box)				Other:				Results Due Date:							
Jason B. Atholmen		UPS Ground		<input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour															
Relinquished by:		Date:	Time:	Received by:		Date:	Time:	Notes:											
Jan Burt		9/13/16	1325	MB				ALS Project: MERITENERGY - Misc											
Relinquished by:		Date:	Time:	Received by (Laboratory):		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)									
		9/14/16	1000	MB					3.2	<input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data									
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):															
MB		9/14/16	1437	GRB															
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C							Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.												



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 4200 Lone Tree Rd.)**

Work Order: **1609735**

Dear Sean,

ALS Environmental received 1 sample on 14-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 8.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 4200 Lone Tree Rd.)
Work Order: 1609735

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609735-01	4200 Lone Tree Rd.	Water		9/13/2016 14:50	9/14/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy
Project: ECT (Merit - 4200 Lone Tree Rd.)
Sample ID: 4200 Lone Tree Rd.
Collection Date: 9/13/2016 02:50 PM

Work Order: 1609735
Lab ID: 1609735-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/16/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/19/2016 01:15 AM
Surr: 2,4,6-Tribromophenol	63.7		38-115	%REC	1	9/19/2016 01:15 AM
Surr: 2-Fluorobiphenyl	61.9		32-100	%REC	1	9/19/2016 01:15 AM
Surr: 2-Fluorophenol	35.6		22-59	%REC	1	9/19/2016 01:15 AM
Surr: 4-Terphenyl-d14	66.7		23-112	%REC	1	9/19/2016 01:15 AM
Surr: Nitrobenzene-d5	57.5		31-93	%REC	1	9/19/2016 01:15 AM
Surr: Phenol-d6	18.3		13-36	%REC	1	9/19/2016 01:15 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
 Work Order: 1609735
 Project: ECT (Merit - 4200 Lone Tree Rd.)

QC BATCH REPORT

Batch ID: **91481** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:03 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038353		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
Surr: 2,4,6-Tribromophenol	30.02	0	50	0	60	38-115	0				
Surr: 2-Fluorobiphenyl	31.92	0	50	0	63.8	32-100	0				
Surr: 2-Fluorophenol	18.02	0	50	0	36	22-59	0				
Surr: 4-Terphenyl-d14	35.62	0	50	0	71.2	23-112	0				
Surr: Nitrobenzene-d5	32.13	0	50	0	64.3	31-93	0				
Surr: Phenol-d6	9.75	0	50	0	19.5	13-36	0				

LCS		Sample ID: SLCSW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:23 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038354		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	52.35	10	100	0	52.4	30-100	0				
Surr: 2,4,6-Tribromophenol	35.21	0	50	0	70.4	38-115	0				
Surr: 2-Fluorobiphenyl	31.44	0	50	0	62.9	32-100	0				
Surr: 2-Fluorophenol	17.86	0	50	0	35.7	22-59	0				
Surr: 4-Terphenyl-d14	37.56	0	50	0	75.1	23-112	0				
Surr: Nitrobenzene-d5	33.06	0	50	0	66.1	31-93	0				
Surr: Phenol-d6	10.51	0	50	0	21	13-36	0				

LCSD		Sample ID: SLCSDW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:43 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038355		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	59.44	10	100	0	59.4	30-100	52.35	12.7	30		
Surr: 2,4,6-Tribromophenol	32.69	0	50	0	65.4	38-115	35.21	7.42	30		
Surr: 2-Fluorobiphenyl	35.15	0	50	0	70.3	32-100	31.44	11.1	30		
Surr: 2-Fluorophenol	20.65	0	50	0	41.3	22-59	17.86	14.5	30		
Surr: 4-Terphenyl-d14	37.72	0	50	0	75.4	23-112	37.56	0.425	30		
Surr: Nitrobenzene-d5	31.01	0	50	0	62	31-93	33.06	6.4	30		
Surr: Phenol-d6	12.14	0	50	0	24.3	13-36	10.51	14.4	30		

The following samples were analyzed in this batch: 1609735-01A

Client: Merit Energy
Project: ECT (Merit - 4200 Lone Tree Rd.)
WorkOrder: 1609735

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **14-Sep-16 10:00**

Work Order: **1609735**

Received by: **MBB**

Checklist completed by Meghan Broadbent 14-Sep-16
eSignature Date

Reviewed by: Gary Byar 14-Sep-16
eSignature Date

Matrices: water

Carrier name: UPS

Shipping container/cooler in good condition? Yes No Not Present

Custody seals intact on shipping container/cooler? Yes No Not Present

Custody seals intact on sample bottles? Yes No Not Present

Chain of custody present? Yes No

Chain of custody signed when relinquished and received? Yes No

Chain of custody agrees with sample labels? Yes No

Samples in proper container/bottle? Yes No

Sample containers intact? Yes No

Sufficient sample volume for indicated test? Yes No

All samples received within holding time? Yes No

Container/Temp Blank temperature in compliance? Yes No

Sample(s) received on ice? Yes No

Temperature(s)/Thermometer(s): 3.2/3.2 SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 9/14/2016 2:42:02 PM

Water - VOA vials have zero headspace? Yes No No VOA vials submitted

Water - pH acceptable upon receipt? Yes No N/A

pH adjusted? Yes No N/A

pH adjusted by:

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



ALS Environmental
781 Industrial Cir, Ste 3
Traverse City, Michigan 49688
(Tel) 231.421.3204
(Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

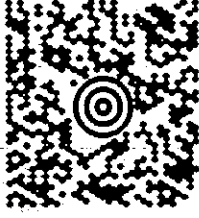
Customer Information		Project Information				Parameter/Method Request for Analysis												
Purchase Order		Project Name	Hartland 36 Gas Plant			A	Sulfolane (1) Amber Liter											
Work Order		Project Number				B												
Company Name	ECT, Inc.	Bill To Company	MEC			C												
Send Report To	Jeremy Lewandowski	Invoice Attn:	Sean Craven			D												
Address	3399 Veterans Dr.	Address	1510 Thomas Rd			E												
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI			F												
Phone	231-946-8200	Phone	231-258-6369			G												
Fax	231-946-8208	Fax				H												
e-Mail Address	jlewandowski@ectinc.com				I													
					J													
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold	
	4200 Lone Tree Rd	9/13/16	1450	Water	8	1	X											
Sampler(s): Please Print & Sign <i>Jason B. Anselmi</i>		Shipment Method: UPS Ground		Required Turnaround Time: (Check Box) <input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				Results Due Date:										
Relinquished by: <i>Jason B. Anselmi</i>	Date: 9/13/16	Time:	Received by:	Date:	Time:	Notes: ALS Project: MERITENERGY - Misc												
Relinquished by: <i>YTB</i>	Date: 9/14/16	Time: 1600	Received by (Laboratory): <i>YTB</i>	Date:	Time:	ALS Cooler ID	Cooler Temp 3.2	QC Package: (Check Box Below) <input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data <input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV: SW846 Methods/CLP like <input type="checkbox"/> Other:										
Logged by (Laboratory): <i>YTB</i>	Date: 9/14/16	Time: 1440	Checked by (Laboratory): <i>GRB</i>															
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C												Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.						

FROM:
LISA ZUBER
(517) 272-9200
ECT, INC.
3125 SOVEREIGN DRIVE
LANSING MI 48911-4240

40 LBS

1 OF 1

MI 495 9-04



SHIP TO:

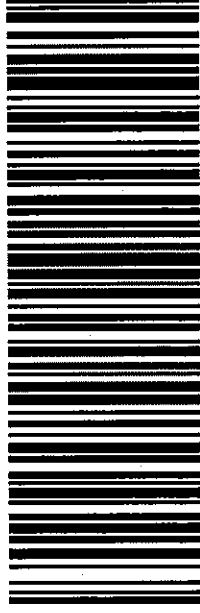
SAMPLE RECEIVING
(616) 399-6070
ALS ENVIRONMENTAL
3352 128TH AVENUE
HOLLAND MI 49424-9263

REF 1:130685, 2001

UPS NEXT DAY AIR

1

TRACKING #: 1Z V54 9W4 01 5224 4482



BILLING: 3RD PARTY

WS 19.0.24 Xerox WorldCom 78.0A 07/2018

Fold here and place in label pouch



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 4380 Lone Tree Rd)**

Work Order: **1609692**

Dear Sean,

ALS Environmental received 1 sample on 14-Sep-2016 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

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Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 4380 Lone Tree Rd)
Work Order: 1609692

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609692-01	4380 Lone Tree Rd	Water		9/13/2016 16:05	9/14/2016 09:30	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy

Project: ECT (Merit - 4380 Lone Tree Rd)

Sample ID: 4380 Lone Tree Rd

Collection Date: 9/13/2016 04:05 PM

Work Order: 1609692

Lab ID: 1609692-01

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/15/16	Analyst: RM
Sulfolane	ND		11	µg/L	1	9/18/2016 04:51 PM
Surr: 2,4,6-Tribromophenol	55.7		38-115	%REC	1	9/18/2016 04:51 PM
Surr: 2-Fluorobiphenyl	53.5		32-100	%REC	1	9/18/2016 04:51 PM
Surr: 2-Fluorophenol	35.2		22-59	%REC	1	9/18/2016 04:51 PM
Surr: 4-Terphenyl-d14	65.1		23-112	%REC	1	9/18/2016 04:51 PM
Surr: Nitrobenzene-d5	49.7		31-93	%REC	1	9/18/2016 04:51 PM
Surr: Phenol-d6	18.5		13-36	%REC	1	9/18/2016 04:51 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
Work Order: 1609692
Project: ECT (Merit - 4380 Lone Tree Rd)

QC BATCH REPORT

Batch ID: **91411** Instrument ID: **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:03 PM		
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038350		Prep Date: 9/15/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	ND	10								
<i>Surr: 2,4,6-Tribromophenol</i>	27.6	0	50	0	55.2	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	25.19	0	50	0	50.4	32-100	0			
<i>Surr: 2-Fluorophenol</i>	15.86	0	50	0	31.7	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	32.97	0	50	0	65.9	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	24.52	0	50	0	49	31-93	0			
<i>Surr: Phenol-d6</i>	9.85	0	50	0	19.7	13-36	0			

LCS		Sample ID: SLCSW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:23 PM		
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038351		Prep Date: 9/15/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	56.19	10	100	0	56.2	30-100	0			
<i>Surr: 2,4,6-Tribromophenol</i>	34.23	0	50	0	68.5	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	32.05	0	50	0	64.1	32-100	0			
<i>Surr: 2-Fluorophenol</i>	19.67	0	50	0	39.3	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	38.75	0	50	0	77.5	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	34.48	0	50	0	69	31-93	0			
<i>Surr: Phenol-d6</i>	11.72	0	50	0	23.4	13-36	0			

LCSD		Sample ID: SLCSDW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:43 PM		
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038352		Prep Date: 9/15/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	56.47	10	100	0	56.5	30-100	56.19	0.497	30	
<i>Surr: 2,4,6-Tribromophenol</i>	35.01	0	50	0	70	38-115	34.23	2.25	30	
<i>Surr: 2-Fluorobiphenyl</i>	34.71	0	50	0	69.4	32-100	32.05	7.97	30	
<i>Surr: 2-Fluorophenol</i>	18.78	0	50	0	37.6	22-59	19.67	4.63	30	
<i>Surr: 4-Terphenyl-d14</i>	44.18	0	50	0	88.4	23-112	38.75	13.1	30	
<i>Surr: Nitrobenzene-d5</i>	34.43	0	50	0	68.9	31-93	34.48	0.145	30	
<i>Surr: Phenol-d6</i>	10.96	0	50	0	21.9	13-36	11.72	6.7	30	

The following samples were analyzed in this batch: 1609692-01A

Client: Merit Energy
Project: ECT (Merit - 4380 Lone Tree Rd)
WorkOrder: 1609692

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCS D	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **14-Sep-16 09:30**

Work Order: **1609692**

Received by: **KRW**

Checklist completed by KathW ieraga 14-Sep-16
eSignature Date

Reviewed by: GaryBya 14-Sep-16
eSignature Date

Matrices: Water
 Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>2.8/2.8 C</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>9/14/2016 12:59:59 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<u></u>		

Login Notes:

Client Contacted: _____ Date Contacted: _____ Person Contacted: _____
 Contacted By: _____ Regarding: _____

Comments:

CorrectiveAction:



Environmental

Chain of Custody Form

Page L of L

COC ID: 123456

- Cincinnati, OH +1 513 733 5336
- Everett, WA +1 425 356 2600
- Fort Collins, CO +1 970 490 1511

- Holland, MI +1 616 399 6070
- Houston, TX +1 281 530 5656
- Middletown, PA +1 717 944 5541

- Salt Lake City, UT +1 801 266 7700
- Spring City, PA +1 610 948 4903
- York, PA +1 717 505 5280

ALS Project Manager:

Gary Byer

Work Order #:

11009692

Customer Information		Project Information		Parameter/Method Request for Analysis											
Purchase Order		Project Name	<u>Hartland 36 Gas Plant</u>	A	<u>Sulfidane (D) Amber lite</u>										
Work Order		Project Number		B											
Company Name	<u>ECT, Inc</u>	BILL To Company	<u>MEC</u>	C											
Send Report To	<u>J. Lysandowski</u>	Invoice Attn.	<u>Sean Craven</u>	D											
Address	<u>3399 Veterans Dr.</u>	Address	<u>1510 Thomas Rd</u>	E											
City/State/Zip	<u>Townsend City</u>	City/State/Zip	<u>Kalkaska, MI</u>	F											
Phone	<u>231-946-8200</u>	Phone	<u>231-258-6369</u>	G											
Fax	<u>231-946-8208</u>	Fax		H											
e-Mail Address	<u>jlysandowski@ectinc.com</u>	e-Mail Address		I											
				J											

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	<u>4380 Lane Tree Rd</u>	<u>9/13/16</u>	<u>1605</u>	<u>water</u>	<u>8</u>	<u>1</u>	<u>X</u>										
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s): Please Print & Sign Jason Bartolomeo Shipment Method: Cooler Required Turnaround Time: STD 10 Wk Days 5 Wk Days 2 Wk Days 24 Hour Other _____ Results Due Date: _____

Relinquished by: [Signature] Date: 9/13/16 Time: 1630 Received by: UPS Notes: _____

Relinquished by: UPS Date: 9/14/16 Time: 0930 Received by (Laboratory): [Signature] Date: 9/14/16 Time: 0930 Cooler Temp: _____ QC Package: (Check Box Below)

Logged by (Laboratory): Key Date: 9/14/16 Time: 1250 Checked by (Laboratory): [Signature] Date: 9/14/16 Time: 1250 Cooler Temp: 28°C

Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035 Other: _____

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.

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30-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **Merit (13845 Lone Tree Rd)**

Work Order: **16091371**

Dear Sean,

ALS Environmental received 1 sample on 23-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 8.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

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RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: Merit (13845 Lone Tree Rd)
Work Order: 16091371

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
16091371-01	13845 Lone Tree Road	Water		9/22/2016 16:10	9/23/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 30-Sep-16

Client: Merit Energy
Project: Merit (13845 Lone Tree Rd)
Sample ID: 13845 Lone Tree Road
Collection Date: 9/22/2016 04:10 PM

Work Order: 16091371
Lab ID: 16091371-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/28/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/28/2016 11:56 PM
Surr: 2,4,6-Tribromophenol	60.0		38-115	%REC	1	9/28/2016 11:56 PM
Surr: 2-Fluorobiphenyl	52.5		32-100	%REC	1	9/28/2016 11:56 PM
Surr: 2-Fluorophenol	26.3		22-59	%REC	1	9/28/2016 11:56 PM
Surr: 4-Terphenyl-d14	71.9		23-112	%REC	1	9/28/2016 11:56 PM
Surr: Nitrobenzene-d5	41.5		31-93	%REC	1	9/28/2016 11:56 PM
Surr: Phenol-d6	15.8		13-36	%REC	1	9/28/2016 11:56 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
 Work Order: 16091371
 Project: Merit (13845 Lone Tree Rd)

QC BATCH REPORT

Batch ID: **92047** Instrument ID: **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-92047-92047				Units: µg/L		Analysis Date: 9/28/2016 10:56 PM		
Client ID:		Run ID: SVMS8_160928A		SeqNo: 4056746		Prep Date: 9/28/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	ND	10								
<i>Surr: 2,4,6-Tribromophenol</i>	33.21	0	50	0	66.4	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	25.34	0	50	0	50.7	32-100	0			
<i>Surr: 2-Fluorophenol</i>	13.61	0	50	0	27.2	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	38.16	0	50	0	76.3	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	20.8	0	50	0	41.6	31-93	0			
<i>Surr: Phenol-d6</i>	8.3	0	50	0	16.6	13-36	0			

LCS		Sample ID: SLCSW1-92047-92047				Units: µg/L		Analysis Date: 9/28/2016 11:16 PM		
Client ID:		Run ID: SVMS8_160928A		SeqNo: 4056747		Prep Date: 9/28/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	59.54	10	100	0	59.5	30-100	0			
<i>Surr: 2,4,6-Tribromophenol</i>	40.04	0	50	0	80.1	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	35.93	0	50	0	71.9	32-100	0			
<i>Surr: 2-Fluorophenol</i>	18.07	0	50	0	36.1	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	42.19	0	50	0	84.4	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	28.69	0	50	0	57.4	31-93	0			
<i>Surr: Phenol-d6</i>	10.7	0	50	0	21.4	13-36	0			

LCSD		Sample ID: SLCSDW1-92047-92047				Units: µg/L		Analysis Date: 9/28/2016 11:36 PM		
Client ID:		Run ID: SVMS8_160928A		SeqNo: 4056748		Prep Date: 9/28/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	61.53	10	100	0	61.5	30-100	59.54	3.29	30	
<i>Surr: 2,4,6-Tribromophenol</i>	43.35	0	50	0	86.7	38-115	40.04	7.94	30	
<i>Surr: 2-Fluorobiphenyl</i>	39.11	0	50	0	78.2	32-100	35.93	8.48	30	
<i>Surr: 2-Fluorophenol</i>	20.06	0	50	0	40.1	22-59	18.07	10.4	30	
<i>Surr: 4-Terphenyl-d14</i>	42.02	0	50	0	84	23-112	42.19	0.404	30	
<i>Surr: Nitrobenzene-d5</i>	31.77	0	50	0	63.5	31-93	28.69	10.2	30	
<i>Surr: Phenol-d6</i>	10.82	0	50	0	21.6	13-36	10.7	1.12	30	

The following samples were analyzed in this batch:

16091371-01A

Client: Merit Energy
Project: Merit (13845 Lone Tree Rd)
WorkOrder: 16091371

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCS D	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **23-Sep-16 10:00**

Work Order: **16091371**

Received by: **DS**

Checklist completed by Diane Shaw 23-Sep-16
eSignature Date

Reviewed by: Gary Byar 26-Sep-16
eSignature Date

Matrices: Water
 Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.8/3.8 c</u> <u>SR2</u>		
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>9/23/2016 1:42:47 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<u></u>		

Login Notes:

Client Contacted: _____ Date Contacted: _____ Person Contacted: _____
 Contacted By: _____ Regarding: _____

Comments:

CorrectiveAction:



ALS Environmental
 781 Industrial Cir, Ste 3
 Traverse City, Michigan 49686
 (Tel) 231.421.3204
 (Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
 ALS Environmental
 3352 128th Avenue
 Holland, Michigan 49424
 (Tel) 616.399.6070
 (Fax) 616.399.6185

ALS Project Manager: Gary Byar ALS Work Order #: 16091371

Customer Information		Project Information		Parameter/Method Request for Analysis											
Purchase Order		Project Name	Hartland 36 Gas Plant	A	Sulfolane (1) Amber Liter										
Work Order		Project Number		B											
Company Name	ECT, Inc.	Bill To Company	MEC	C											
Send Report To	Jeremy Lewandowski	Invoice Attn	Sean Craven	D											
Address	3399 Veterans Dr.	Address	1510 Thomas Rd	E											
				F											
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI	G											
Phone	231-946-8200	Phone	231-258-6369	H											
Fax	231-946-8208	Fax		I											
e-Mail Address	jl Lewandowski@ectinc.com			J											

No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	13845 Lone Tree Road	9/22/16	1610	Water	8	1	X										

Sampler(s): Please Print & Sign *Jason Bartholomew* Shipment Method: UPS Ground Required Turnaround Time: (Check Box) 10 Wk Days 5-7 Wk Days 3 Wk Days 2 Wk Days 24 Hour Other _____ Results Due Date: _____

Relinquished by: <i>Jason Bartholomew</i>	Date: 9/22/16	Time: 1635	Received by: <i>UPS</i>	Date: 9/23/16	Time: 1000	Notes: ALS Project: MERITENERGY - Misc	
Relinquished by: <i>UPS</i>	Date:	Time:	Received by (Laboratory): <i>GRS</i>	Date: 9/23/16	Time: 1000	ALS Cooler ID:	Cooler Temp: 3.82
Logged by (Laboratory): <i>DES</i>	Date: 9/23/16	Time: 1330	Checked by (Laboratory): <i>GRS</i>			QC Package: (Check Box Below)	
						<input checked="" type="checkbox"/> Level II: Standard QC	<input type="checkbox"/> Level III: Raw Data
						<input type="checkbox"/> TRRP LRC	<input type="checkbox"/> TRRP Level IV
						<input type="checkbox"/> Level IV: SW846 Methods/CLP like	<input type="checkbox"/> Other: _____

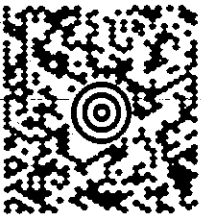
Preservative Key: 1-HCl 2-HNO₃ 3-H₂SO₄ 4-NaOH 5-Na₂S₂O₃ 6-NaHSO₄ 7-Other 8-4°C Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.

FROM:
LISA ZUBER
(517) 272-9200
ECT, INC.
3125 SOVEREIGN DRIVE
LANSING MI 48911-4240

1 OF 1

40 LBS

MI 495 9-04



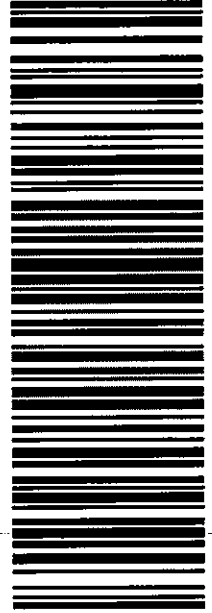
SHIP TO:

SAMPLE RECEIVING
(616) 399-6070
ALS ENVIRONMENTAL
3352 128TH AVENUE
HOLLAND MI 49424-9263

UPS NEXT DAY AIR

1

TRACKING #: 1Z V54 9W4 01 5213 0381



REF 1:130685, 2001

BILLING: 3RD PARTY

WS 10.0.24 Xerox WorkCentre 75.0A 07/2010

Fold here and place in label pouch



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 4170 Lone Tree Rd.)**

Work Order: **1609734**

Dear Sean,

ALS Environmental received 1 sample on 14-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 4170 Lone Tree Rd.)
Work Order: 1609734

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609734-01	4170 Lone Tree Rd.	Water		9/13/2016 14:00	9/14/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy
Project: ECT (Merit - 4170 Lone Tree Rd.)
Sample ID: 4170 Lone Tree Rd.
Collection Date: 9/13/2016 02:00 PM

Work Order: 1609734
Lab ID: 1609734-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/16/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/19/2016 12:55 AM
Surr: 2,4,6-Tribromophenol	66.9		38-115	%REC	1	9/19/2016 12:55 AM
Surr: 2-Fluorobiphenyl	67.1		32-100	%REC	1	9/19/2016 12:55 AM
Surr: 2-Fluorophenol	35.5		22-59	%REC	1	9/19/2016 12:55 AM
Surr: 4-Terphenyl-d14	69.9		23-112	%REC	1	9/19/2016 12:55 AM
Surr: Nitrobenzene-d5	67.7		31-93	%REC	1	9/19/2016 12:55 AM
Surr: Phenol-d6	19.2		13-36	%REC	1	9/19/2016 12:55 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
 Work Order: 1609734
 Project: ECT (Merit - 4170 Lone Tree Rd.)

QC BATCH REPORT

Batch ID: **91481** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:03 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038353		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
<i>Surr: 2,4,6-Tribromophenol</i>	30.02	0	50	0	60	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	31.92	0	50	0	63.8	32-100	0				
<i>Surr: 2-Fluorophenol</i>	18.02	0	50	0	36	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	35.62	0	50	0	71.2	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	32.13	0	50	0	64.3	31-93	0				
<i>Surr: Phenol-d6</i>	9.75	0	50	0	19.5	13-36	0				

LCS		Sample ID: SLCSW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:23 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038354		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	52.35	10	100	0	52.4	30-100	0				
<i>Surr: 2,4,6-Tribromophenol</i>	35.21	0	50	0	70.4	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	31.44	0	50	0	62.9	32-100	0				
<i>Surr: 2-Fluorophenol</i>	17.86	0	50	0	35.7	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	37.56	0	50	0	75.1	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	33.06	0	50	0	66.1	31-93	0				
<i>Surr: Phenol-d6</i>	10.51	0	50	0	21	13-36	0				

LCSD		Sample ID: SLCSDW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:43 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038355		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	59.44	10	100	0	59.4	30-100	52.35	12.7	30		
<i>Surr: 2,4,6-Tribromophenol</i>	32.69	0	50	0	65.4	38-115	35.21	7.42	30		
<i>Surr: 2-Fluorobiphenyl</i>	35.15	0	50	0	70.3	32-100	31.44	11.1	30		
<i>Surr: 2-Fluorophenol</i>	20.65	0	50	0	41.3	22-59	17.86	14.5	30		
<i>Surr: 4-Terphenyl-d14</i>	37.72	0	50	0	75.4	23-112	37.56	0.425	30		
<i>Surr: Nitrobenzene-d5</i>	31.01	0	50	0	62	31-93	33.06	6.4	30		
<i>Surr: Phenol-d6</i>	12.14	0	50	0	24.3	13-36	10.51	14.4	30		

The following samples were analyzed in this batch: 1609734-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Project: ECT (Merit - 4170 Lone Tree Rd.)
WorkOrder: 1609734

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **14-Sep-16 10:00**

Work Order: **1609734**

Received by: **MBB**

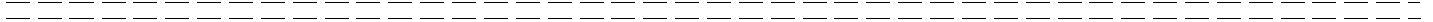
Checklist completed by Meghan Broadbent 14-Sep-16
eSignature | Date

Reviewed by: Gary Byar 14-Sep-16
eSignature | Date

Matrices: water
 Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.2/3.2</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<input type="text"/>		
Date/Time sample(s) sent to storage:	<u>9/14/2016 2:40:15 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<input type="text"/>		

Login Notes:



Client Contacted: _____ Date Contacted: _____ Person Contacted: _____

Contacted By: _____ Regarding: _____

Comments:

CorrectiveAction:



ALS Environmental
781 Industrial Cir, Ste 3
Traverse City, Michigan 49886
(Tel) 231.421.3204
(Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

Customer Information		Project Information					Parameter/Method Request for Analysis										
Purchase Order		Project Name	Hartland 36 Gas Plant			A	Sulfolane (1) Amber Liter										
Work Order		Project Number				B											
Company Name	ECT, Inc.	Bill To Company	MEC			C											
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven			D											
Address	3399 Veterans Dr.	Address	1510 Thomas Rd			E											
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI			F											
Phone	231-946-8200	Phone	231-258-6369			G											
Fax	231-946-8208	Fax				H											
e-Mail Address	jlewandowski@ectinc.com					I											
						J											
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
	4170 Lone Tree Rd	9/13/16	1400	Water	8	1	X										
Sampler(s): Please Print & Sign		Shipment Method:			Required Turnaround Time: (Check Box)					Results Due Date:							
<i>Jason Bartholomew</i>		UPS Ground			<input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour												
Relinquished by:		Date:	Time:	Received by:		Date:	Time:	Notes:									
<i>Jason Bartholomew</i>		9/13/16	1410	<i>MB</i>				ALS Project: MERITENERGY - Misc									
Relinquished by:		Date:	Time:	Received by (Laboratory):		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)							
<i>Jason Bartholomew</i>		9/14/16	1000	<i>MB</i>					3.2	<input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data <input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV: SW846 Methods/CLP like <input type="checkbox"/> Other:							
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):													
<i>MB</i>		9/14/16	1440	<i>GRB</i>													
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₈ 6-NaHSO ₄ 7-Other 8-4°C																	
Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.																	



23-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 4720 Lone Tree Rd.)**

Work Order: **1609954**

Dear Sean,

ALS Environmental received 1 sample on 16-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 4720 Lone Tree Rd.)
Work Order: 1609954

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609954-01	4720 Lone Tree Rd.	Water		9/15/2016 11:30	9/16/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 23-Sep-16

Client: Merit Energy
Project: ECT (Merit - 4720 Lone Tree Rd.)
Sample ID: 4720 Lone Tree Rd.
Collection Date: 9/15/2016 11:30 AM

Work Order: 1609954
Lab ID: 1609954-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/21/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/22/2016 09:23 PM
Surr: 2,4,6-Tribromophenol	70.0		38-115	%REC	1	9/22/2016 09:23 PM
Surr: 2-Fluorobiphenyl	57.4		32-100	%REC	1	9/22/2016 09:23 PM
Surr: 2-Fluorophenol	26.3		22-59	%REC	1	9/22/2016 09:23 PM
Surr: 4-Terphenyl-d14	85.1		23-112	%REC	1	9/22/2016 09:23 PM
Surr: Nitrobenzene-d5	49.8		31-93	%REC	1	9/22/2016 09:23 PM
Surr: Phenol-d6	14.1		13-36	%REC	1	9/22/2016 09:23 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
 Work Order: 1609954
 Project: ECT (Merit - 4720 Lone Tree Rd.)

QC BATCH REPORT

Batch ID: **91708** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91708-91708				Units: µg/L		Analysis Date: 9/22/2016 08:02 PM			
Client ID:		Run ID: SVMS8_160922A		SeqNo: 4043705		Prep Date: 9/21/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
<i>Surr: 2,4,6-Tribromophenol</i>	29.44	0	50	0	58.9	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	24.22	0	50	0	48.4	32-100	0				
<i>Surr: 2-Fluorophenol</i>	12.56	0	50	0	25.1	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	41.7	0	50	0	83.4	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	21.08	0	50	0	42.2	31-93	0				
<i>Surr: Phenol-d6</i>	7.14	0	50	0	14.3	13-36	0				

LCS		Sample ID: SLCSW1-91708-91708				Units: µg/L		Analysis Date: 9/22/2016 08:22 PM			
Client ID:		Run ID: SVMS8_160922A		SeqNo: 4043706		Prep Date: 9/21/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	61.39	10	100	0	61.4	30-100	0				
<i>Surr: 2,4,6-Tribromophenol</i>	39.71	0	50	0	79.4	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	38.37	0	50	0	76.7	32-100	0				
<i>Surr: 2-Fluorophenol</i>	19.07	0	50	0	38.1	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	46.06	0	50	0	92.1	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	33.46	0	50	0	66.9	31-93	0				
<i>Surr: Phenol-d6</i>	10.74	0	50	0	21.5	13-36	0				

LCSD		Sample ID: SLCSDW1-91708-91708				Units: µg/L		Analysis Date: 9/22/2016 08:42 PM			
Client ID:		Run ID: SVMS8_160922A		SeqNo: 4043707		Prep Date: 9/21/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	66.28	10	100	0	66.3	30-100	61.39	7.66	30		
<i>Surr: 2,4,6-Tribromophenol</i>	41.04	0	50	0	82.1	38-115	39.71	3.29	30		
<i>Surr: 2-Fluorobiphenyl</i>	39.55	0	50	0	79.1	32-100	38.37	3.03	30		
<i>Surr: 2-Fluorophenol</i>	18.82	0	50	0	37.6	22-59	19.07	1.32	30		
<i>Surr: 4-Terphenyl-d14</i>	46.82	0	50	0	93.6	23-112	46.06	1.64	30		
<i>Surr: Nitrobenzene-d5</i>	34.79	0	50	0	69.6	31-93	33.46	3.9	30		
<i>Surr: Phenol-d6</i>	10.71	0	50	0	21.4	13-36	10.74	0.28	30		

The following samples were analyzed in this batch: 1609954-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Project: ECT (Merit - 4720 Lone Tree Rd.)
WorkOrder: 1609954

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **16-Sep-16 10:00**

Work Order: **1609954**

Received by: **MBB**

Checklist completed by Meghan Broadbent 16-Sep-16
eSignature Date

Reviewed by: Gary Byar 16-Sep-16
eSignature Date

Matrices: water
Carrier name: UPS

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No
- Sample(s) received on ice? Yes No

Temperature(s)/Thermometer(s): 4.2/4.2 SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 9/16/2016 4:16:34 PM

Water - VOA vials have zero headspace? Yes No No VOA vials submitted

Water - pH acceptable upon receipt? Yes No N/A

pH adjusted? Yes No N/A

pH adjusted by:

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



ALS Environmental
781 Industrial Cir, Ste 3
Traverse City, Michigan 49686
(Tel) 231.421.3204
(Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

Customer Information			Project Information				Parameter/Method Request for Analysis										
Purchase Order	Project Name		Hartland 36 Gas Plant				A	Sulfolane (1) Amber Liter									
Work Order	Project Number						B										
Company Name	ECT, Inc.		Bill To Company				C	MEC									
Send Report To	Jeremy Lewandowski		Invoice Attn.				D	Sean Craven									
Address	3399 Veterans Dr.		Address				E	1510 Thomas Rd									
City/State/Zip	Traverse City, MI 49684		City/State/Zip				F	Kalkaska, MI									
Phone	231-946-8200		Phone				G	231-258-6369									
Fax	231-946-8208		Fax				H										
e-Mail Address	jlewandowski@ectinc.com						I										
							J										
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
	4720 Lone Tree Road	9/15/16	1130	Water	8	1	X										
Sampler(s): Please Print & Sign			Shipment Method:		Required Turnaround Time: (Check Box)					Results Due Date:							
Jason Bartholomew			UPS Ground		<input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour												
Relinquished by:		Date:	Time:	Received by:		Date:	Time:	Notes:									
Jason Bartholomew		9/15/16	1158					ALS Project: MERITENERGY - Misc									
Relinquished by:		Date:	Time:	Received by (Laboratory):		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)							
		9/16/16	1000	M. Beckett					4/2	<input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data <input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV: SW846 Methods/CLP like <input type="checkbox"/> Other:							
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):													
MB		9/16/16	1015	GRB													
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C																	

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.



23-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 4475 Lone Tree Rd.)**

Work Order: **1609955**

Dear Sean,

ALS Environmental received 1 sample on 16-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 4475 Lone Tree Rd.)
Work Order: 1609955

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609955-01	4475 Lone Tree Rd.	Water		9/15/2016 09:50	9/16/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 23-Sep-16

Client: Merit Energy
Project: ECT (Merit - 4475 Lone Tree Rd.)
Sample ID: 4475 Lone Tree Rd.
Collection Date: 9/15/2016 09:50 AM

Work Order: 1609955
Lab ID: 1609955-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/21/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/22/2016 09:43 PM
Surr: 2,4,6-Tribromophenol	77.4		38-115	%REC	1	9/22/2016 09:43 PM
Surr: 2-Fluorobiphenyl	63.2		32-100	%REC	1	9/22/2016 09:43 PM
Surr: 2-Fluorophenol	28.8		22-59	%REC	1	9/22/2016 09:43 PM
Surr: 4-Terphenyl-d14	80.2		23-112	%REC	1	9/22/2016 09:43 PM
Surr: Nitrobenzene-d5	54.0		31-93	%REC	1	9/22/2016 09:43 PM
Surr: Phenol-d6	15.1		13-36	%REC	1	9/22/2016 09:43 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
 Work Order: 1609955
 Project: ECT (Merit - 4475 Lone Tree Rd.)

QC BATCH REPORT

Batch ID: **91708** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91708-91708				Units: µg/L		Analysis Date: 9/22/2016 08:02 PM			
Client ID:		Run ID: SVMS8_160922A		SeqNo: 4043705		Prep Date: 9/21/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
<i>Surr: 2,4,6-Tribromophenol</i>	29.44	0	50	0	58.9	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	24.22	0	50	0	48.4	32-100	0				
<i>Surr: 2-Fluorophenol</i>	12.56	0	50	0	25.1	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	41.7	0	50	0	83.4	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	21.08	0	50	0	42.2	31-93	0				
<i>Surr: Phenol-d6</i>	7.14	0	50	0	14.3	13-36	0				

LCS		Sample ID: SLCSW1-91708-91708				Units: µg/L		Analysis Date: 9/22/2016 08:22 PM			
Client ID:		Run ID: SVMS8_160922A		SeqNo: 4043706		Prep Date: 9/21/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	61.39	10	100	0	61.4	30-100	0				
<i>Surr: 2,4,6-Tribromophenol</i>	39.71	0	50	0	79.4	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	38.37	0	50	0	76.7	32-100	0				
<i>Surr: 2-Fluorophenol</i>	19.07	0	50	0	38.1	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	46.06	0	50	0	92.1	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	33.46	0	50	0	66.9	31-93	0				
<i>Surr: Phenol-d6</i>	10.74	0	50	0	21.5	13-36	0				

LCSD		Sample ID: SLCSDW1-91708-91708				Units: µg/L		Analysis Date: 9/22/2016 08:42 PM			
Client ID:		Run ID: SVMS8_160922A		SeqNo: 4043707		Prep Date: 9/21/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	66.28	10	100	0	66.3	30-100	61.39	7.66	30		
<i>Surr: 2,4,6-Tribromophenol</i>	41.04	0	50	0	82.1	38-115	39.71	3.29	30		
<i>Surr: 2-Fluorobiphenyl</i>	39.55	0	50	0	79.1	32-100	38.37	3.03	30		
<i>Surr: 2-Fluorophenol</i>	18.82	0	50	0	37.6	22-59	19.07	1.32	30		
<i>Surr: 4-Terphenyl-d14</i>	46.82	0	50	0	93.6	23-112	46.06	1.64	30		
<i>Surr: Nitrobenzene-d5</i>	34.79	0	50	0	69.6	31-93	33.46	3.9	30		
<i>Surr: Phenol-d6</i>	10.71	0	50	0	21.4	13-36	10.74	0.28	30		

The following samples were analyzed in this batch: 1609955-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Project: ECT (Merit - 4475 Lone Tree Rd.)
WorkOrder: 1609955

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **16-Sep-16 10:00**

Work Order: **1609955**

Received by: **MBB**

Checklist completed by Meghan Broadbent 16-Sep-16
eSignature Date

Reviewed by: Gary Byar 16-Sep-16
eSignature Date

Matrices: water
Carrier name: UPS

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No
- Sample(s) received on ice? Yes No

Temperature(s)/Thermometer(s): 4.2/4.2 SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 9/16/2016 4:21:19 PM

Water - VOA vials have zero headspace? Yes No No VOA vials submitted

Water - pH acceptable upon receipt? Yes No N/A

pH adjusted? Yes No N/A

pH adjusted by:

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



ALS Environmental
781 Industrial Cir, Ste 3
Traverse City, Michigan 49688
(Tel) 231.421.3204
(Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

Customer Information			Project Information				Parameter/Method Request for Analysis										
Purchase Order			Project Name	Hartland 36 Gas Plant		A	Sulfolane (1) Amber Liter										
Work Order			Project Number			B											
Company Name	ECT, Inc.		Bill To Company	MEC		C											
Send Report To	Jeremy Lewandowski		Invoice Attn.	Sean Craven		D											
Address	3399 Veterans Dr.		Address	1510 Thomas Rd		E											
City/State/Zip	Traverse City, MI 49684		City/State/Zip	Kalkaska, MI		F											
Phone	231-946-8200		Phone	231-258-6369		G											
Fax	231-946-8208		Fax			H											
e-Mail Address	jlewandowski@ectinc.com					I											
						J											
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
	4475 Lone Tree Rd	9/15/16	0950	Water	8	1	X										
Sampler(s): Please Print & Sign <i>Jason Bartholomew</i> Shipment Method: UPS Ground Required Turnaround Time: (Check Box) <input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour Results Due Date:																	
Relinquished by:		Date:	Time:	Received by:		Date:	Time:	Notes:									
<i>Jason Bartholomew</i>		9/15/16	1158	<i>MB Breece</i>		9/16/16	1020	ALS Project: MERITENERGY - Misc									
Relinquished by:		Date:	Time:	Received by (Laboratory):		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)							
									5/2	<input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data <input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV: SW846 Methods/CLP like <input type="checkbox"/> Other:							
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):													
<i>MB</i>		9/16/16	1620	<i>GRB</i>													

Preservative Key: 1-HCl 2-HNO₃ 3-H₂SO₄ 4-NaOH 5-Na₂S₂O₃ 6-NaHSO₄ 7-Other 8-4°C

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.



23-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 4211 Lone Tree Rd.)**

Work Order: **1609957**

Dear Sean,

ALS Environmental received 1 sample on 16-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 4211 Lone Tree Rd.)
Work Order: 1609957

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609957-01	4211 Lone Tree Rd.	Water		9/15/2016 09:00	9/16/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 23-Sep-16

Client: Merit Energy
Project: ECT (Merit - 4211 Lone Tree Rd.)
Sample ID: 4211 Lone Tree Rd.
Collection Date: 9/15/2016 09:00 AM

Work Order: 1609957
Lab ID: 1609957-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/21/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/22/2016 10:03 PM
Surr: 2,4,6-Tribromophenol	68.8		38-115	%REC	1	9/22/2016 10:03 PM
Surr: 2-Fluorobiphenyl	60.8		32-100	%REC	1	9/22/2016 10:03 PM
Surr: 2-Fluorophenol	28.4		22-59	%REC	1	9/22/2016 10:03 PM
Surr: 4-Terphenyl-d14	91.6		23-112	%REC	1	9/22/2016 10:03 PM
Surr: Nitrobenzene-d5	54.2		31-93	%REC	1	9/22/2016 10:03 PM
Surr: Phenol-d6	15.7		13-36	%REC	1	9/22/2016 10:03 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
 Work Order: 1609957
 Project: ECT (Merit - 4211 Lone Tree Rd.)

QC BATCH REPORT

Batch ID: **91708** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91708-91708				Units: µg/L		Analysis Date: 9/22/2016 08:02 PM			
Client ID:		Run ID: SVMS8_160922A		SeqNo: 4043705		Prep Date: 9/21/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
<i>Surr: 2,4,6-Tribromophenol</i>	29.44	0	50	0	58.9	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	24.22	0	50	0	48.4	32-100	0				
<i>Surr: 2-Fluorophenol</i>	12.56	0	50	0	25.1	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	41.7	0	50	0	83.4	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	21.08	0	50	0	42.2	31-93	0				
<i>Surr: Phenol-d6</i>	7.14	0	50	0	14.3	13-36	0				

LCS		Sample ID: SLCSW1-91708-91708				Units: µg/L		Analysis Date: 9/22/2016 08:22 PM			
Client ID:		Run ID: SVMS8_160922A		SeqNo: 4043706		Prep Date: 9/21/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	61.39	10	100	0	61.4	30-100	0				
<i>Surr: 2,4,6-Tribromophenol</i>	39.71	0	50	0	79.4	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	38.37	0	50	0	76.7	32-100	0				
<i>Surr: 2-Fluorophenol</i>	19.07	0	50	0	38.1	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	46.06	0	50	0	92.1	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	33.46	0	50	0	66.9	31-93	0				
<i>Surr: Phenol-d6</i>	10.74	0	50	0	21.5	13-36	0				

LCSD		Sample ID: SLCSDW1-91708-91708				Units: µg/L		Analysis Date: 9/22/2016 08:42 PM			
Client ID:		Run ID: SVMS8_160922A		SeqNo: 4043707		Prep Date: 9/21/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	66.28	10	100	0	66.3	30-100	61.39	7.66	30		
<i>Surr: 2,4,6-Tribromophenol</i>	41.04	0	50	0	82.1	38-115	39.71	3.29	30		
<i>Surr: 2-Fluorobiphenyl</i>	39.55	0	50	0	79.1	32-100	38.37	3.03	30		
<i>Surr: 2-Fluorophenol</i>	18.82	0	50	0	37.6	22-59	19.07	1.32	30		
<i>Surr: 4-Terphenyl-d14</i>	46.82	0	50	0	93.6	23-112	46.06	1.64	30		
<i>Surr: Nitrobenzene-d5</i>	34.79	0	50	0	69.6	31-93	33.46	3.9	30		
<i>Surr: Phenol-d6</i>	10.71	0	50	0	21.4	13-36	10.74	0.28	30		

The following samples were analyzed in this batch: 1609957-01A

Client: Merit Energy
Project: ECT (Merit - 4211 Lone Tree Rd.)
WorkOrder: 1609957

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **16-Sep-16 10:00**

Work Order: **1609957**

Received by: **MBB**

Checklist completed by Meghan Broadbent 16-Sep-16
eSignature Date

Reviewed by: Gary Byar 16-Sep-16
eSignature Date

Matrices: water
Carrier name: UPS

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No
- Sample(s) received on ice? Yes No

Temperature(s)/Thermometer(s): 4.2/4.2 SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 9/16/2016 4:23:22 PM

Water - VOA vials have zero headspace? Yes No No VOA vials submitted

Water - pH acceptable upon receipt? Yes No N/A

pH adjusted? Yes No N/A

pH adjusted by:

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



ALS Environmental
 781 Industrial Cir, Ste 3
 Traverse City, Michigan 49686
 (Tel) 231.421.3204
 (Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
 ALS Environmental
 3352 128th Avenue
 Holland, Michigan 49424
 (Tel) 616.399.6070
 (Fax) 616.399.6185

Customer Information			Project Information				Parameter/Method Request for Analysis										
Purchase Order		Project Name	Hartland 36 Gas Plant		A	Sulfolane (1) Amber Liter											
Work Order		Project Number			B												
Company Name	ECT, Inc.	Bill To Company	MEC		C												
Sand Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven		D												
Address	3399 Veterans Dr.	Address	1510 Thomas Rd		E												
					F												
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI		G												
Phone	231-946-8200	Phone	231-258-6369		H												
Fax	231-946-8208	Fax			I												
e-Mail Address	jlewandowski@ectinc.com				J												
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
	4211 Lone Tree Rd	9/15/16	0900	Water	8	1	X										
Sampler(s): Please Print & Sign <i>Jason Bartholome</i>			Shipment Method: UPS Ground		Required Turnaround Time: (Check Box) <input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour						Results Due Date:						
Relinquished by: <i>Jason Bartholome</i>		Date: 9/15/16	Time: 1158	Received by:		Date:	Time:	Notes: ALS Project: MERITENERGY - Misc									
Relinquished by: <i>[Signature]</i>		Date: 9/16/16	Time: 1000	Received by (Laboratory): <i>[Signature]</i>		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)							
Logged by (Laboratory): <i>MB</i>		Date: 9/16/16	Time: 1621	Checked by (Laboratory): <i>GRB</i>					4.2	<input checked="" type="checkbox"/> Level II: Standard QC		<input type="checkbox"/> Level III: Raw Data					
										<input type="checkbox"/> TRRP LRC		<input type="checkbox"/> TRRP Level IV					
										<input type="checkbox"/> Level IV: SW846 Methods/CLP like		<input type="checkbox"/> Other:					
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C ₂										Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.							



10-Aug-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Hartland - 13822 Lonetree Rd)**

Work Order: **1608272**

Dear Sean,

ALS Environmental received 1 sample on 05-Aug-2016 09:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 18.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Hartland - 13822 Lonetree Rd)
Work Order: 1608272

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1608272-01	13822 Lonetree Rd	Groundwater		8/3/2016 15:16	8/5/2016 09:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 10-Aug-16

Client: Merit Energy
Project: ECT (Hartland - 13822 Lonetree Rd)
Sample ID: 13822 Lonetree Rd
Collection Date: 8/3/2016 03:16 PM

Work Order: 1608272
Lab ID: 1608272-01
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 8/5/16	Analyst: RM
Diisopropanolamine	ND		50	µg/L	1	8/9/2016 01:07 AM
Sulfolane	ND		10	µg/L	1	8/9/2016 01:07 AM
Surr: 2,4,6-Tribromophenol	64.9		38-115	%REC	1	8/9/2016 01:07 AM
Surr: 2-Fluorobiphenyl	73.5		32-100	%REC	1	8/9/2016 01:07 AM
Surr: 2-Fluorophenol	40.8		22-59	%REC	1	8/9/2016 01:07 AM
Surr: 4-Terphenyl-d14	90.0		23-112	%REC	1	8/9/2016 01:07 AM
Surr: Nitrobenzene-d5	69.6		31-93	%REC	1	8/9/2016 01:07 AM
Surr: Phenol-d6	21.8		13-36	%REC	1	8/9/2016 01:07 AM
VOLATILE ORGANIC COMPOUNDS			SW8260B			Analyst: AK
1,1,1,2-Tetrachloroethane	ND		1.0	µg/L	1	8/5/2016 05:26 PM
1,1,1-Trichloroethane	ND		1.0	µg/L	1	8/5/2016 05:26 PM
1,1,2,2-Tetrachloroethane	ND		1.0	µg/L	1	8/5/2016 05:26 PM
1,1,2-Trichloroethane	ND		1.0	µg/L	1	8/5/2016 05:26 PM
1,1,2-Trichlorotrifluoroethane	ND		1.0	µg/L	1	8/5/2016 05:26 PM
1,1-Dichloroethane	ND		1.0	µg/L	1	8/5/2016 05:26 PM
1,1-Dichloroethene	ND		1.0	µg/L	1	8/5/2016 05:26 PM
1,2,3-Trichloropropane	ND		1.0	µg/L	1	8/5/2016 05:26 PM
1,2,4-Trichlorobenzene	ND		1.0	µg/L	1	8/5/2016 05:26 PM
1,2,4-Trimethylbenzene	ND		1.0	µg/L	1	8/5/2016 05:26 PM
1,2-Dibromo-3-chloropropane	ND		1.0	µg/L	1	8/5/2016 05:26 PM
1,2-Dibromoethane	ND		1.0	µg/L	1	8/5/2016 05:26 PM
1,2-Dichlorobenzene	ND		1.0	µg/L	1	8/5/2016 05:26 PM
1,2-Dichloroethane	ND		1.0	µg/L	1	8/5/2016 05:26 PM
1,2-Dichloropropane	ND		1.0	µg/L	1	8/5/2016 05:26 PM
1,3,5-Trimethylbenzene	ND		1.0	µg/L	1	8/5/2016 05:26 PM
1,3-Dichlorobenzene	ND		1.0	µg/L	1	8/5/2016 05:26 PM
1,4-Dichlorobenzene	ND		1.0	µg/L	1	8/5/2016 05:26 PM
2-Butanone	ND		5.0	µg/L	1	8/5/2016 05:26 PM
2-Hexanone	ND		5.0	µg/L	1	8/5/2016 05:26 PM
2-Methylnaphthalene	ND		5.0	µg/L	1	8/5/2016 05:26 PM
4-Methyl-2-pentanone	ND		1.0	µg/L	1	8/5/2016 05:26 PM
Acetone	ND		10	µg/L	1	8/5/2016 05:26 PM
Acrylonitrile	ND		1.0	µg/L	1	8/5/2016 05:26 PM
Benzene	ND		1.0	µg/L	1	8/5/2016 05:26 PM
Bromochloromethane	ND		1.0	µg/L	1	8/5/2016 05:26 PM
Bromodichloromethane	ND		1.0	µg/L	1	8/5/2016 05:26 PM
Bromoform	ND		1.0	µg/L	1	8/5/2016 05:26 PM
Bromomethane	ND		1.0	µg/L	1	8/5/2016 05:26 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 10-Aug-16

Client: Merit Energy

Project: ECT (Hartland - 13822 Lonetree Rd)

Work Order: 1608272

Sample ID: 13822 Lonetree Rd

Lab ID: 1608272-01

Collection Date: 8/3/2016 03:16 PM

Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		1.0	µg/L	1	8/5/2016 05:26 PM
Carbon tetrachloride	ND		1.0	µg/L	1	8/5/2016 05:26 PM
Chlorobenzene	ND		1.0	µg/L	1	8/5/2016 05:26 PM
Chloroethane	ND		1.0	µg/L	1	8/5/2016 05:26 PM
Chloroform	ND		1.0	µg/L	1	8/5/2016 05:26 PM
Chloromethane	ND		1.0	µg/L	1	8/5/2016 05:26 PM
cis-1,2-Dichloroethene	ND		1.0	µg/L	1	8/5/2016 05:26 PM
cis-1,3-Dichloropropene	ND		1.0	µg/L	1	8/5/2016 05:26 PM
Dibromochloromethane	ND		1.0	µg/L	1	8/5/2016 05:26 PM
Dibromomethane	ND		1.0	µg/L	1	8/5/2016 05:26 PM
Dichlorodifluoromethane	ND		1.0	µg/L	1	8/5/2016 05:26 PM
Diethyl ether	ND		1.0	µg/L	1	8/5/2016 05:26 PM
Ethylbenzene	ND		1.0	µg/L	1	8/5/2016 05:26 PM
Hexachloroethane	ND		1.0	µg/L	1	8/5/2016 05:26 PM
Isopropylbenzene	ND		1.0	µg/L	1	8/5/2016 05:26 PM
m,p-Xylene	ND		2.0	µg/L	1	8/5/2016 05:26 PM
Methyl iodide	ND		1.0	µg/L	1	8/5/2016 05:26 PM
Methyl tert-butyl ether	ND		1.0	µg/L	1	8/5/2016 05:26 PM
Methylene chloride	ND		5.0	µg/L	1	8/5/2016 05:26 PM
Naphthalene	ND		5.0	µg/L	1	8/5/2016 05:26 PM
n-Propylbenzene	ND		1.0	µg/L	1	8/5/2016 05:26 PM
o-Xylene	ND		1.0	µg/L	1	8/5/2016 05:26 PM
Styrene	ND		1.0	µg/L	1	8/5/2016 05:26 PM
Tetrachloroethene	ND		1.0	µg/L	1	8/5/2016 05:26 PM
Toluene	ND		1.0	µg/L	1	8/5/2016 05:26 PM
trans-1,2-Dichloroethene	ND		1.0	µg/L	1	8/5/2016 05:26 PM
trans-1,3-Dichloropropene	ND		1.0	µg/L	1	8/5/2016 05:26 PM
trans-1,4-Dichloro-2-butene	ND		2.0	µg/L	1	8/5/2016 05:26 PM
Trichloroethene	ND		1.0	µg/L	1	8/5/2016 05:26 PM
Trichlorofluoromethane	ND		1.0	µg/L	1	8/5/2016 05:26 PM
Vinyl acetate	ND		5.0	µg/L	1	8/5/2016 05:26 PM
Vinyl chloride	ND		1.0	µg/L	1	8/5/2016 05:26 PM
Xylenes, Total	ND		3.0	µg/L	1	8/5/2016 05:26 PM
Surr: 1,2-Dichloroethane-d4	86.2		75-120	%REC	1	8/5/2016 05:26 PM
Surr: 4-Bromofluorobenzene	99.2		80-110	%REC	1	8/5/2016 05:26 PM
Surr: Dibromofluoromethane	89.4		85-115	%REC	1	8/5/2016 05:26 PM
Surr: Toluene-d8	100		85-110	%REC	1	8/5/2016 05:26 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
Project: ECT (Hartland - 13822 Lonetree Rd)
Work Order: 1608272

Case Narrative

Batch R193219A Sample VLCSW1-160805 The LCS recovery for Volatile compound Tetrachloroethene was above the upper control limit. All the sample results in the batch were non-detect. No qualification is necessary for this analyte.

Batch R193219A The MS/MSD data for Volatiles is no related to this projects sample. No data requires qualification.

Client: Merit Energy
Work Order: 1608272
Project: ECT (Hartland - 13822 Lonetree Rd)

QC BATCH REPORT

Batch ID: **89682** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-89682-89682				Units: µg/L		Analysis Date: 8/8/2016 08:51 PM		
Client ID:		Run ID: SVMS8_160808A		SeqNo: 3968850		Prep Date: 8/5/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	ND	50								
Sulfolane	ND	10								
<i>Surr: 2,4,6-Tribromophenol</i>	32.35	0	50	0	64.7	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	36.53	0	50	0	73.1	32-100	0			
<i>Surr: 2-Fluorophenol</i>	19.03	0	50	0	38.1	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	45.48	0	50	0	91	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	36.58	0	50	0	73.2	31-93	0			
<i>Surr: Phenol-d6</i>	9.38	0	50	0	18.8	13-36	0			

LCS		Sample ID: SLCSW1-89682-89682				Units: µg/L		Analysis Date: 8/8/2016 09:12 PM		
Client ID:		Run ID: SVMS8_160808A		SeqNo: 3968851		Prep Date: 8/5/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	3.57	50	20	0	17.8	10-50	0			
Sulfolane	11.76	10	20	0	58.8	30-100	0			
<i>Surr: 2,4,6-Tribromophenol</i>	32.34	0	50	0	64.7	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	37.17	0	50	0	74.3	32-100	0			
<i>Surr: 2-Fluorophenol</i>	19.78	0	50	0	39.6	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	49.38	0	50	0	98.8	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	35.31	0	50	0	70.6	31-93	0			
<i>Surr: Phenol-d6</i>	11.13	0	50	0	22.3	13-36	0			

LCSD		Sample ID: SLCSDW1-89682-89682				Units: µg/L		Analysis Date: 8/8/2016 09:33 PM		
Client ID:		Run ID: SVMS8_160808A		SeqNo: 3968852		Prep Date: 8/5/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	3.35	50	20	0	16.8	10-50	3.57	0	50	
Sulfolane	12.03	10	20	0	60.2	30-100	11.76	2.27	50	
<i>Surr: 2,4,6-Tribromophenol</i>	32.73	0	50	0	65.5	38-115	32.34	1.2	40	
<i>Surr: 2-Fluorobiphenyl</i>	38.09	0	50	0	76.2	32-100	37.17	2.44	40	
<i>Surr: 2-Fluorophenol</i>	18.36	0	50	0	36.7	22-59	19.78	7.45	40	
<i>Surr: 4-Terphenyl-d14</i>	48.18	0	50	0	96.4	23-112	49.38	2.46	40	
<i>Surr: Nitrobenzene-d5</i>	36.74	0	50	0	73.5	31-93	35.31	3.97	40	
<i>Surr: Phenol-d6</i>	10.18	0	50	0	20.4	13-36	11.13	8.92	40	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608272
 Project: ECT (Hartland - 13822 Lonetree Rd)

QC BATCH REPORT

Batch ID: **89682** Instrument ID **SVMS8** Method: **SW846 8270D**

MS		Sample ID: 1608284-01B MS				Units: µg/L		Analysis Date: 8/8/2016 11:24 PM		
Client ID:		Run ID: SVMS8_160808A		SeqNo: 3968855		Prep Date: 8/5/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	3.25	50	20	0	16.2	10-50		0		
Sulfolane	12.15	10	20	0	60.8	30-100		0		
<i>Surr: 2,4,6-Tribromophenol</i>	34.22	0	50	0	68.4	38-115		0		
<i>Surr: 2-Fluorobiphenyl</i>	38.42	0	50	0	76.8	32-100		0		
<i>Surr: 2-Fluorophenol</i>	17.81	0	50	0	35.6	22-59		0		
<i>Surr: 4-Terphenyl-d14</i>	42.35	0	50	0	84.7	23-112		0		
<i>Surr: Nitrobenzene-d5</i>	37.97	0	50	0	75.9	31-93		0		
<i>Surr: Phenol-d6</i>	9.23	0	50	0	18.5	13-36		0		

DUP		Sample ID: 1608285-01B DUP				Units: µg/L		Analysis Date: 8/9/2016 12:05 AM		
Client ID:		Run ID: SVMS8_160808A		SeqNo: 3968857		Prep Date: 8/5/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	ND	50	0	0	0			0	0	50
Sulfolane	ND	10	0	0	0			0	0	50
<i>Surr: 2,4,6-Tribromophenol</i>	36.71	0	50	0	73.4	38-115	33.33	9.65	40	
<i>Surr: 2-Fluorobiphenyl</i>	42.42	0	50	0	84.8	32-100	36.64	14.6	40	
<i>Surr: 2-Fluorophenol</i>	20.27	0	50	0	40.5	22-59	20.78	2.48	40	
<i>Surr: 4-Terphenyl-d14</i>	46.4	0	50	0	92.8	23-112	45.62	1.7	40	
<i>Surr: Nitrobenzene-d5</i>	39.3	0	50	0	78.6	31-93	37.49	4.71	40	
<i>Surr: Phenol-d6</i>	10.33	0	50	0	20.7	13-36	10.9	5.37	40	

The following samples were analyzed in this batch:

1608272-01B

Client: Merit Energy
 Work Order: 1608272
 Project: ECT (Hartland - 13822 Lonetree Rd)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

MBLK		Sample ID: VBLKW1-160805-R193219A				Units: µg/L		Analysis Date: 8/5/2016 04:16 PM		
Client ID:		Run ID: VMS7_160805A		SeqNo: 3965976		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
1,1,2-Trichlorotrifluoroethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2,3-Trichloropropane	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	1.0								
1,2-Dibromoethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,2-Dichloroethane	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
2-Butanone	ND	5.0								
2-Hexanone	ND	5.0								
2-Methylnaphthalene	ND	5.0								
4-Methyl-2-pentanone	ND	1.0								
Acetone	ND	10								
Acrylonitrile	ND	1.0								
Benzene	ND	1.0								
Bromochloromethane	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	1.0								
Carbon disulfide	ND	1.0								
Carbon tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	1.0								
Chloroform	ND	1.0								
Chloromethane	ND	1.0								
cis-1,2-Dichloroethene	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
Diethyl ether	ND	1.0								
Ethylbenzene	ND	1.0								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Work Order: 1608272
Project: ECT (Hartland - 13822 Lonetree Rd)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7	Method: SW8260B						
Hexachloroethane	ND	1.0						
Isopropylbenzene	ND	1.0						
m,p-Xylene	ND	2.0						
Methyl iodide	ND	1.0						
Methyl tert-butyl ether	ND	1.0						
Methylene chloride	ND	5.0						
Naphthalene	ND	5.0						
n-Propylbenzene	ND	1.0						
o-Xylene	ND	1.0						
Styrene	ND	1.0						
Tetrachloroethene	ND	1.0						
Toluene	ND	1.0						
trans-1,2-Dichloroethene	ND	1.0						
trans-1,3-Dichloropropene	ND	1.0						
trans-1,4-Dichloro-2-butene	ND	2.0						
Trichloroethene	ND	1.0						
Trichlorofluoromethane	ND	1.0						
Vinyl acetate	ND	5.0						
Vinyl chloride	ND	1.0						
Xylenes, Total	ND	3.0						
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>16.65</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>83.2</i>	<i>75-120</i>	<i>0</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.46</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>97.3</i>	<i>80-110</i>	<i>0</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>17.64</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>88.2</i>	<i>85-115</i>	<i>0</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>19.85</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>99.2</i>	<i>85-110</i>	<i>0</i>	<i>0</i>

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608272
 Project: ECT (Hartland - 13822 Lonetree Rd)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

LCS		Sample ID: VLCSW1-160805-R193219A				Units: µg/L		Analysis Date: 8/5/2016 03:05 PM		
Client ID:		Run ID: VMS7_160805A			SeqNo: 3965975		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.56	1.0	20	0	97.8	80-130	0			
1,1,1-Trichloroethane	19.1	1.0	20	0	95.5	75-130	0			
1,1,2,2-Tetrachloroethane	21.28	1.0	20	0	106	75-130	0			
1,1,2-Trichloroethane	21.61	1.0	20	0	108	75-125	0			
1,1-Dichloroethane	20.97	1.0	20	0	105	75-133	0			
1,1-Dichloroethene	23.78	1.0	20	0	119	70-145	0			
1,2,3-Trichloropropane	21.08	1.0	20	0	105	75-125	0			
1,2,4-Trichlorobenzene	20.33	1.0	20	0	102	70-135	0			
1,2,4-Trimethylbenzene	21.21	1.0	20	0	106	75-130	0			
1,2-Dibromo-3-chloropropane	18.89	1.0	20	0	94.4	60-130	0			
1,2-Dibromoethane	25.21	1.0	20	0	126	80-150	0			
1,2-Dichlorobenzene	21.24	1.0	20	0	106	70-130	0			
1,2-Dichloroethane	18.28	1.0	20	0	91.4	78-125	0			
1,2-Dichloropropane	21.36	1.0	20	0	107	75-125	0			
1,3,5-Trimethylbenzene	21.95	1.0	20	0	110	75-130	0			
1,3-Dichlorobenzene	21.41	1.0	20	0	107	75-130	0			
1,4-Dichlorobenzene	21.42	1.0	20	0	107	75-130	0			
2-Butanone	21.67	5.0	20	0	108	55-150	0			
2-Hexanone	21.04	5.0	20	0	105	60-135	0			
4-Methyl-2-pentanone	24.27	1.0	20	0	121	77-178	0			
Acetone	21.61	10	20	0	108	60-160	0			
Acrylonitrile	22.04	1.0	20	0	110	60-140	0			
Benzene	22.09	1.0	20	0	110	85-125	0			
Bromochloromethane	21.07	1.0	20	0	105	75-130	0			
Bromodichloromethane	18.63	1.0	20	0	93.2	75-125	0			
Bromoform	17.48	1.0	20	0	87.4	60-125	0			
Bromomethane	20.46	1.0	20	0	102	30-185	0			
Carbon disulfide	21.83	1.0	20	0	109	60-165	0			
Carbon tetrachloride	16.88	1.0	20	0	84.4	65-140	0			
Chlorobenzene	21.43	1.0	20	0	107	80-120	0			
Chloroethane	17.4	1.0	20	0	87	50-140	0			
Chloroform	18.37	1.0	20	0	91.8	80-130	0			
Chloromethane	17.48	1.0	20	0	87.4	50-130	0			
cis-1,2-Dichloroethene	19.7	1.0	20	0	98.5	75-134	0			
cis-1,3-Dichloropropene	20.55	1.0	20	0	103	70-130	0			
Dibromochloromethane	17.89	1.0	20	0	89.4	60-115	0			
Dibromomethane	20.41	1.0	20	0	102	85-125	0			
Dichlorodifluoromethane	11.7	1.0	20	0	58.5	20-120	0			
Ethylbenzene	21.34	1.0	20	0	107	85-125	0			
Hexachloroethane	13.53	1.0	20	0	67.6	50-124	0			
Isopropylbenzene	21.64	1.0	20	0	108	80-127	0			
m,p-Xylene	42.52	2.0	40	0	106	75-130	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Work Order: 1608272
Project: ECT (Hartland - 13822 Lonetree Rd)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7		Method: SW8260B					
Methyl iodide	21.79	1.0	20	0	109	60-160	0	
Methyl tert-butyl ether	20.91	1.0	20	0	105	80-130	0	
Methylene chloride	20.55	5.0	20	0	103	75-140	0	
Naphthalene	21.8	5.0	20	0	109	55-160	0	
n-Propylbenzene	21.26	1.0	20	0	106	78-120	0	
o-Xylene	20.78	1.0	20	0	104	80-125	0	
Styrene	22.53	1.0	20	0	113	85-125	0	
Tetrachloroethene	28.15	1.0	20	0	141	77-138	0	S
Toluene	21.45	1.0	20	0	107	85-125	0	
trans-1,2-Dichloroethene	21.02	1.0	20	0	105	80-140	0	
trans-1,3-Dichloropropene	19	1.0	20	0	95	81-123	0	
trans-1,4-Dichloro-2-butene	16.54	2.0	20	0	82.7	46-118	0	
Trichloroethene	21.19	1.0	20	0	106	84-130	0	
Trichlorofluoromethane	15.48	1.0	20	0	77.4	60-140	0	
Vinyl chloride	17.28	1.0	20	0	86.4	50-136	0	
Xylenes, Total	63.3	3.0	60	0	106	80-126	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	17.26	0	20	0	86.3	75-120	0	
<i>Surr: 4-Bromofluorobenzene</i>	19.64	0	20	0	98.2	80-110	0	
<i>Surr: Dibromofluoromethane</i>	19	0	20	0	95	85-115	0	
<i>Surr: Toluene-d8</i>	19.74	0	20	0	98.7	85-110	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608272
 Project: ECT (Hartland - 13822 Lonetree Rd)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

MS		Sample ID: 1608291-01A MS				Units: µg/L		Analysis Date: 8/5/2016 11:40 PM		
Client ID:		Run ID: VMS7_160805A			SeqNo: 3965989		Prep Date:		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	187.1	10	200	0	93.6	80-130		0		
1,1,1-Trichloroethane	194.5	10	200	0	97.2	75-130		0		
1,1,2,2-Tetrachloroethane	209.2	10	200	0	105	75-130		0		
1,1,2-Trichloroethane	221.6	10	200	0	111	75-125		0		
1,1-Dichloroethane	212.9	10	200	0	106	75-133		0		
1,1-Dichloroethene	266.4	10	200	0	133	70-145		0		
1,2,3-Trichloropropane	217.6	10	200	0	109	75-125		0		
1,2,4-Trichlorobenzene	200.5	10	200	0	100	70-135		0		
1,2,4-Trimethylbenzene	218.4	10	200	0	109	75-130		0		
1,2-Dibromo-3-chloropropane	157.8	10	200	0	78.9	60-130		0		
1,2-Dibromoethane	259.8	10	200	0	130	80-150		0		
1,2-Dichlorobenzene	219.2	10	200	0	110	70-130		0		
1,2-Dichloroethane	193.1	10	200	0	96.6	78-125		0		
1,2-Dichloropropane	223.3	10	200	0	112	75-125		0		
1,3,5-Trimethylbenzene	223.2	10	200	0	112	75-130		0		
1,3-Dichlorobenzene	223.6	10	200	0	112	75-130		0		
1,4-Dichlorobenzene	215.7	10	200	0	108	75-130		0		
2-Butanone	208.6	50	200	0	104	55-150		0		
2-Hexanone	205.6	50	200	0	103	60-135		0		
4-Methyl-2-pentanone	232.8	10	200	0	116	77-178		0		
Acetone	216	100	200	0	108	60-160		0		
Acrylonitrile	224.6	10	200	0	112	60-140		0		
Benzene	234.1	10	200	0	117	85-125		0		
Bromochloromethane	215.1	10	200	0	108	75-130		0		
Bromodichloromethane	184.5	10	200	0	92.2	75-125		0		
Bromoform	152.4	10	200	0	76.2	60-125		0		
Bromomethane	187.7	10	200	0	93.8	30-185		0		
Carbon disulfide	231.8	10	200	0	116	60-165		0		
Carbon tetrachloride	162.5	10	200	0	81.2	65-140		0		
Chlorobenzene	226.8	10	200	0	113	80-120		0		
Chloroethane	185.3	10	200	0	92.6	50-140		0		
Chloroform	191.8	10	200	0	95.9	80-130		0		
Chloromethane	179.5	10	200	0	89.8	50-130		0		
cis-1,2-Dichloroethene	199.8	10	200	0	99.9	75-134		0		
cis-1,3-Dichloropropene	195.6	10	200	0	97.8	70-130		0		
Dibromochloromethane	163.3	10	200	0	81.6	60-115		0		
Dibromomethane	207.6	10	200	0	104	85-125		0		
Dichlorodifluoromethane	149.1	10	200	0	74.6	20-120		0		
Ethylbenzene	225.8	10	200	0	113	85-125		0		
Hexachloroethane	108	10	200	0	54	50-124		0		
Isopropylbenzene	227.9	10	200	0	114	80-127		0		
m,p-Xylene	445.8	20	400	0	111	75-130		0		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Work Order: 1608272
Project: ECT (Hartland - 13822 Lonetree Rd)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7		Method: SW8260B					
Methyl iodide	282	10	200	0	141	60-160	0	
Methyl tert-butyl ether	211	10	200	0	106	80-130	0	
Methylene chloride	218.8	50	200	0	109	75-140	0	
Naphthalene	216.1	50	200	0	108	55-160	0	
n-Propylbenzene	219.2	10	200	0	110	78-120	0	
o-Xylene	218.1	10	200	0	109	80-125	0	
Styrene	232.8	10	200	0	116	85-125	0	
Tetrachloroethene	318.4	10	200	0	159	77-138	0	
							S	
Toluene	225	10	200	0	112	85-125	0	
trans-1,2-Dichloroethene	222.5	10	200	0	111	80-140	0	
trans-1,3-Dichloropropene	174.7	10	200	0	87.4	81-123	0	
trans-1,4-Dichloro-2-butene	136	20	200	0	68	46-118	0	
Trichloroethene	228.6	10	200	0	114	84-130	0	
Trichlorofluoromethane	161.4	10	200	0	80.7	60-140	0	
Vinyl chloride	177.6	10	200	0	88.8	50-136	0	
Xylenes, Total	663.9	30	600	0	111	80-126	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>166.8</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>83.4</i>	<i>75-120</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>195.6</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>97.8</i>	<i>80-110</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>187</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>93.5</i>	<i>85-115</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>197.9</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>99</i>	<i>85-110</i>	<i>0</i>	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608272
 Project: ECT (Hartland - 13822 Lonetree Rd)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

MSD		Sample ID: 1608291-01A MSD				Units: µg/L		Analysis Date: 8/6/2016 12:03 PM		
Client ID:		Run ID: VMS7_160805A			SeqNo: 3965990		Prep Date:		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	172.3	10	200	0	86.2	80-130	187.1	8.24	30	
1,1,1-Trichloroethane	186.1	10	200	0	93	75-130	194.5	4.41	30	
1,1,2,2-Tetrachloroethane	195.1	10	200	0	97.6	75-130	209.2	6.98	30	
1,1,2-Trichloroethane	207.7	10	200	0	104	75-125	221.6	6.48	30	
1,1-Dichloroethane	202.7	10	200	0	101	75-133	212.9	4.91	30	
1,1-Dichloroethene	242.4	10	200	0	121	70-145	266.4	9.43	30	
1,2,3-Trichloropropane	197.1	10	200	0	98.6	75-125	217.6	9.89	30	
1,2,4-Trichlorobenzene	195.7	10	200	0	97.8	70-135	200.5	2.42	30	
1,2,4-Trimethylbenzene	204.2	10	200	0	102	75-130	218.4	6.72	30	
1,2-Dibromo-3-chloropropane	151.7	10	200	0	75.8	60-130	157.8	3.94	30	
1,2-Dibromoethane	239.5	10	200	0	120	80-150	259.8	8.13	30	
1,2-Dichlorobenzene	207.3	10	200	0	104	70-130	219.2	5.58	30	
1,2-Dichloroethane	179.2	10	200	0	89.6	78-125	193.1	7.47	30	
1,2-Dichloropropane	205.9	10	200	0	103	75-125	223.3	8.11	30	
1,3,5-Trimethylbenzene	212	10	200	0	106	75-130	223.2	5.15	30	
1,3-Dichlorobenzene	213.2	10	200	0	107	75-130	223.6	4.76	30	
1,4-Dichlorobenzene	207.7	10	200	0	104	75-130	215.7	3.78	30	
2-Butanone	194.4	50	200	0	97.2	55-150	208.6	7.05	30	
2-Hexanone	183.1	50	200	0	91.6	60-135	205.6	11.6	30	
4-Methyl-2-pentanone	211	10	200	0	106	77-178	232.8	9.82	30	
Acetone	201.4	100	200	0	101	60-160	216	7	30	
Acrylonitrile	205.6	10	200	0	103	60-140	224.6	8.83	30	
Benzene	219.9	10	200	0	110	85-125	234.1	6.26	30	
Bromochloromethane	204.4	10	200	0	102	75-130	215.1	5.1	30	
Bromodichloromethane	171.9	10	200	0	86	75-125	184.5	7.07	30	
Bromoform	145.2	10	200	0	72.6	60-125	152.4	4.84	30	
Bromomethane	164.2	10	200	0	82.1	30-185	187.7	13.4	30	
Carbon disulfide	216.9	10	200	0	108	60-165	231.8	6.64	30	
Carbon tetrachloride	154.6	10	200	0	77.3	65-140	162.5	4.98	30	
Chlorobenzene	212.3	10	200	0	106	80-120	226.8	6.6	30	
Chloroethane	164.2	10	200	0	82.1	50-140	185.3	12.1	30	
Chloroform	182.6	10	200	0	91.3	80-130	191.8	4.91	30	
Chloromethane	174.5	10	200	0	87.2	50-130	179.5	2.82	30	
cis-1,2-Dichloroethene	186.4	10	200	0	93.2	75-134	199.8	6.94	30	
cis-1,3-Dichloropropene	183.4	10	200	0	91.7	70-130	195.6	6.44	30	
Dibromochloromethane	154.8	10	200	0	77.4	60-115	163.3	5.34	30	
Dibromomethane	196.7	10	200	0	98.4	85-125	207.6	5.39	30	
Dichlorodifluoromethane	137.6	10	200	0	68.8	20-120	149.1	8.02	30	
Ethylbenzene	212	10	200	0	106	85-125	225.8	6.3	30	
Hexachloroethane	111.2	10	200	0	55.6	50-124	108	2.92	30	
Isopropylbenzene	215.6	10	200	0	108	80-127	227.9	5.55	30	
m,p-Xylene	428.1	20	400	0	107	75-130	445.8	4.05	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608272
 Project: ECT (Hartland - 13822 Lonetree Rd)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7		Method: SW8260B							
Methyl iodide	247.4	10	200	0	124	60-160	282	13.1	30	
Methyl tert-butyl ether	199	10	200	0	99.5	80-130	211	5.85	30	
Methylene chloride	206	50	200	0	103	75-140	218.8	6.03	30	
Naphthalene	204.1	50	200	0	102	55-160	216.1	5.71	30	
n-Propylbenzene	206.4	10	200	0	103	78-120	219.2	6.02	30	
o-Xylene	203.4	10	200	0	102	80-125	218.1	6.98	30	
Styrene	219.8	10	200	0	110	85-125	232.8	5.74	30	
Tetrachloroethene	290.1	10	200	0	145	77-138	318.4	9.3	30	S
Toluene	210.6	10	200	0	105	85-125	225	6.61	30	
trans-1,2-Dichloroethene	208.6	10	200	0	104	80-140	222.5	6.45	30	
trans-1,3-Dichloropropene	162	10	200	0	81	81-123	174.7	7.54	30	
trans-1,4-Dichloro-2-butene	129.9	20	200	0	65	46-118	136	4.59	30	
Trichloroethene	215.2	10	200	0	108	84-130	228.6	6.04	30	
Trichlorofluoromethane	151.8	10	200	0	75.9	60-140	161.4	6.13	30	
Vinyl chloride	173.9	10	200	0	87	50-136	177.6	2.11	30	
Xylenes, Total	631.5	30	600	0	105	80-126	663.9	5	30	
<i>Surr: 1,2-Dichloroethane-d4</i>	167.5	0	200	0	83.8	75-120	166.8	0.419	30	
<i>Surr: 4-Bromofluorobenzene</i>	187.9	0	200	0	94	80-110	195.6	4.02	30	
<i>Surr: Dibromofluoromethane</i>	182.2	0	200	0	91.1	85-115	187	2.6	30	
<i>Surr: Toluene-d8</i>	196	0	200	0	98	85-110	197.9	0.965	30	

The following samples were analyzed in this batch:

1608272-01A

Client: Merit Energy
Project: ECT (Hartland - 13822 Lonetree Rd)
WorkOrder: 1608272

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **05-Aug-16 09:00**

Work Order: **1608272**

Received by: **MEB**

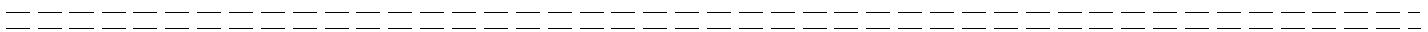
Checklist completed by Meghan Broadbent 05-Aug-16
eSignature Date

Reviewed by: Gary Byar 05-Aug-16
eSignature Date

Matrices: water
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>2.4/2.4</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<input type="text"/>		
Date/Time sample(s) sent to storage:	<u>8/5/2016 10:21:46 AM</u>		
Water - VOA vials have zero headspace?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<input type="text"/>		

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



RETURN SAMPLES TO:
 ALS Environmental
 781 Industrial Cir, Ste 3
 Traverse City, Michigan 49688
 (Tel) 231.421.3204
 (Cell) 231.944.3459

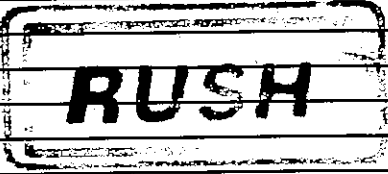
Chain of Custody Form

Page 1 of 1

ALS Environmental
 3352 128th Avenue
 Holland, Michigan 49424
 (Tel) 616.399.6070
 (Fax) 616.399.6185

ALS Project Manager: Gary Byar ALS Work Order #: 11608272

Customer Information		Project Information		Parameter/Method Request for Analysis					
Purchase Order		Project Name	Hartland 36 Gas Plant	A	Full VOCs 8280		(2) 40 ml vials w HCL		
Work Order		Project Number		B	Sulfolane & DIPA 8270		(2) Amber Liters		
Company Name	ECT, Inc.	Bill To Company	MEC	C					
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven	D					
Address	3399 Veterans Dr.	Address	1510 Thomas Rd	E					
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI	F					
Phone	231-946-8200	Phone	231-258-6389	G					
Fax	231-946-8208	Fax		H					
e-Mail Address	jlewandowski@ectinc.com			I					
				J					



No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
	13822 LAVETAEE RD	8-3-16	1516	GW	1	4	X	X									

Sampler(s): Please Print & Sign: Jeremy Lewandowski Shipment Method: _____ Required Turnaround Time: (Check Box) 10 Wk Days 5-7 Wk Days 3 Wk Days 2 Wk Days 24 Hour Results Due Date: _____

Relinquished by: <u>Jeremy Lewandowski</u> ECT SAMPLE STORAGE	Date: <u>8-3-16</u> Time: <u>2150</u>	Received by: <u>ECT SAMPLE STORAGE</u>	Date: <u>8-3-16</u> Time: <u>2130</u>	Notes: <u>Rec'd by Lab: MB accepts 8/5/16 930</u> ALS Project: MERITENERGY - Misc
Relinquished by: <u>[Signature]</u>	Date: <u>8-4-16</u> Time: <u>1130</u>	Received by (Laboratory): <u>[Signature]</u>	Date: <u>8-4-16</u> Time: <u>1130</u>	ALS Cooler ID: _____ Cooler Temp: <u>2.4C</u> QC Package: (Check Box Below) <input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data <input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV: SW846 Methods/CLP like <input type="checkbox"/> Other: _____
Logged by (Laboratory): <u>MB</u>	Date: <u>8/5/16</u> Time: <u>1020</u>	Checked by (Laboratory): <u>[Signature]</u>	Date: _____ Time: _____	

Preservative Key: 1-HCl 2-HNO₃ 3-H₂SO₄ 4-NaOH 5-Na₂S₂O₃ 6-NaHSO₄ 7-Other 8-4°C Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.



10-Aug-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Hartland - 13800 Lone Tree Rd)**

Work Order: **1608284**

Dear Sean,

ALS Environmental received 1 sample on 05-Aug-2016 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 18.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Hartland - 13800 Lone Tree Rd)
Work Order: 1608284

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1608284-01	13800 Lonetree Rd	Groundwater		8/3/2016 15:02	8/5/2016 09:30	<input type="checkbox"/>

ALS Group USA, Corp

Date: 10-Aug-16

Client: Merit Energy

Project: ECT (Hartland - 13800 Lone Tree Rd)

Work Order: 1608284

Sample ID: 13800 Lonetree Rd

Lab ID: 1608284-01

Collection Date: 8/3/2016 03:02 PM

Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 8/5/16	Analyst: RM
Diisopropanolamine	ND		54	µg/L	1	8/8/2016 11:45 PM
Sulfolane	ND		11	µg/L	1	8/8/2016 11:45 PM
Surr: 2,4,6-Tribromophenol	69.5		38-115	%REC	1	8/8/2016 11:45 PM
Surr: 2-Fluorobiphenyl	69.8		32-100	%REC	1	8/8/2016 11:45 PM
Surr: 2-Fluorophenol	35.3		22-59	%REC	1	8/8/2016 11:45 PM
Surr: 4-Terphenyl-d14	88.1		23-112	%REC	1	8/8/2016 11:45 PM
Surr: Nitrobenzene-d5	65.4		31-93	%REC	1	8/8/2016 11:45 PM
Surr: Phenol-d6	19.0		13-36	%REC	1	8/8/2016 11:45 PM
VOLATILE ORGANIC COMPOUNDS			SW8260B			Analyst: AK
1,1,1,2-Tetrachloroethane	ND		1.0	µg/L	1	8/5/2016 05:49 PM
1,1,1-Trichloroethane	ND		1.0	µg/L	1	8/5/2016 05:49 PM
1,1,2,2-Tetrachloroethane	ND		1.0	µg/L	1	8/5/2016 05:49 PM
1,1,2-Trichloroethane	ND		1.0	µg/L	1	8/5/2016 05:49 PM
1,1,2-Trichlorotrifluoroethane	ND		1.0	µg/L	1	8/5/2016 05:49 PM
1,1-Dichloroethane	ND		1.0	µg/L	1	8/5/2016 05:49 PM
1,1-Dichloroethene	ND		1.0	µg/L	1	8/5/2016 05:49 PM
1,2,3-Trichloropropane	ND		1.0	µg/L	1	8/5/2016 05:49 PM
1,2,4-Trichlorobenzene	ND		1.0	µg/L	1	8/5/2016 05:49 PM
1,2,4-Trimethylbenzene	ND		1.0	µg/L	1	8/5/2016 05:49 PM
1,2-Dibromo-3-chloropropane	ND		1.0	µg/L	1	8/5/2016 05:49 PM
1,2-Dibromoethane	ND		1.0	µg/L	1	8/5/2016 05:49 PM
1,2-Dichlorobenzene	ND		1.0	µg/L	1	8/5/2016 05:49 PM
1,2-Dichloroethane	ND		1.0	µg/L	1	8/5/2016 05:49 PM
1,2-Dichloropropane	ND		1.0	µg/L	1	8/5/2016 05:49 PM
1,3,5-Trimethylbenzene	ND		1.0	µg/L	1	8/5/2016 05:49 PM
1,3-Dichlorobenzene	ND		1.0	µg/L	1	8/5/2016 05:49 PM
1,4-Dichlorobenzene	ND		1.0	µg/L	1	8/5/2016 05:49 PM
2-Butanone	ND		5.0	µg/L	1	8/5/2016 05:49 PM
2-Hexanone	ND		5.0	µg/L	1	8/5/2016 05:49 PM
2-Methylnaphthalene	ND		5.0	µg/L	1	8/5/2016 05:49 PM
4-Methyl-2-pentanone	ND		1.0	µg/L	1	8/5/2016 05:49 PM
Acetone	ND		10	µg/L	1	8/5/2016 05:49 PM
Acrylonitrile	ND		1.0	µg/L	1	8/5/2016 05:49 PM
Benzene	ND		1.0	µg/L	1	8/5/2016 05:49 PM
Bromochloromethane	ND		1.0	µg/L	1	8/5/2016 05:49 PM
Bromodichloromethane	ND		1.0	µg/L	1	8/5/2016 05:49 PM
Bromoform	ND		1.0	µg/L	1	8/5/2016 05:49 PM
Bromomethane	ND		1.0	µg/L	1	8/5/2016 05:49 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 10-Aug-16

Client: Merit Energy

Project: ECT (Hartland - 13800 Lone Tree Rd)

Work Order: 1608284

Sample ID: 13800 Lonetree Rd

Lab ID: 1608284-01

Collection Date: 8/3/2016 03:02 PM

Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		1.0	µg/L	1	8/5/2016 05:49 PM
Carbon tetrachloride	ND		1.0	µg/L	1	8/5/2016 05:49 PM
Chlorobenzene	ND		1.0	µg/L	1	8/5/2016 05:49 PM
Chloroethane	ND		1.0	µg/L	1	8/5/2016 05:49 PM
Chloroform	ND		1.0	µg/L	1	8/5/2016 05:49 PM
Chloromethane	ND		1.0	µg/L	1	8/5/2016 05:49 PM
cis-1,2-Dichloroethene	ND		1.0	µg/L	1	8/5/2016 05:49 PM
cis-1,3-Dichloropropene	ND		1.0	µg/L	1	8/5/2016 05:49 PM
Dibromochloromethane	ND		1.0	µg/L	1	8/5/2016 05:49 PM
Dibromomethane	ND		1.0	µg/L	1	8/5/2016 05:49 PM
Dichlorodifluoromethane	ND		1.0	µg/L	1	8/5/2016 05:49 PM
Diethyl ether	ND		1.0	µg/L	1	8/5/2016 05:49 PM
Ethylbenzene	ND		1.0	µg/L	1	8/5/2016 05:49 PM
Hexachloroethane	ND		1.0	µg/L	1	8/5/2016 05:49 PM
Isopropylbenzene	ND		1.0	µg/L	1	8/5/2016 05:49 PM
m,p-Xylene	ND		2.0	µg/L	1	8/5/2016 05:49 PM
Methyl iodide	ND		1.0	µg/L	1	8/5/2016 05:49 PM
Methyl tert-butyl ether	ND		1.0	µg/L	1	8/5/2016 05:49 PM
Methylene chloride	ND		5.0	µg/L	1	8/5/2016 05:49 PM
Naphthalene	ND		5.0	µg/L	1	8/5/2016 05:49 PM
n-Propylbenzene	ND		1.0	µg/L	1	8/5/2016 05:49 PM
o-Xylene	ND		1.0	µg/L	1	8/5/2016 05:49 PM
Styrene	ND		1.0	µg/L	1	8/5/2016 05:49 PM
Tetrachloroethene	ND		1.0	µg/L	1	8/5/2016 05:49 PM
Toluene	ND		1.0	µg/L	1	8/5/2016 05:49 PM
trans-1,2-Dichloroethene	ND		1.0	µg/L	1	8/5/2016 05:49 PM
trans-1,3-Dichloropropene	ND		1.0	µg/L	1	8/5/2016 05:49 PM
trans-1,4-Dichloro-2-butene	ND		2.0	µg/L	1	8/5/2016 05:49 PM
Trichloroethene	ND		1.0	µg/L	1	8/5/2016 05:49 PM
Trichlorofluoromethane	ND		1.0	µg/L	1	8/5/2016 05:49 PM
Vinyl acetate	ND		5.0	µg/L	1	8/5/2016 05:49 PM
Vinyl chloride	ND		1.0	µg/L	1	8/5/2016 05:49 PM
Xylenes, Total	ND		3.0	µg/L	1	8/5/2016 05:49 PM
<i>Surr: 1,2-Dichloroethane-d4</i>	86.4		75-120	%REC	1	8/5/2016 05:49 PM
<i>Surr: 4-Bromofluorobenzene</i>	99.0		80-110	%REC	1	8/5/2016 05:49 PM
<i>Surr: Dibromofluoromethane</i>	89.4		85-115	%REC	1	8/5/2016 05:49 PM
<i>Surr: Toluene-d8</i>	99.8		85-110	%REC	1	8/5/2016 05:49 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
Project: ECT (Hartland - 13800 Lone Tree Rd)
Work Order: 1608284

Case Narrative

Batch R193219A Sample VLCSW1-160805 The LCS recovery for Volatile compound Tetrachloroethene was above the upper control limit. All the sample results in the batch were non-detect. No qualification is necessary for this analyte.

Batch R193219A The MS/MSD data for Volatiles is no related to this projects sample. No data requires qualification.

Client: Merit Energy

QC BATCH REPORT

Work Order: 1608284

Project: ECT (Hartland - 13800 Lone Tree Rd)

Batch ID: **89682**

Instrument ID **SVMS8**

Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-89682-89682				Units: µg/L		Analysis Date: 8/8/2016 08:51 PM		
Client ID:		Run ID: SVMS8_160808A		SeqNo: 3968850		Prep Date: 8/5/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	ND	50								
Sulfolane	ND	10								
<i>Surr: 2,4,6-Tribromophenol</i>	32.35	0	50	0	64.7	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	36.53	0	50	0	73.1	32-100	0			
<i>Surr: 2-Fluorophenol</i>	19.03	0	50	0	38.1	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	45.48	0	50	0	91	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	36.58	0	50	0	73.2	31-93	0			
<i>Surr: Phenol-d6</i>	9.38	0	50	0	18.8	13-36	0			

LCS		Sample ID: SLCSW1-89682-89682				Units: µg/L		Analysis Date: 8/8/2016 09:12 PM		
Client ID:		Run ID: SVMS8_160808A		SeqNo: 3968851		Prep Date: 8/5/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	3.57	50	20	0	17.8	10-50	0			
Sulfolane	11.76	10	20	0	58.8	30-100	0			
<i>Surr: 2,4,6-Tribromophenol</i>	32.34	0	50	0	64.7	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	37.17	0	50	0	74.3	32-100	0			
<i>Surr: 2-Fluorophenol</i>	19.78	0	50	0	39.6	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	49.38	0	50	0	98.8	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	35.31	0	50	0	70.6	31-93	0			
<i>Surr: Phenol-d6</i>	11.13	0	50	0	22.3	13-36	0			

LCSD		Sample ID: SLCSDW1-89682-89682				Units: µg/L		Analysis Date: 8/8/2016 09:33 PM		
Client ID:		Run ID: SVMS8_160808A		SeqNo: 3968852		Prep Date: 8/5/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	3.35	50	20	0	16.8	10-50	3.57	0	50	
Sulfolane	12.03	10	20	0	60.2	30-100	11.76	2.27	50	
<i>Surr: 2,4,6-Tribromophenol</i>	32.73	0	50	0	65.5	38-115	32.34	1.2	40	
<i>Surr: 2-Fluorobiphenyl</i>	38.09	0	50	0	76.2	32-100	37.17	2.44	40	
<i>Surr: 2-Fluorophenol</i>	18.36	0	50	0	36.7	22-59	19.78	7.45	40	
<i>Surr: 4-Terphenyl-d14</i>	48.18	0	50	0	96.4	23-112	49.38	2.46	40	
<i>Surr: Nitrobenzene-d5</i>	36.74	0	50	0	73.5	31-93	35.31	3.97	40	
<i>Surr: Phenol-d6</i>	10.18	0	50	0	20.4	13-36	11.13	8.92	40	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608284
 Project: ECT (Hartland - 13800 Lone Tree Rd)

QC BATCH REPORT

Batch ID: 89682 Instrument ID SVMS8 Method: SW846 8270D

MS		Sample ID: 1608284-01B MS				Units: µg/L		Analysis Date: 8/8/2016 11:24 PM		
Client ID: 13800 Lonetree Rd		Run ID: SVMS8_160808A				SeqNo: 3968855		Prep Date: 8/5/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	3.25	50	20	0	16.2	10-50	0			
Sulfolane	12.15	10	20	0	60.8	30-100	0			
<i>Surr: 2,4,6-Tribromophenol</i>	34.22	0	50	0	68.4	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	38.42	0	50	0	76.8	32-100	0			
<i>Surr: 2-Fluorophenol</i>	17.81	0	50	0	35.6	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	42.35	0	50	0	84.7	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	37.97	0	50	0	75.9	31-93	0			
<i>Surr: Phenol-d6</i>	9.23	0	50	0	18.5	13-36	0			

DUP		Sample ID: 1608285-01B DUP				Units: µg/L		Analysis Date: 8/9/2016 12:05 AM		
Client ID:		Run ID: SVMS8_160808A				SeqNo: 3968857		Prep Date: 8/5/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	ND	50	0	0	0		0	0	50	
Sulfolane	ND	10	0	0	0		0	0	50	
<i>Surr: 2,4,6-Tribromophenol</i>	36.71	0	50	0	73.4	38-115	33.33	9.65	40	
<i>Surr: 2-Fluorobiphenyl</i>	42.42	0	50	0	84.8	32-100	36.64	14.6	40	
<i>Surr: 2-Fluorophenol</i>	20.27	0	50	0	40.5	22-59	20.78	2.48	40	
<i>Surr: 4-Terphenyl-d14</i>	46.4	0	50	0	92.8	23-112	45.62	1.7	40	
<i>Surr: Nitrobenzene-d5</i>	39.3	0	50	0	78.6	31-93	37.49	4.71	40	
<i>Surr: Phenol-d6</i>	10.33	0	50	0	20.7	13-36	10.9	5.37	40	

The following samples were analyzed in this batch:

1608284-01B

Client: Merit Energy
 Work Order: 1608284
 Project: ECT (Hartland - 13800 Lone Tree Rd)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

MBLK		Sample ID: VBLKW1-160805-R193219A				Units: µg/L		Analysis Date: 8/5/2016 04:16 PM		
Client ID:		Run ID: VMS7_160805A		SeqNo: 3965976		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
1,1,2-Trichlorotrifluoroethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2,3-Trichloropropane	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	1.0								
1,2-Dibromoethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,2-Dichloroethane	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
2-Butanone	ND	5.0								
2-Hexanone	ND	5.0								
2-Methylnaphthalene	ND	5.0								
4-Methyl-2-pentanone	ND	1.0								
Acetone	ND	10								
Acrylonitrile	ND	1.0								
Benzene	ND	1.0								
Bromochloromethane	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	1.0								
Carbon disulfide	ND	1.0								
Carbon tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	1.0								
Chloroform	ND	1.0								
Chloromethane	ND	1.0								
cis-1,2-Dichloroethene	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
Diethyl ether	ND	1.0								
Ethylbenzene	ND	1.0								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Work Order: 1608284
Project: ECT (Hartland - 13800 Lone Tree Rd)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7	Method: SW8260B						
Hexachloroethane	ND	1.0						
Isopropylbenzene	ND	1.0						
m,p-Xylene	ND	2.0						
Methyl iodide	ND	1.0						
Methyl tert-butyl ether	ND	1.0						
Methylene chloride	ND	5.0						
Naphthalene	ND	5.0						
n-Propylbenzene	ND	1.0						
o-Xylene	ND	1.0						
Styrene	ND	1.0						
Tetrachloroethene	ND	1.0						
Toluene	ND	1.0						
trans-1,2-Dichloroethene	ND	1.0						
trans-1,3-Dichloropropene	ND	1.0						
trans-1,4-Dichloro-2-butene	ND	2.0						
Trichloroethene	ND	1.0						
Trichlorofluoromethane	ND	1.0						
Vinyl acetate	ND	5.0						
Vinyl chloride	ND	1.0						
Xylenes, Total	ND	3.0						
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>16.65</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>83.2</i>	<i>75-120</i>	<i>0</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.46</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>97.3</i>	<i>80-110</i>	<i>0</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>17.64</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>88.2</i>	<i>85-115</i>	<i>0</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>19.85</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>99.2</i>	<i>85-110</i>	<i>0</i>	<i>0</i>

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608284
 Project: ECT (Hartland - 13800 Lone Tree Rd)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

LCS		Sample ID: VLCSW1-160805-R193219A				Units: µg/L		Analysis Date: 8/5/2016 03:05 PM		
Client ID:		Run ID: VMS7_160805A			SeqNo: 3965975		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.56	1.0	20	0	97.8	80-130	0			
1,1,1-Trichloroethane	19.1	1.0	20	0	95.5	75-130	0			
1,1,2,2-Tetrachloroethane	21.28	1.0	20	0	106	75-130	0			
1,1,2-Trichloroethane	21.61	1.0	20	0	108	75-125	0			
1,1-Dichloroethane	20.97	1.0	20	0	105	75-133	0			
1,1-Dichloroethene	23.78	1.0	20	0	119	70-145	0			
1,2,3-Trichloropropane	21.08	1.0	20	0	105	75-125	0			
1,2,4-Trichlorobenzene	20.33	1.0	20	0	102	70-135	0			
1,2,4-Trimethylbenzene	21.21	1.0	20	0	106	75-130	0			
1,2-Dibromo-3-chloropropane	18.89	1.0	20	0	94.4	60-130	0			
1,2-Dibromoethane	25.21	1.0	20	0	126	80-150	0			
1,2-Dichlorobenzene	21.24	1.0	20	0	106	70-130	0			
1,2-Dichloroethane	18.28	1.0	20	0	91.4	78-125	0			
1,2-Dichloropropane	21.36	1.0	20	0	107	75-125	0			
1,3,5-Trimethylbenzene	21.95	1.0	20	0	110	75-130	0			
1,3-Dichlorobenzene	21.41	1.0	20	0	107	75-130	0			
1,4-Dichlorobenzene	21.42	1.0	20	0	107	75-130	0			
2-Butanone	21.67	5.0	20	0	108	55-150	0			
2-Hexanone	21.04	5.0	20	0	105	60-135	0			
4-Methyl-2-pentanone	24.27	1.0	20	0	121	77-178	0			
Acetone	21.61	10	20	0	108	60-160	0			
Acrylonitrile	22.04	1.0	20	0	110	60-140	0			
Benzene	22.09	1.0	20	0	110	85-125	0			
Bromochloromethane	21.07	1.0	20	0	105	75-130	0			
Bromodichloromethane	18.63	1.0	20	0	93.2	75-125	0			
Bromoform	17.48	1.0	20	0	87.4	60-125	0			
Bromomethane	20.46	1.0	20	0	102	30-185	0			
Carbon disulfide	21.83	1.0	20	0	109	60-165	0			
Carbon tetrachloride	16.88	1.0	20	0	84.4	65-140	0			
Chlorobenzene	21.43	1.0	20	0	107	80-120	0			
Chloroethane	17.4	1.0	20	0	87	50-140	0			
Chloroform	18.37	1.0	20	0	91.8	80-130	0			
Chloromethane	17.48	1.0	20	0	87.4	50-130	0			
cis-1,2-Dichloroethene	19.7	1.0	20	0	98.5	75-134	0			
cis-1,3-Dichloropropene	20.55	1.0	20	0	103	70-130	0			
Dibromochloromethane	17.89	1.0	20	0	89.4	60-115	0			
Dibromomethane	20.41	1.0	20	0	102	85-125	0			
Dichlorodifluoromethane	11.7	1.0	20	0	58.5	20-120	0			
Ethylbenzene	21.34	1.0	20	0	107	85-125	0			
Hexachloroethane	13.53	1.0	20	0	67.6	50-124	0			
Isopropylbenzene	21.64	1.0	20	0	108	80-127	0			
m,p-Xylene	42.52	2.0	40	0	106	75-130	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Work Order: 1608284
Project: ECT (Hartland - 13800 Lone Tree Rd)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7		Method: SW8260B					
Methyl iodide	21.79	1.0	20	0	109	60-160	0	
Methyl tert-butyl ether	20.91	1.0	20	0	105	80-130	0	
Methylene chloride	20.55	5.0	20	0	103	75-140	0	
Naphthalene	21.8	5.0	20	0	109	55-160	0	
n-Propylbenzene	21.26	1.0	20	0	106	78-120	0	
o-Xylene	20.78	1.0	20	0	104	80-125	0	
Styrene	22.53	1.0	20	0	113	85-125	0	
Tetrachloroethene	28.15	1.0	20	0	141	77-138	0	S
Toluene	21.45	1.0	20	0	107	85-125	0	
trans-1,2-Dichloroethene	21.02	1.0	20	0	105	80-140	0	
trans-1,3-Dichloropropene	19	1.0	20	0	95	81-123	0	
trans-1,4-Dichloro-2-butene	16.54	2.0	20	0	82.7	46-118	0	
Trichloroethene	21.19	1.0	20	0	106	84-130	0	
Trichlorofluoromethane	15.48	1.0	20	0	77.4	60-140	0	
Vinyl chloride	17.28	1.0	20	0	86.4	50-136	0	
Xylenes, Total	63.3	3.0	60	0	106	80-126	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	17.26	0	20	0	86.3	75-120	0	
<i>Surr: 4-Bromofluorobenzene</i>	19.64	0	20	0	98.2	80-110	0	
<i>Surr: Dibromofluoromethane</i>	19	0	20	0	95	85-115	0	
<i>Surr: Toluene-d8</i>	19.74	0	20	0	98.7	85-110	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608284
 Project: ECT (Hartland - 13800 Lone Tree Rd)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

MS		Sample ID: 1608291-01A MS				Units: µg/L		Analysis Date: 8/5/2016 11:40 PM		
Client ID:		Run ID: VMS7_160805A			SeqNo: 3965989		Prep Date:		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	187.1	10	200	0	93.6	80-130	0			
1,1,1-Trichloroethane	194.5	10	200	0	97.2	75-130	0			
1,1,2,2-Tetrachloroethane	209.2	10	200	0	105	75-130	0			
1,1,2-Trichloroethane	221.6	10	200	0	111	75-125	0			
1,1-Dichloroethane	212.9	10	200	0	106	75-133	0			
1,1-Dichloroethene	266.4	10	200	0	133	70-145	0			
1,2,3-Trichloropropane	217.6	10	200	0	109	75-125	0			
1,2,4-Trichlorobenzene	200.5	10	200	0	100	70-135	0			
1,2,4-Trimethylbenzene	218.4	10	200	0	109	75-130	0			
1,2-Dibromo-3-chloropropane	157.8	10	200	0	78.9	60-130	0			
1,2-Dibromoethane	259.8	10	200	0	130	80-150	0			
1,2-Dichlorobenzene	219.2	10	200	0	110	70-130	0			
1,2-Dichloroethane	193.1	10	200	0	96.6	78-125	0			
1,2-Dichloropropane	223.3	10	200	0	112	75-125	0			
1,3,5-Trimethylbenzene	223.2	10	200	0	112	75-130	0			
1,3-Dichlorobenzene	223.6	10	200	0	112	75-130	0			
1,4-Dichlorobenzene	215.7	10	200	0	108	75-130	0			
2-Butanone	208.6	50	200	0	104	55-150	0			
2-Hexanone	205.6	50	200	0	103	60-135	0			
4-Methyl-2-pentanone	232.8	10	200	0	116	77-178	0			
Acetone	216	100	200	0	108	60-160	0			
Acrylonitrile	224.6	10	200	0	112	60-140	0			
Benzene	234.1	10	200	0	117	85-125	0			
Bromochloromethane	215.1	10	200	0	108	75-130	0			
Bromodichloromethane	184.5	10	200	0	92.2	75-125	0			
Bromoform	152.4	10	200	0	76.2	60-125	0			
Bromomethane	187.7	10	200	0	93.8	30-185	0			
Carbon disulfide	231.8	10	200	0	116	60-165	0			
Carbon tetrachloride	162.5	10	200	0	81.2	65-140	0			
Chlorobenzene	226.8	10	200	0	113	80-120	0			
Chloroethane	185.3	10	200	0	92.6	50-140	0			
Chloroform	191.8	10	200	0	95.9	80-130	0			
Chloromethane	179.5	10	200	0	89.8	50-130	0			
cis-1,2-Dichloroethene	199.8	10	200	0	99.9	75-134	0			
cis-1,3-Dichloropropene	195.6	10	200	0	97.8	70-130	0			
Dibromochloromethane	163.3	10	200	0	81.6	60-115	0			
Dibromomethane	207.6	10	200	0	104	85-125	0			
Dichlorodifluoromethane	149.1	10	200	0	74.6	20-120	0			
Ethylbenzene	225.8	10	200	0	113	85-125	0			
Hexachloroethane	108	10	200	0	54	50-124	0			
Isopropylbenzene	227.9	10	200	0	114	80-127	0			
m,p-Xylene	445.8	20	400	0	111	75-130	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608284
 Project: ECT (Hartland - 13800 Lone Tree Rd)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7		Method: SW8260B					
Methyl iodide	282	10	200	0	141	60-160	0	
Methyl tert-butyl ether	211	10	200	0	106	80-130	0	
Methylene chloride	218.8	50	200	0	109	75-140	0	
Naphthalene	216.1	50	200	0	108	55-160	0	
n-Propylbenzene	219.2	10	200	0	110	78-120	0	
o-Xylene	218.1	10	200	0	109	80-125	0	
Styrene	232.8	10	200	0	116	85-125	0	
Tetrachloroethene	318.4	10	200	0	159	77-138	0	S
Toluene	225	10	200	0	112	85-125	0	
trans-1,2-Dichloroethene	222.5	10	200	0	111	80-140	0	
trans-1,3-Dichloropropene	174.7	10	200	0	87.4	81-123	0	
trans-1,4-Dichloro-2-butene	136	20	200	0	68	46-118	0	
Trichloroethene	228.6	10	200	0	114	84-130	0	
Trichlorofluoromethane	161.4	10	200	0	80.7	60-140	0	
Vinyl chloride	177.6	10	200	0	88.8	50-136	0	
Xylenes, Total	663.9	30	600	0	111	80-126	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>166.8</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>83.4</i>	<i>75-120</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>195.6</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>97.8</i>	<i>80-110</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>187</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>93.5</i>	<i>85-115</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>197.9</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>99</i>	<i>85-110</i>	<i>0</i>	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608284
 Project: ECT (Hartland - 13800 Lone Tree Rd)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

MSD		Sample ID: 1608291-01A MSD				Units: µg/L		Analysis Date: 8/6/2016 12:03 PM		
Client ID:		Run ID: VMS7_160805A			SeqNo: 3965990		Prep Date:		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	172.3	10	200	0	86.2	80-130	187.1	8.24	30	
1,1,1-Trichloroethane	186.1	10	200	0	93	75-130	194.5	4.41	30	
1,1,2,2-Tetrachloroethane	195.1	10	200	0	97.6	75-130	209.2	6.98	30	
1,1,2-Trichloroethane	207.7	10	200	0	104	75-125	221.6	6.48	30	
1,1-Dichloroethane	202.7	10	200	0	101	75-133	212.9	4.91	30	
1,1-Dichloroethene	242.4	10	200	0	121	70-145	266.4	9.43	30	
1,2,3-Trichloropropane	197.1	10	200	0	98.6	75-125	217.6	9.89	30	
1,2,4-Trichlorobenzene	195.7	10	200	0	97.8	70-135	200.5	2.42	30	
1,2,4-Trimethylbenzene	204.2	10	200	0	102	75-130	218.4	6.72	30	
1,2-Dibromo-3-chloropropane	151.7	10	200	0	75.8	60-130	157.8	3.94	30	
1,2-Dibromoethane	239.5	10	200	0	120	80-150	259.8	8.13	30	
1,2-Dichlorobenzene	207.3	10	200	0	104	70-130	219.2	5.58	30	
1,2-Dichloroethane	179.2	10	200	0	89.6	78-125	193.1	7.47	30	
1,2-Dichloropropane	205.9	10	200	0	103	75-125	223.3	8.11	30	
1,3,5-Trimethylbenzene	212	10	200	0	106	75-130	223.2	5.15	30	
1,3-Dichlorobenzene	213.2	10	200	0	107	75-130	223.6	4.76	30	
1,4-Dichlorobenzene	207.7	10	200	0	104	75-130	215.7	3.78	30	
2-Butanone	194.4	50	200	0	97.2	55-150	208.6	7.05	30	
2-Hexanone	183.1	50	200	0	91.6	60-135	205.6	11.6	30	
4-Methyl-2-pentanone	211	10	200	0	106	77-178	232.8	9.82	30	
Acetone	201.4	100	200	0	101	60-160	216	7	30	
Acrylonitrile	205.6	10	200	0	103	60-140	224.6	8.83	30	
Benzene	219.9	10	200	0	110	85-125	234.1	6.26	30	
Bromochloromethane	204.4	10	200	0	102	75-130	215.1	5.1	30	
Bromodichloromethane	171.9	10	200	0	86	75-125	184.5	7.07	30	
Bromoform	145.2	10	200	0	72.6	60-125	152.4	4.84	30	
Bromomethane	164.2	10	200	0	82.1	30-185	187.7	13.4	30	
Carbon disulfide	216.9	10	200	0	108	60-165	231.8	6.64	30	
Carbon tetrachloride	154.6	10	200	0	77.3	65-140	162.5	4.98	30	
Chlorobenzene	212.3	10	200	0	106	80-120	226.8	6.6	30	
Chloroethane	164.2	10	200	0	82.1	50-140	185.3	12.1	30	
Chloroform	182.6	10	200	0	91.3	80-130	191.8	4.91	30	
Chloromethane	174.5	10	200	0	87.2	50-130	179.5	2.82	30	
cis-1,2-Dichloroethene	186.4	10	200	0	93.2	75-134	199.8	6.94	30	
cis-1,3-Dichloropropene	183.4	10	200	0	91.7	70-130	195.6	6.44	30	
Dibromochloromethane	154.8	10	200	0	77.4	60-115	163.3	5.34	30	
Dibromomethane	196.7	10	200	0	98.4	85-125	207.6	5.39	30	
Dichlorodifluoromethane	137.6	10	200	0	68.8	20-120	149.1	8.02	30	
Ethylbenzene	212	10	200	0	106	85-125	225.8	6.3	30	
Hexachloroethane	111.2	10	200	0	55.6	50-124	108	2.92	30	
Isopropylbenzene	215.6	10	200	0	108	80-127	227.9	5.55	30	
m,p-Xylene	428.1	20	400	0	107	75-130	445.8	4.05	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608284
 Project: ECT (Hartland - 13800 Lone Tree Rd)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7		Method: SW8260B							
Methyl iodide	247.4	10	200	0	124	60-160	282	13.1	30	
Methyl tert-butyl ether	199	10	200	0	99.5	80-130	211	5.85	30	
Methylene chloride	206	50	200	0	103	75-140	218.8	6.03	30	
Naphthalene	204.1	50	200	0	102	55-160	216.1	5.71	30	
n-Propylbenzene	206.4	10	200	0	103	78-120	219.2	6.02	30	
o-Xylene	203.4	10	200	0	102	80-125	218.1	6.98	30	
Styrene	219.8	10	200	0	110	85-125	232.8	5.74	30	
Tetrachloroethene	290.1	10	200	0	145	77-138	318.4	9.3	30	S
Toluene	210.6	10	200	0	105	85-125	225	6.61	30	
trans-1,2-Dichloroethene	208.6	10	200	0	104	80-140	222.5	6.45	30	
trans-1,3-Dichloropropene	162	10	200	0	81	81-123	174.7	7.54	30	
trans-1,4-Dichloro-2-butene	129.9	20	200	0	65	46-118	136	4.59	30	
Trichloroethene	215.2	10	200	0	108	84-130	228.6	6.04	30	
Trichlorofluoromethane	151.8	10	200	0	75.9	60-140	161.4	6.13	30	
Vinyl chloride	173.9	10	200	0	87	50-136	177.6	2.11	30	
Xylenes, Total	631.5	30	600	0	105	80-126	663.9	5	30	
<i>Surr: 1,2-Dichloroethane-d4</i>	167.5	0	200	0	83.8	75-120	166.8	0.419	30	
<i>Surr: 4-Bromofluorobenzene</i>	187.9	0	200	0	94	80-110	195.6	4.02	30	
<i>Surr: Dibromofluoromethane</i>	182.2	0	200	0	91.1	85-115	187	2.6	30	
<i>Surr: Toluene-d8</i>	196	0	200	0	98	85-110	197.9	0.965	30	

The following samples were analyzed in this batch:

1608284-01A

Client: Merit Energy
Project: ECT (Hartland - 13800 Lone Tree Rd)
WorkOrder: 1608284

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **05-Aug-16 09:30**

Work Order: **1608284**

Received by: **MEB**

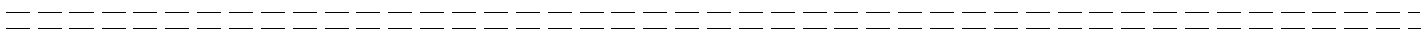
Checklist completed by Meghan Broadbent 05-Aug-16
eSignature Date

Reviewed by: Gary Byar 05-Aug-16
eSignature Date

Matrices: water
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>2.4/2.4</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>8/5/2016 10:24:43 AM</u>		
Water - VOA vials have zero headspace?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<u></u>		

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



RETURN SAMPLES TO:
 ALS Environmental
 781 Industrial Cir, Ste 3
 Traverse City, Michigan 49686
 (Tel) 231.421.3204
 (Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

ALS Environmental
 3352 128th Avenue
 Holland, Michigan 49424
 (Tel) 616.399.6070
 (Fax) 616.399.6185

Customer Information			Project Information				Parameter/Method Request for Analysis										
Purchase Order		Project Name	Hartland 36 Gas Plant		A	Full VOCs 8280					(2) 40 ml vials w HCL						
Work Order		Project Number			B	Sulfolane & DIPA 8270					(2) Amber Liters						
Company Name	ECT, Inc.	Bill To Company	MEC		C												
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven		D												
Address	3399 Veterans Dr.	Address	1510 Thomas Rd		E	RUSH											
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI		F												
Phone	231-946-8200	Phone	231-258-6389		G												
Fax	231-946-8208	Fax			H												
e-Mail Address	jl Lewandowski@ectinc.com				I												
					J												
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
	13800 LONE TREE RD	8-3-16	1502	GW	1	4	X	X									
Sampler(s): Please Print & Sign <i>Jeremy Lewandowski</i>		Shipment Method:		Required Turnaround Time: (Check Box)				Results Due Date:									
				<input type="checkbox"/> 10 Wk Days <input type="checkbox"/> 5-7 Wk Days <input checked="" type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour													
Relinquished by: <i>ECT SAME STORAGE</i>		Date: 8-3-16	Time: 2130	Received by: <i>ECT SAME STORAGE</i>		Date: 8-3-16	Time: 2130	Notes: <i>Rec'd by Lab: M. Orsatti</i> 8/5/16 930									
		Date: 8-4-16	Time: 1130			Date: 8-4-16	Time: 1130	ALS Project: MERITENERGY - Misc									
Relinquished by: <i>[Signature]</i>		Date: 8-4-16	Time: 1215	Re-Checked by (Laboratory): <i>[Signature]</i>		Date: 8/4/16	Time: 12:15	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)							
									29C	<input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data <input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV: SW846 Methods/CLP like <input type="checkbox"/> Other:							
Logged by (Laboratory): <i>MB</i>		Date: 8/5/16	Time: 1023	Checked by (Laboratory): <i>GRB</i>													
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other							8-4°C										

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.



21-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 12780 Lone Tree Rd.)**

Work Order: **1609818**

Dear Sean,

ALS Environmental received 1 sample on 15-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 12780 Lone Tree Rd.)
Work Order: 1609818

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609818-01	12780 Lone Tree Rd.	Water		9/14/2016 10:34	9/15/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 21-Sep-16

Client: Merit Energy**Project:** ECT (Merit - 12780 Lone Tree Rd.)**Work Order:** 1609818**Sample ID:** 12780 Lone Tree Rd.**Lab ID:** 1609818-01**Collection Date:** 9/14/2016 10:34 AM**Matrix:** WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/20/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/20/2016 09:52 PM
Surr: 2,4,6-Tribromophenol	53.6		38-115	%REC	1	9/20/2016 09:52 PM
Surr: 2-Fluorobiphenyl	51.8		32-100	%REC	1	9/20/2016 09:52 PM
Surr: 2-Fluorophenol	31.3		22-59	%REC	1	9/20/2016 09:52 PM
Surr: 4-Terphenyl-d14	62.2		23-112	%REC	1	9/20/2016 09:52 PM
Surr: Nitrobenzene-d5	51.2		31-93	%REC	1	9/20/2016 09:52 PM
Surr: Phenol-d6	19.3		13-36	%REC	1	9/20/2016 09:52 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
 Work Order: 1609818
 Project: ECT (Merit - 12780 Lone Tree Rd.)

QC BATCH REPORT

Batch ID: **91632** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91632-91632				Units: µg/L		Analysis Date: 9/20/2016 08:14 PM			
Client ID:		Run ID: SVMS8_160920A				SeqNo: 4038986		Prep Date: 9/20/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
<i>Surr: 2,4,6-Tribromophenol</i>	32.38	0	50	0	64.8	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	27.78	0	50	0	55.6	32-100	0				
<i>Surr: 2-Fluorophenol</i>	18.06	0	50	0	36.1	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	32.47	0	50	0	64.9	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	26.59	0	50	0	53.2	31-93	0				
<i>Surr: Phenol-d6</i>	11.3	0	50	0	22.6	13-36	0				

LCS		Sample ID: SLCSW1-91632-91632				Units: µg/L		Analysis Date: 9/20/2016 08:34 PM			
Client ID:		Run ID: SVMS8_160920A				SeqNo: 4038987		Prep Date: 9/20/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	65.13	10	100	0	65.1	30-100	0				
<i>Surr: 2,4,6-Tribromophenol</i>	37.32	0	50	0	74.6	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	33.25	0	50	0	66.5	32-100	0				
<i>Surr: 2-Fluorophenol</i>	19.89	0	50	0	39.8	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	34.73	0	50	0	69.5	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	32.45	0	50	0	64.9	31-93	0				
<i>Surr: Phenol-d6</i>	13.43	0	50	0	26.9	13-36	0				

LCSD		Sample ID: SLCSDW1-91632-91632				Units: µg/L		Analysis Date: 9/20/2016 08:53 PM			
Client ID:		Run ID: SVMS8_160920A				SeqNo: 4038988		Prep Date: 9/20/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	53.64	10	100	0	53.6	30-100	65.13	19.3	30		
<i>Surr: 2,4,6-Tribromophenol</i>	37.96	0	50	0	75.9	38-115	37.32	1.7	30		
<i>Surr: 2-Fluorobiphenyl</i>	34.35	0	50	0	68.7	32-100	33.25	3.25	30		
<i>Surr: 2-Fluorophenol</i>	20.18	0	50	0	40.4	22-59	19.89	1.45	30		
<i>Surr: 4-Terphenyl-d14</i>	35.47	0	50	0	70.9	23-112	34.73	2.11	30		
<i>Surr: Nitrobenzene-d5</i>	32.05	0	50	0	64.1	31-93	32.45	1.24	30		
<i>Surr: Phenol-d6</i>	13.29	0	50	0	26.6	13-36	13.43	1.05	30		

The following samples were analyzed in this batch: 1609818-01A

Client: Merit Energy
Project: ECT (Merit - 12780 Lone Tree Rd.)
WorkOrder: 1609818

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **15-Sep-16 10:00**

Work Order: **1609818**

Received by: **MBB**

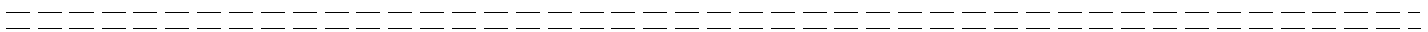
Checklist completed by Meghan Broadbent 15-Sep-16
eSignature Date

Reviewed by: Gary Byar 15-Sep-16
eSignature Date

Matrices: water
Carrier name: UPS

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No
- Sample(s) received on ice? Yes No
- Temperature(s)/Thermometer(s):
- Cooler(s)/Kit(s):
- Date/Time sample(s) sent to storage:
- Water - VOA vials have zero headspace? Yes No No VOA vials submitted
- Water - pH acceptable upon receipt? Yes No N/A
- pH adjusted? Yes No N/A
- pH adjusted by:

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



ALS Environmental
 781 Industrial Cir, Ste 3
 Traverse City, Michigan 49686
 (Tel) 231.421.3204
 (Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
 ALS Environmental
 3352 128th Avenue
 Holland, Michigan 49424
 (Tel) 616.399.6070
 (Fax) 616.399.6185

ALS Project Manager: Gary Byar		ALS Work Order #: 1609818																	
Customer Information				Project Information				Parameter/Method Request for Analysis											
Purchase Order		Project Name	Hartland 36 Gas Plant	A	Sulfolane (1) Amber Liter														
Work Order		Project Number		B															
Company Name	ECT, Inc.	Bill To Company	MEC	C															
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven	D															
Address	3399 Veterans Dr.	Address	1510 Thomas Rd	E															
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI	F															
Phone	231-946-8200	Phone	231-258-6369	G															
Fax	231-946-8208	Fax		H															
e-Mail Address	jlwandowski@ectinc.com			I															
				J															
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold		
	12780 Love Tree	9/14/16	1034	Water	8	1	X												
Sampler(s): Please Print & Sign <i>JAMES KIMBLE</i>		Shipment Method: UPS Ground		Required Turnaround Time: (Check Box) <input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				Other: _____		Results Due Date: _____									
Relinquished by: <i>JAMES KIMBLE</i>		Date: 9/14/16	Time: 1625	Received by:		Date:	Time:	Notes: ALS Project: MERITENERGY - Misc											
Relinquished by:		Date: 9/15/16	Time: 1000	Received by (Laboratory): <i>MB</i>		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)									
Logged by (Laboratory): <i>MB</i>		Date: 9/15/16	Time: 1244	Checked by (Laboratory): <i>GRB</i>					36	<input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data <input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV: SW846 Methods/CLP like <input type="checkbox"/> Other: _____									
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C																			

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.



21-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 931 N. Pleasant Valley Rd.)**

Work Order: **1609814**

Dear Sean,

ALS Environmental received 1 sample on 15-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 931 N. Pleasant Valley Rd.)
Work Order: 1609814

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609814-01	931 N. Pleasant Valley Rd.	Water		9/14/2016 08:45	9/15/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 21-Sep-16

Client: Merit Energy

Project: ECT (Merit - 931 N. Pleasant Valley Rd.)

Work Order: 1609814

Sample ID: 931 N. Pleasant Valley Rd.

Lab ID: 1609814-01

Collection Date: 9/14/2016 08:45 AM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/20/16	Analyst: RM
Sulfolane	ND		11	µg/L	1	9/20/2016 09:13 PM
Surr: 2,4,6-Tribromophenol	65.6		38-115	%REC	1	9/20/2016 09:13 PM
Surr: 2-Fluorobiphenyl	58.8		32-100	%REC	1	9/20/2016 09:13 PM
Surr: 2-Fluorophenol	33.8		22-59	%REC	1	9/20/2016 09:13 PM
Surr: 4-Terphenyl-d14	66.0		23-112	%REC	1	9/20/2016 09:13 PM
Surr: Nitrobenzene-d5	72.2		31-93	%REC	1	9/20/2016 09:13 PM
Surr: Phenol-d6	22.1		13-36	%REC	1	9/20/2016 09:13 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy

QC BATCH REPORT

Work Order: 1609814

Project: ECT (Merit - 931 N. Pleasant Valley Rd.)

Batch ID: **91632**

Instrument ID **SVMS8**

Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91632-91632				Units: µg/L		Analysis Date: 9/20/2016 08:14 PM			
Client ID:		Run ID: SVMS8_160920A				SeqNo: 4038986		Prep Date: 9/20/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
<i>Surr: 2,4,6-Tribromophenol</i>	32.38	0	50	0	64.8	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	27.78	0	50	0	55.6	32-100	0				
<i>Surr: 2-Fluorophenol</i>	18.06	0	50	0	36.1	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	32.47	0	50	0	64.9	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	26.59	0	50	0	53.2	31-93	0				
<i>Surr: Phenol-d6</i>	11.3	0	50	0	22.6	13-36	0				

LCS		Sample ID: SLCSW1-91632-91632				Units: µg/L		Analysis Date: 9/20/2016 08:34 PM			
Client ID:		Run ID: SVMS8_160920A				SeqNo: 4038987		Prep Date: 9/20/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	65.13	10	100	0	65.1	30-100	0				
<i>Surr: 2,4,6-Tribromophenol</i>	37.32	0	50	0	74.6	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	33.25	0	50	0	66.5	32-100	0				
<i>Surr: 2-Fluorophenol</i>	19.89	0	50	0	39.8	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	34.73	0	50	0	69.5	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	32.45	0	50	0	64.9	31-93	0				
<i>Surr: Phenol-d6</i>	13.43	0	50	0	26.9	13-36	0				

LCSD		Sample ID: SLCSDW1-91632-91632				Units: µg/L		Analysis Date: 9/20/2016 08:53 PM			
Client ID:		Run ID: SVMS8_160920A				SeqNo: 4038988		Prep Date: 9/20/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	53.64	10	100	0	53.6	30-100	65.13	19.3	30		
<i>Surr: 2,4,6-Tribromophenol</i>	37.96	0	50	0	75.9	38-115	37.32	1.7	30		
<i>Surr: 2-Fluorobiphenyl</i>	34.35	0	50	0	68.7	32-100	33.25	3.25	30		
<i>Surr: 2-Fluorophenol</i>	20.18	0	50	0	40.4	22-59	19.89	1.45	30		
<i>Surr: 4-Terphenyl-d14</i>	35.47	0	50	0	70.9	23-112	34.73	2.11	30		
<i>Surr: Nitrobenzene-d5</i>	32.05	0	50	0	64.1	31-93	32.45	1.24	30		
<i>Surr: Phenol-d6</i>	13.29	0	50	0	26.6	13-36	13.43	1.05	30		

The following samples were analyzed in this batch:

1609814-01A

Client: Merit Energy
Project: ECT (Merit - 931 N. Pleasant Valley Rd.)
WorkOrder: 1609814

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **15-Sep-16 10:00**

Work Order: **1609814**

Received by: **MBB**

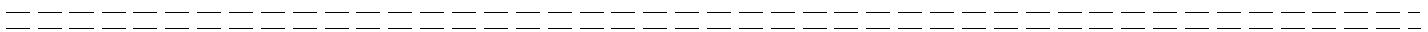
Checklist completed by Meghan Broadbent 15-Sep-16
eSignature Date

Reviewed by: Gary Byar 15-Sep-16
eSignature Date

Matrices: water
Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.6/3.6</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>9/15/2016 12:39:50 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<u></u>		

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



ALS Environmental
781 Industrial Cir, Ste 3
Traverse City, Michigan 49688
(Tel) 231.421.3204
(Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

Customer Information		Project Information					Parameter/Method Request for Analysis										
Purchase Order		Project Name	Hartland 38 Gas Plant			A	Sulfolane (1) Amber Liter										
Work Order		Project Number				B											
Company Name	ECT, Inc.	Bill To Company	MEC			C											
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven			D											
Address	3399 Veterans Dr.	Address	1510 Thomas Rd			E											
						F											
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI			G											
Phone	231-946-8200	Phone	231-258-6369			H											
Fax	231-946-8208	Fax				I											
e-Mail Address	jlewandowski@ectinc.com					J											
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
	931 N. Pleasant valley	9/14/16	0845	Water	8	1	X										
Sampler(s): Please Print & Sign <i>James K... James K...</i>		Shipment Method: UPS Ground		Required Turnaround Time: (Check Box) <input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				Other: _____		Results Due Date:							
Relinquished by: <i>James K...</i>		Date: 9/14/16	Time: 1625	Received by:		Date:	Time:	Notes: ALS Project: MERTENERGY - Misc									
Relinquished by:		Date: 9/15/16	Time: 1000	Received by (Laboratory): <i>MB</i>		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)							
Logged by (Laboratory): <i>MB</i>		Date: 9/15/16	Time: 1238	Checked by (Laboratory): <i>GRB</i>					3.6	<input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data							
										<input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV							
										<input type="checkbox"/> Level IV: SW846 Methods/CLP like							
										<input type="checkbox"/> Other: _____							
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C											Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.						



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 807 N. Pleasant Valley Rd.)**

Work Order: **1609819**

Dear Sean,

ALS Environmental received 1 sample on 15-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 807 N. Pleasant Valley Rd.)
Work Order: 1609819

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609819-01	807 N. Pleasant Valley Rd.	Water		9/14/2016 12:35	9/15/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy

Project: ECT (Merit - 807 N. Pleasant Valley Rd.)

Sample ID: 807 N. Pleasant Valley Rd.

Collection Date: 9/14/2016 12:35 PM

Work Order: 1609819

Lab ID: 1609819-01

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/20/16	Analyst: RM
Sulfolane	ND		11	µg/L	1	9/20/2016 10:12 PM
Surr: 2,4,6-Tribromophenol	63.9		38-115	%REC	1	9/20/2016 10:12 PM
Surr: 2-Fluorobiphenyl	58.2		32-100	%REC	1	9/20/2016 10:12 PM
Surr: 2-Fluorophenol	37.9		22-59	%REC	1	9/20/2016 10:12 PM
Surr: 4-Terphenyl-d14	67.2		23-112	%REC	1	9/20/2016 10:12 PM
Surr: Nitrobenzene-d5	60.5		31-93	%REC	1	9/20/2016 10:12 PM
Surr: Phenol-d6	24.5		13-36	%REC	1	9/20/2016 10:12 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
Work Order: 1609819
Project: ECT (Merit - 807 N. Pleasant Valley Rd.)

QC BATCH REPORT

Batch ID: **91632** Instrument ID: **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91632-91632				Units: µg/L		Analysis Date: 9/20/2016 08:14 PM		
Client ID:		Run ID: SVMS8_160920A		SeqNo: 4038986		Prep Date: 9/20/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	ND	10								
<i>Surr: 2,4,6-Tribromophenol</i>	32.38	0	50	0	64.8	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	27.78	0	50	0	55.6	32-100	0			
<i>Surr: 2-Fluorophenol</i>	18.06	0	50	0	36.1	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	32.47	0	50	0	64.9	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	26.59	0	50	0	53.2	31-93	0			
<i>Surr: Phenol-d6</i>	11.3	0	50	0	22.6	13-36	0			

LCS		Sample ID: SLCSW1-91632-91632				Units: µg/L		Analysis Date: 9/20/2016 08:34 PM		
Client ID:		Run ID: SVMS8_160920A		SeqNo: 4038987		Prep Date: 9/20/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	65.13	10	100	0	65.1	30-100	0			
<i>Surr: 2,4,6-Tribromophenol</i>	37.32	0	50	0	74.6	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	33.25	0	50	0	66.5	32-100	0			
<i>Surr: 2-Fluorophenol</i>	19.89	0	50	0	39.8	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	34.73	0	50	0	69.5	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	32.45	0	50	0	64.9	31-93	0			
<i>Surr: Phenol-d6</i>	13.43	0	50	0	26.9	13-36	0			

LCSD		Sample ID: SLCSDW1-91632-91632				Units: µg/L		Analysis Date: 9/20/2016 08:53 PM		
Client ID:		Run ID: SVMS8_160920A		SeqNo: 4038988		Prep Date: 9/20/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	53.64	10	100	0	53.6	30-100	65.13	19.3	30	
<i>Surr: 2,4,6-Tribromophenol</i>	37.96	0	50	0	75.9	38-115	37.32	1.7	30	
<i>Surr: 2-Fluorobiphenyl</i>	34.35	0	50	0	68.7	32-100	33.25	3.25	30	
<i>Surr: 2-Fluorophenol</i>	20.18	0	50	0	40.4	22-59	19.89	1.45	30	
<i>Surr: 4-Terphenyl-d14</i>	35.47	0	50	0	70.9	23-112	34.73	2.11	30	
<i>Surr: Nitrobenzene-d5</i>	32.05	0	50	0	64.1	31-93	32.45	1.24	30	
<i>Surr: Phenol-d6</i>	13.29	0	50	0	26.6	13-36	13.43	1.05	30	

The following samples were analyzed in this batch: 1609819-01A

Client: Merit Energy
Project: ECT (Merit - 807 N. Pleasant Valley Rd.)
WorkOrder: 1609819

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCS D	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **15-Sep-16 10:00**

Work Order: **1609819**

Received by: **MBB**

Checklist completed by Megan Broadbent 15-Sep-16
eSignature Date

Reviewed by: Gary Byar 15-Sep-16
eSignature Date

Matrices: water

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.6/3.6</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>9/15/2016 12:48:23 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<u></u>		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 2130 Stone Barn)**

Work Order: **1609729**

Dear Sean,

ALS Environmental received 1 sample on 14-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 2130 Stone Barn)
Work Order: 1609729

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609729-01	2130 Stone Barn Rd.	Water		9/13/2016 11:35	9/14/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy
Project: ECT (Merit - 2130 Stone Barn)
Sample ID: 2130 Stone Barn Rd.
Collection Date: 9/13/2016 11:35 AM

Work Order: 1609729
Lab ID: 1609729-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/15/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/18/2016 11:08 PM
Surr: 2,4,6-Tribromophenol	54.7		38-115	%REC	1	9/18/2016 11:08 PM
Surr: 2-Fluorobiphenyl	47.4		32-100	%REC	1	9/18/2016 11:08 PM
Surr: 2-Fluorophenol	32.3		22-59	%REC	1	9/18/2016 11:08 PM
Surr: 4-Terphenyl-d14	63.3		23-112	%REC	1	9/18/2016 11:08 PM
Surr: Nitrobenzene-d5	46.3		31-93	%REC	1	9/18/2016 11:08 PM
Surr: Phenol-d6	18.7		13-36	%REC	1	9/18/2016 11:08 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
 Work Order: 1609729
 Project: ECT (Merit - 2130 Stone Barn)

QC BATCH REPORT

Batch ID: **91411** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:03 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038350		Prep Date: 9/15/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
<i>Surr: 2,4,6-Tribromophenol</i>	27.6	0	50	0	55.2	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	25.19	0	50	0	50.4	32-100	0				
<i>Surr: 2-Fluorophenol</i>	15.86	0	50	0	31.7	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	32.97	0	50	0	65.9	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	24.52	0	50	0	49	31-93	0				
<i>Surr: Phenol-d6</i>	9.85	0	50	0	19.7	13-36	0				

LCS		Sample ID: SLCSW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:23 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038351		Prep Date: 9/15/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	56.19	10	100	0	56.2	30-100	0				
<i>Surr: 2,4,6-Tribromophenol</i>	34.23	0	50	0	68.5	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	32.05	0	50	0	64.1	32-100	0				
<i>Surr: 2-Fluorophenol</i>	19.67	0	50	0	39.3	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	38.75	0	50	0	77.5	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	34.48	0	50	0	69	31-93	0				
<i>Surr: Phenol-d6</i>	11.72	0	50	0	23.4	13-36	0				

LCSD		Sample ID: SLCSDW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:43 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038352		Prep Date: 9/15/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	56.47	10	100	0	56.5	30-100	56.19	0.497	30		
<i>Surr: 2,4,6-Tribromophenol</i>	35.01	0	50	0	70	38-115	34.23	2.25	30		
<i>Surr: 2-Fluorobiphenyl</i>	34.71	0	50	0	69.4	32-100	32.05	7.97	30		
<i>Surr: 2-Fluorophenol</i>	18.78	0	50	0	37.6	22-59	19.67	4.63	30		
<i>Surr: 4-Terphenyl-d14</i>	44.18	0	50	0	88.4	23-112	38.75	13.1	30		
<i>Surr: Nitrobenzene-d5</i>	34.43	0	50	0	68.9	31-93	34.48	0.145	30		
<i>Surr: Phenol-d6</i>	10.96	0	50	0	21.9	13-36	11.72	6.7	30		

The following samples were analyzed in this batch: 1609729-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Project: ECT (Merit - 2130 Stone Barn)
WorkOrder: 1609729

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **14-Sep-16 10:00**

Work Order: **1609729**

Received by: **MBB**

Checklist completed by Meghan Broadbent 14-Sep-16
eSignature Date

Reviewed by: Gary Byar 14-Sep-16
eSignature Date

Matrices: water
Carrier name: UPS

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No
- Sample(s) received on ice? Yes No

Temperature(s)/Thermometer(s): 3.2/3.2 SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 9/14/2016 2:34:33 PM

Water - VOA vials have zero headspace? Yes No No VOA vials submitted

Water - pH acceptable upon receipt? Yes No N/A

pH adjusted? Yes No N/A

pH adjusted by:

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 14001 Cherry Blossom Ln)**

Work Order: **1609727**

Dear Sean,

ALS Environmental received 1 sample on 14-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

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Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 14001 Cherry Blossom Ln)
Work Order: 1609727

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609727-01	14001 Cherry Blossom Ln	Water		9/13/2016 10:30	9/14/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy

Project: ECT (Merit - 14001 Cherry Blossom Ln)

Work Order: 1609727

Sample ID: 14001 Cherry Blossom Ln

Lab ID: 1609727-01

Collection Date: 9/13/2016 10:30 AM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/15/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/18/2016 10:48 PM
Surr: 2,4,6-Tribromophenol	53.1		38-115	%REC	1	9/18/2016 10:48 PM
Surr: 2-Fluorobiphenyl	49.2		32-100	%REC	1	9/18/2016 10:48 PM
Surr: 2-Fluorophenol	30.7		22-59	%REC	1	9/18/2016 10:48 PM
Surr: 4-Terphenyl-d14	65.6		23-112	%REC	1	9/18/2016 10:48 PM
Surr: Nitrobenzene-d5	49.6		31-93	%REC	1	9/18/2016 10:48 PM
Surr: Phenol-d6	19.0		13-36	%REC	1	9/18/2016 10:48 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
 Work Order: 1609727
 Project: ECT (Merit - 14001 Cherry Blossom Ln)

QC BATCH REPORT

Batch ID: **91411** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:03 PM			
Client ID:		Run ID: SVMS8_160918A				SeqNo: 4038350		Prep Date: 9/15/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
Surr: 2,4,6-Tribromophenol	27.6	0	50	0	55.2	38-115	0				
Surr: 2-Fluorobiphenyl	25.19	0	50	0	50.4	32-100	0				
Surr: 2-Fluorophenol	15.86	0	50	0	31.7	22-59	0				
Surr: 4-Terphenyl-d14	32.97	0	50	0	65.9	23-112	0				
Surr: Nitrobenzene-d5	24.52	0	50	0	49	31-93	0				
Surr: Phenol-d6	9.85	0	50	0	19.7	13-36	0				

LCS		Sample ID: SLCSW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:23 PM			
Client ID:		Run ID: SVMS8_160918A				SeqNo: 4038351		Prep Date: 9/15/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	56.19	10	100	0	56.2	30-100	0				
Surr: 2,4,6-Tribromophenol	34.23	0	50	0	68.5	38-115	0				
Surr: 2-Fluorobiphenyl	32.05	0	50	0	64.1	32-100	0				
Surr: 2-Fluorophenol	19.67	0	50	0	39.3	22-59	0				
Surr: 4-Terphenyl-d14	38.75	0	50	0	77.5	23-112	0				
Surr: Nitrobenzene-d5	34.48	0	50	0	69	31-93	0				
Surr: Phenol-d6	11.72	0	50	0	23.4	13-36	0				

LCSD		Sample ID: SLCSDW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:43 PM			
Client ID:		Run ID: SVMS8_160918A				SeqNo: 4038352		Prep Date: 9/15/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	56.47	10	100	0	56.5	30-100	56.19	0.497	30		
Surr: 2,4,6-Tribromophenol	35.01	0	50	0	70	38-115	34.23	2.25	30		
Surr: 2-Fluorobiphenyl	34.71	0	50	0	69.4	32-100	32.05	7.97	30		
Surr: 2-Fluorophenol	18.78	0	50	0	37.6	22-59	19.67	4.63	30		
Surr: 4-Terphenyl-d14	44.18	0	50	0	88.4	23-112	38.75	13.1	30		
Surr: Nitrobenzene-d5	34.43	0	50	0	68.9	31-93	34.48	0.145	30		
Surr: Phenol-d6	10.96	0	50	0	21.9	13-36	11.72	6.7	30		

The following samples were analyzed in this batch: 1609727-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Project: ECT (Merit - 14001 Cherry Blossom Ln)
WorkOrder: 1609727

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **14-Sep-16 10:00**

Work Order: **1609727**

Received by: **MBB**

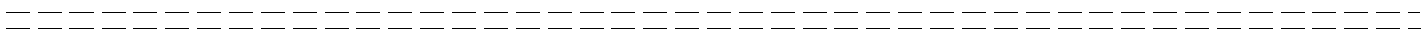
Checklist completed by Meghan Broadbent 14-Sep-16
eSignature Date

Reviewed by: Gary Byar 14-Sep-16
eSignature Date

Matrices: water
Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<input type="text" value="3.0/3.0"/>		<input type="text" value="SR2"/>
Cooler(s)/Kit(s):	<input type="text"/>		
Date/Time sample(s) sent to storage:	<input type="text" value="9/14/2016 2:32:44 PM"/>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<input type="text"/>		

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



ALS Environmental
781 Industrial Cir, Ste 3
Traverse City, Michigan 49686
(Tel) 231.421.3204
(Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

Customer Information				Project Information				Parameter/Method Request for Analysis									
Purchase Order		Project Name	Hartland 36 Gas Plant	A	Sulfolane (1) Amber Liter												
Work Order		Project Number		B													
Company Name	ECT, Inc.	Bill To Company	MEC	C													
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven	D													
Address	3389 Veterans Dr.	Address	1510 Thomas Rd	E													
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI	F													
Phone	231-946-8200	Phone	231-258-6369	G													
Fax	231-946-8208	Fax		H													
e-Mail Address	jlewandowski@ectinc.com			I													
				J													
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
	14001 Cherry Blossom Ln	9/13/16	1030	Water	B	1	X										
Sampler(s): Please Print & Sign				Shipment Method: UPS Ground		Required Turnaround Time: (Check Box)				Results Due Date:							
						<input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour											
Relinquished by:		Date:	Time:	Received by:		Date:	Time:	Notes:									
<i>[Signature]</i>		9/13/16	1015					ALS Project MERITENERGY - Misc									
Relinquished by:		Date:	Time:	Received by (Laboratory):		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)							
<i>[Signature]</i>		9/14/16	1000	<i>[Signature]</i>					3.0	<input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data <input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV: SW846 Methods/CLP like <input type="checkbox"/> Other:							
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):													
<i>[Signature]</i>		9/14/16	1430	<i>[Signature]</i>													
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C																	
Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.																	



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 2272 Stone Barn)**

Work Order: **1609730**

Dear Sean,

ALS Environmental received 1 sample on 14-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 2272 Stone Barn)
Work Order: 1609730

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609730-01	2272 Stone Barn Rd.	Water		9/13/2016 12:30	9/14/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy
Project: ECT (Merit - 2272 Stone Barn)
Sample ID: 2272 Stone Barn Rd.
Collection Date: 9/13/2016 12:30 PM

Work Order: 1609730
Lab ID: 1609730-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/16/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/19/2016 12:16 AM
Surr: 2,4,6-Tribromophenol	58.9		38-115	%REC	1	9/19/2016 12:16 AM
Surr: 2-Fluorobiphenyl	56.1		32-100	%REC	1	9/19/2016 12:16 AM
Surr: 2-Fluorophenol	30.8		22-59	%REC	1	9/19/2016 12:16 AM
Surr: 4-Terphenyl-d14	67.2		23-112	%REC	1	9/19/2016 12:16 AM
Surr: Nitrobenzene-d5	55.2		31-93	%REC	1	9/19/2016 12:16 AM
Surr: Phenol-d6	17.0		13-36	%REC	1	9/19/2016 12:16 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
 Work Order: 1609730
 Project: ECT (Merit - 2272 Stone Barn)

QC BATCH REPORT

Batch ID: **91481** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:03 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038353		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
<i>Surr: 2,4,6-Tribromophenol</i>	30.02	0	50	0	60	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	31.92	0	50	0	63.8	32-100	0				
<i>Surr: 2-Fluorophenol</i>	18.02	0	50	0	36	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	35.62	0	50	0	71.2	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	32.13	0	50	0	64.3	31-93	0				
<i>Surr: Phenol-d6</i>	9.75	0	50	0	19.5	13-36	0				

LCS		Sample ID: SLCSW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:23 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038354		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	52.35	10	100	0	52.4	30-100	0				
<i>Surr: 2,4,6-Tribromophenol</i>	35.21	0	50	0	70.4	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	31.44	0	50	0	62.9	32-100	0				
<i>Surr: 2-Fluorophenol</i>	17.86	0	50	0	35.7	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	37.56	0	50	0	75.1	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	33.06	0	50	0	66.1	31-93	0				
<i>Surr: Phenol-d6</i>	10.51	0	50	0	21	13-36	0				

LCSD		Sample ID: SLCSDW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:43 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038355		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	59.44	10	100	0	59.4	30-100	52.35	12.7	30		
<i>Surr: 2,4,6-Tribromophenol</i>	32.69	0	50	0	65.4	38-115	35.21	7.42	30		
<i>Surr: 2-Fluorobiphenyl</i>	35.15	0	50	0	70.3	32-100	31.44	11.1	30		
<i>Surr: 2-Fluorophenol</i>	20.65	0	50	0	41.3	22-59	17.86	14.5	30		
<i>Surr: 4-Terphenyl-d14</i>	37.72	0	50	0	75.4	23-112	37.56	0.425	30		
<i>Surr: Nitrobenzene-d5</i>	31.01	0	50	0	62	31-93	33.06	6.4	30		
<i>Surr: Phenol-d6</i>	12.14	0	50	0	24.3	13-36	10.51	14.4	30		

The following samples were analyzed in this batch: 1609730-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Project: ECT (Merit - 2272 Stone Barn)
WorkOrder: 1609730

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **14-Sep-16 10:00**

Work Order: **1609730**

Received by: **MBB**

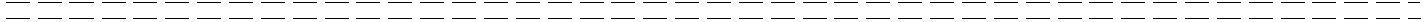
Checklist completed by Meghan Broadbent 14-Sep-16
eSignature Date

Reviewed by: Gary Byar 14-Sep-16
eSignature Date

Matrices: water
Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.2/3.2</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<input type="text"/>		
Date/Time sample(s) sent to storage:	<u>9/14/2016 2:36:17 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<input type="text"/>		

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



ALS Environmental
781 Industrial Cir, Ste 3
Traverse City, Michigan 49686
(Tel) 231.421.3204
(Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

ALS Project Manager: Gary Byar		ALS Work Order #: 1169730																
Customer Information		Project Information		Parameter/Method Request for Analysis														
Purchase Order		Project Name	Hartland 36 Gas Plant	A	Sulfolane													(1) Amber Liter
Work Order		Project Number		B														
Company Name	ECT, Inc.	Bill To Company	MEC	C														
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven	D														
Address	3399 Veterans Dr.	Address	1510 Thomas Rd	E														
				F														
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI	G														
Phone	231-946-8200	Phone	231-258-6369	H														
Fax	231-946-8208	Fax		I														
e-Mail Address	jlewandowski@ectinc.com			J														
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold	
	IL72 Stone Barn	9/13/16	1230	Water	8	1	X											
Sampler(s): Please Print & Sign		Shipment Method:		Required Turnaround Time: (Check Box)										Results Due Date:				
<i>Jason Bartholomew</i>		UPS Ground		<input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour														
Relinquished by:		Date:	Time:	Received by:		Date:	Time:	Notes:										
<i>Jason Bartholomew</i>		9/13/16	1240					ALS Project: MERITENERGY - Misc										
Relinquished by:		Date:	Time:	Received by (Laboratory):		Date:	Time:	ALS Cooler ID:	Cooler Temp:	QC Package: (Check Box Below)								
<i>Jason Bartholomew</i>		9/14/16	1000	<i>W. H. Beckett</i>					32	<input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data <input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV: SW846 Methods/CLP like <input type="checkbox"/> Other:								
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):														
<i>MB</i>		9/14/16	1435	<i>GRB</i>														
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C														Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.				



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 13841 Cherry Blossom Ln)**

Work Order: **1609724**

Dear Sean,

ALS Environmental received 1 sample on 14-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 13841 Cherry Blossom Ln)
Work Order: 1609724

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609724-01	13841 Cherry Blossom Ln	Water		9/13/2016 08:35	9/14/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy

Project: ECT (Merit - 13841 Cherry Blossom Ln)

Work Order: 1609724

Sample ID: 13841 Cherry Blossom Ln

Lab ID: 1609724-01

Collection Date: 9/13/2016 08:35 AM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/15/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/18/2016 10:09 PM
Surr: 2,4,6-Tribromophenol	58.1		38-115	%REC	1	9/18/2016 10:09 PM
Surr: 2-Fluorobiphenyl	53.7		32-100	%REC	1	9/18/2016 10:09 PM
Surr: 2-Fluorophenol	32.9		22-59	%REC	1	9/18/2016 10:09 PM
Surr: 4-Terphenyl-d14	70.1		23-112	%REC	1	9/18/2016 10:09 PM
Surr: Nitrobenzene-d5	55.1		31-93	%REC	1	9/18/2016 10:09 PM
Surr: Phenol-d6	19.0		13-36	%REC	1	9/18/2016 10:09 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
 Work Order: 1609724
 Project: ECT (Merit - 13841 Cherry Blossom Ln)

QC BATCH REPORT

Batch ID: 91411 Instrument ID SVMS8 Method: SW846 8270D

MBLK		Sample ID: SBLKW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:03 PM			
Client ID:		Run ID: SVMS8_160918A				SeqNo: 4038350		Prep Date: 9/15/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
Surr: 2,4,6-Tribromophenol	27.6	0	50	0	55.2	38-115	0				
Surr: 2-Fluorobiphenyl	25.19	0	50	0	50.4	32-100	0				
Surr: 2-Fluorophenol	15.86	0	50	0	31.7	22-59	0				
Surr: 4-Terphenyl-d14	32.97	0	50	0	65.9	23-112	0				
Surr: Nitrobenzene-d5	24.52	0	50	0	49	31-93	0				
Surr: Phenol-d6	9.85	0	50	0	19.7	13-36	0				

LCS		Sample ID: SLCSW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:23 PM			
Client ID:		Run ID: SVMS8_160918A				SeqNo: 4038351		Prep Date: 9/15/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	56.19	10	100	0	56.2	30-100	0				
Surr: 2,4,6-Tribromophenol	34.23	0	50	0	68.5	38-115	0				
Surr: 2-Fluorobiphenyl	32.05	0	50	0	64.1	32-100	0				
Surr: 2-Fluorophenol	19.67	0	50	0	39.3	22-59	0				
Surr: 4-Terphenyl-d14	38.75	0	50	0	77.5	23-112	0				
Surr: Nitrobenzene-d5	34.48	0	50	0	69	31-93	0				
Surr: Phenol-d6	11.72	0	50	0	23.4	13-36	0				

LCSD		Sample ID: SLCSDW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:43 PM			
Client ID:		Run ID: SVMS8_160918A				SeqNo: 4038352		Prep Date: 9/15/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	56.47	10	100	0	56.5	30-100	56.19	0.497	30		
Surr: 2,4,6-Tribromophenol	35.01	0	50	0	70	38-115	34.23	2.25	30		
Surr: 2-Fluorobiphenyl	34.71	0	50	0	69.4	32-100	32.05	7.97	30		
Surr: 2-Fluorophenol	18.78	0	50	0	37.6	22-59	19.67	4.63	30		
Surr: 4-Terphenyl-d14	44.18	0	50	0	88.4	23-112	38.75	13.1	30		
Surr: Nitrobenzene-d5	34.43	0	50	0	68.9	31-93	34.48	0.145	30		
Surr: Phenol-d6	10.96	0	50	0	21.9	13-36	11.72	6.7	30		

The following samples were analyzed in this batch: 1609724-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Project: ECT (Merit - 13841 Cherry Blossom Ln)
WorkOrder: 1609724

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **14-Sep-16 10:00**

Work Order: **1609724**

Received by: **MBB**

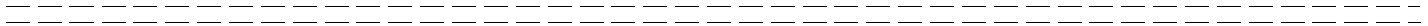
Checklist completed by Meghan Broadbent 14-Sep-16
eSignature Date

Reviewed by: Gary Byar 14-Sep-16
eSignature Date

Matrices: water
 Carrier name: UPS

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No
- Sample(s) received on ice? Yes No
- Temperature(s)/Thermometer(s):
- Cooler(s)/Kit(s):
- Date/Time sample(s) sent to storage:
- Water - VOA vials have zero headspace? Yes No No VOA vials submitted
- Water - pH acceptable upon receipt? Yes No N/A
- pH adjusted? Yes No N/A
- pH adjusted by:

Login Notes:



Client Contacted: _____ Date Contacted: _____ Person Contacted: _____

Contacted By: _____ Regarding: _____

Comments:

CorrectiveAction:



ALS Environmental
781 Industrial Cir, Ste 3
Traverse City, Michigan 49886
(Tel) 231.421.3204
(Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

Customer Information		Project Information				Parameter/Method Request for Analysis												
Purchase Order		Project Name	Hartland 36 Gas Plant			A	Sulfolane (1) Amber Liter											
Work Order		Project Number				B												
Company Name	ECT, Inc.	BID To Company	MEC			C												
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven			D												
Address	3399 Veterans Dr.	Address	1510 Thomas Rd			E												
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI			F												
Phone	231-946-8200	Phone	231-258-6369			G												
Fax	231-946-8208	Fax				H												
e-Mail Address	jlewandowski@ectinc.com					I												
						J												
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold	
	13841 Cherry Blossom Ln	9/13/16	0835	Water	8	1	X											
Sampler(s): Please Print & Sign <i>Jason Buttolone</i>		Shipment Method: UPS Ground		Required Turnaround Time: (Check Box) <input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				Other		Results Due Date:								
Relinquished by: <i>Jason Buttolone</i>		Date: 9/13/16	Time: 0835	Received by:		Date:	Time:	Notes: ALS Project: MERITENERGY - Misc										
Relinquished by: <i>MB</i>		Date: 9/14/16	Time: 1000	Received by (Laboratory): <i>MB</i>		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below) <input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data <input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV: SW846 Methods/CLP like <input type="checkbox"/> Other:								
Logged by (Laboratory): <i>MB</i>		Date: 9/14/16	Time: 1420	Checked by (Laboratory): <i>GRB</i>					32									
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other							8-4°C		Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.									



21-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 579 N. Pleasant Valley Rd.)**

Work Order: **1609816**

Dear Sean,

ALS Environmental received 1 sample on 15-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 579 N. Pleasant Valley Rd.)
Work Order: 1609816

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609816-01	579 N. Pleasant Valley Rd.	Water		9/14/2016 09:35	9/15/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 21-Sep-16

Client: Merit Energy

Project: ECT (Merit - 579 N. Pleasant Valley Rd.)

Work Order: 1609816

Sample ID: 579 N. Pleasant Valley Rd.

Lab ID: 1609816-01

Collection Date: 9/14/2016 09:35 AM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/20/16	Analyst: RM
Sulfolane	ND		11	µg/L	1	9/20/2016 09:33 PM
Surr: 2,4,6-Tribromophenol	61.5		38-115	%REC	1	9/20/2016 09:33 PM
Surr: 2-Fluorobiphenyl	56.7		32-100	%REC	1	9/20/2016 09:33 PM
Surr: 2-Fluorophenol	31.8		22-59	%REC	1	9/20/2016 09:33 PM
Surr: 4-Terphenyl-d14	65.8		23-112	%REC	1	9/20/2016 09:33 PM
Surr: Nitrobenzene-d5	68.5		31-93	%REC	1	9/20/2016 09:33 PM
Surr: Phenol-d6	20.4		13-36	%REC	1	9/20/2016 09:33 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
Work Order: 1609816
Project: ECT (Merit - 579 N. Pleasant Valley Rd.)

QC BATCH REPORT

Batch ID: **91632** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91632-91632				Units: µg/L		Analysis Date: 9/20/2016 08:14 PM			
Client ID:		Run ID: SVMS8_160920A				SeqNo: 4038986		Prep Date: 9/20/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
<i>Surr: 2,4,6-Tribromophenol</i>	32.38	0	50	0	64.8	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	27.78	0	50	0	55.6	32-100	0				
<i>Surr: 2-Fluorophenol</i>	18.06	0	50	0	36.1	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	32.47	0	50	0	64.9	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	26.59	0	50	0	53.2	31-93	0				
<i>Surr: Phenol-d6</i>	11.3	0	50	0	22.6	13-36	0				

LCS		Sample ID: SLCSW1-91632-91632				Units: µg/L		Analysis Date: 9/20/2016 08:34 PM			
Client ID:		Run ID: SVMS8_160920A				SeqNo: 4038987		Prep Date: 9/20/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	65.13	10	100	0	65.1	30-100	0				
<i>Surr: 2,4,6-Tribromophenol</i>	37.32	0	50	0	74.6	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	33.25	0	50	0	66.5	32-100	0				
<i>Surr: 2-Fluorophenol</i>	19.89	0	50	0	39.8	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	34.73	0	50	0	69.5	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	32.45	0	50	0	64.9	31-93	0				
<i>Surr: Phenol-d6</i>	13.43	0	50	0	26.9	13-36	0				

LCSD		Sample ID: SLCSDW1-91632-91632				Units: µg/L		Analysis Date: 9/20/2016 08:53 PM			
Client ID:		Run ID: SVMS8_160920A				SeqNo: 4038988		Prep Date: 9/20/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	53.64	10	100	0	53.6	30-100	65.13	19.3	30		
<i>Surr: 2,4,6-Tribromophenol</i>	37.96	0	50	0	75.9	38-115	37.32	1.7	30		
<i>Surr: 2-Fluorobiphenyl</i>	34.35	0	50	0	68.7	32-100	33.25	3.25	30		
<i>Surr: 2-Fluorophenol</i>	20.18	0	50	0	40.4	22-59	19.89	1.45	30		
<i>Surr: 4-Terphenyl-d14</i>	35.47	0	50	0	70.9	23-112	34.73	2.11	30		
<i>Surr: Nitrobenzene-d5</i>	32.05	0	50	0	64.1	31-93	32.45	1.24	30		
<i>Surr: Phenol-d6</i>	13.29	0	50	0	26.6	13-36	13.43	1.05	30		

The following samples were analyzed in this batch: 1609816-01A

Client: Merit Energy
Project: ECT (Merit - 579 N. Pleasant Valley Rd.)
WorkOrder: 1609816

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **15-Sep-16 10:00**

Work Order: **1609816**

Received by: **MBB**

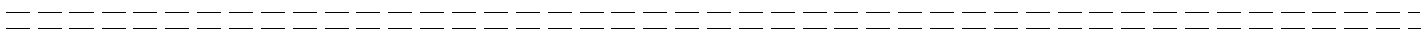
Checklist completed by Meghan Broadbent 15-Sep-16
eSignature Date

Reviewed by: Gary Byar 15-Sep-16
eSignature Date

Matrices: water
Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.6/3.6</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>9/15/2016 12:42:57 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<u></u>		

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 517 Golden Oaks)**

Work Order: **1609702**

Dear Sean,

ALS Environmental received 1 sample on 14-Sep-2016 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 517 Golden Oaks)
Work Order: 1609702

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609702-01	517 Golden Oaks	Water		9/13/2016 08:35	9/14/2016 09:30	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy
Project: ECT (Merit - 517 Golden Oaks)
Sample ID: 517 Golden Oaks
Collection Date: 9/13/2016 08:35 AM

Work Order: 1609702
Lab ID: 1609702-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/15/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/18/2016 07:10 PM
Surr: 2,4,6-Tribromophenol	50.1		38-115	%REC	1	9/18/2016 07:10 PM
Surr: 2-Fluorobiphenyl	55.6		32-100	%REC	1	9/18/2016 07:10 PM
Surr: 2-Fluorophenol	36.2		22-59	%REC	1	9/18/2016 07:10 PM
Surr: 4-Terphenyl-d14	66.4		23-112	%REC	1	9/18/2016 07:10 PM
Surr: Nitrobenzene-d5	53.6		31-93	%REC	1	9/18/2016 07:10 PM
Surr: Phenol-d6	19.7		13-36	%REC	1	9/18/2016 07:10 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
Work Order: 1609702
Project: ECT (Merit - 517 Golden Oaks)

QC BATCH REPORT

Batch ID: **91411** Instrument ID: **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:03 PM		
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038350		Prep Date: 9/15/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	ND	10								
<i>Surr: 2,4,6-Tribromophenol</i>	27.6	0	50	0	55.2	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	25.19	0	50	0	50.4	32-100	0			
<i>Surr: 2-Fluorophenol</i>	15.86	0	50	0	31.7	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	32.97	0	50	0	65.9	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	24.52	0	50	0	49	31-93	0			
<i>Surr: Phenol-d6</i>	9.85	0	50	0	19.7	13-36	0			

LCS		Sample ID: SLCSW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:23 PM		
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038351		Prep Date: 9/15/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	56.19	10	100	0	56.2	30-100	0			
<i>Surr: 2,4,6-Tribromophenol</i>	34.23	0	50	0	68.5	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	32.05	0	50	0	64.1	32-100	0			
<i>Surr: 2-Fluorophenol</i>	19.67	0	50	0	39.3	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	38.75	0	50	0	77.5	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	34.48	0	50	0	69	31-93	0			
<i>Surr: Phenol-d6</i>	11.72	0	50	0	23.4	13-36	0			

LCSD		Sample ID: SLCSDW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:43 PM		
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038352		Prep Date: 9/15/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	56.47	10	100	0	56.5	30-100	56.19	0.497	30	
<i>Surr: 2,4,6-Tribromophenol</i>	35.01	0	50	0	70	38-115	34.23	2.25	30	
<i>Surr: 2-Fluorobiphenyl</i>	34.71	0	50	0	69.4	32-100	32.05	7.97	30	
<i>Surr: 2-Fluorophenol</i>	18.78	0	50	0	37.6	22-59	19.67	4.63	30	
<i>Surr: 4-Terphenyl-d14</i>	44.18	0	50	0	88.4	23-112	38.75	13.1	30	
<i>Surr: Nitrobenzene-d5</i>	34.43	0	50	0	68.9	31-93	34.48	0.145	30	
<i>Surr: Phenol-d6</i>	10.96	0	50	0	21.9	13-36	11.72	6.7	30	

The following samples were analyzed in this batch: 1609702-01A

Client: Merit Energy
Project: ECT (Merit - 517 Golden Oaks)
WorkOrder: 1609702

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCS D	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **14-Sep-16 09:30**

Work Order: **1609702**

Received by: **KRW**

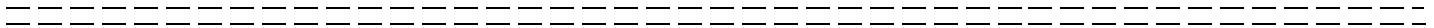
Checklist completed by Gary Byar 14-Sep-16
eSignature Date

Reviewed by: Gary Byar 14-Sep-16
eSignature Date

Matrices: Water
 Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>2.8/2.8 C</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>9/14/2016 1:25:33 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:	<u></u>		

Login Notes:



Client Contacted: _____ Date Contacted: _____ Person Contacted: _____

Contacted By: _____ Regarding: _____

Comments:

CorrectiveAction:



ALS Environmental
 781 Industrial Cir, Ste 3
 Traverse City, Michigan 49686
 (Tel) 231.421.3204
 (Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
 ALS Environmental
 3352 128th Avenue
 Holland, Michigan 49424
 (Tel) 616.399.6070
 (Fax) 616.399.6185

Customer Information			Project Information				Parameter/Method Request for Analysis										
Purchase Order		Project Name	Hartland 36 Gas Plant		A	Sulfolane (1) Amber Liter											
Work Order		Project Number			B												
Company Name	ECT, Inc.	Bill To Company	MEC		C												
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven		D												
Address	3389 Veterans Dr.	Address	1510 Thomas Rd		E												
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI		F												
Phone	231-946-8200	Phone	231-258-6389		G												
Fax	231-946-8208	Fax			H												
e-Mail Address	jl Lewandowski@ectinc.com				I												
					J												
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
	517 GOLDEN OAKS	9/13/16	0835	Water	8	1	X										
Sampler(s): Please Print & Sign <i>James K... [Signature]</i>			Shipment Method: UPS Ground		Required Turnaround Time: (Check Box) <input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour					Results Due Date:							
Relinquished by: <i>[Signature]</i>		Date: 9/13/16	Time: 1630	Received by: UPS		Date:	Time:	Notes: ALS Project: MERITENERGY - Misc									
Relinquished by: UPS		Date: 9/14/16	Time: 0930	Received by (Laboratory): <i>[Signature]</i>		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)							
Logged by (Laboratory): K... [Signature]		Date: 9/14/16	Time: 1325	Checked by (Laboratory): <i>[Signature]</i>					2.9°C	<input checked="" type="checkbox"/> Level II: Standard QC		<input type="checkbox"/> Level III: Raw Data		<input type="checkbox"/> TRRP LRC		<input type="checkbox"/> TRRP Level IV	
										<input type="checkbox"/> Level IV: SW846 Methods/CLP like		<input type="checkbox"/> Other:					
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other							8-4°C		Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.								



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 482 Golden Oaks)**

Work Order: **1609697**

Dear Sean,

ALS Environmental received 1 sample on 14-Sep-2016 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 482 Golden Oaks)
Work Order: 1609697

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609697-01	482 Golden Oaks	Water		9/13/2016 11:40	9/14/2016 09:30	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy
Project: ECT (Merit - 482 Golden Oaks)
Sample ID: 482 Golden Oaks
Collection Date: 9/13/2016 11:40 AM

Work Order: 1609697
Lab ID: 1609697-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/15/16	Analyst: RM
Sulfolane	ND		11	µg/L	1	9/18/2016 06:10 PM
Surr: 2,4,6-Tribromophenol	67.5		38-115	%REC	1	9/18/2016 06:10 PM
Surr: 2-Fluorobiphenyl	59.8		32-100	%REC	1	9/18/2016 06:10 PM
Surr: 2-Fluorophenol	38.0		22-59	%REC	1	9/18/2016 06:10 PM
Surr: 4-Terphenyl-d14	71.2		23-112	%REC	1	9/18/2016 06:10 PM
Surr: Nitrobenzene-d5	56.4		31-93	%REC	1	9/18/2016 06:10 PM
Surr: Phenol-d6	19.6		13-36	%REC	1	9/18/2016 06:10 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
Work Order: 1609697
Project: ECT (Merit - 482 Golden Oaks)

QC BATCH REPORT

Batch ID: **91411** Instrument ID: **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:03 PM		
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038350		Prep Date: 9/15/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	ND	10								
<i>Surr: 2,4,6-Tribromophenol</i>	27.6	0	50	0	55.2	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	25.19	0	50	0	50.4	32-100	0			
<i>Surr: 2-Fluorophenol</i>	15.86	0	50	0	31.7	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	32.97	0	50	0	65.9	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	24.52	0	50	0	49	31-93	0			
<i>Surr: Phenol-d6</i>	9.85	0	50	0	19.7	13-36	0			

LCS		Sample ID: SLCSW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:23 PM		
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038351		Prep Date: 9/15/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	56.19	10	100	0	56.2	30-100	0			
<i>Surr: 2,4,6-Tribromophenol</i>	34.23	0	50	0	68.5	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	32.05	0	50	0	64.1	32-100	0			
<i>Surr: 2-Fluorophenol</i>	19.67	0	50	0	39.3	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	38.75	0	50	0	77.5	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	34.48	0	50	0	69	31-93	0			
<i>Surr: Phenol-d6</i>	11.72	0	50	0	23.4	13-36	0			

LCSD		Sample ID: SLCSDW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:43 PM		
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038352		Prep Date: 9/15/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	56.47	10	100	0	56.5	30-100	56.19	0.497	30	
<i>Surr: 2,4,6-Tribromophenol</i>	35.01	0	50	0	70	38-115	34.23	2.25	30	
<i>Surr: 2-Fluorobiphenyl</i>	34.71	0	50	0	69.4	32-100	32.05	7.97	30	
<i>Surr: 2-Fluorophenol</i>	18.78	0	50	0	37.6	22-59	19.67	4.63	30	
<i>Surr: 4-Terphenyl-d14</i>	44.18	0	50	0	88.4	23-112	38.75	13.1	30	
<i>Surr: Nitrobenzene-d5</i>	34.43	0	50	0	68.9	31-93	34.48	0.145	30	
<i>Surr: Phenol-d6</i>	10.96	0	50	0	21.9	13-36	11.72	6.7	30	

The following samples were analyzed in this batch: 1609697-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Project: ECT (Merit - 482 Golden Oaks)
WorkOrder: 1609697

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCS D	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **14-Sep-16 09:30**

Work Order: **1609697**

Received by: **KRW**

Checklist completed by KathW ieraga 14-Sep-16
eSignature Date

Reviewed by: GaryBya 14-Sep-16
eSignature Date

Matrices: Water

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>2.8/2.8 C</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>9/14/2016 1:20:32 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<u></u>		

Login Notes:

Client Contacted: _____ Date Contacted: _____ Person Contacted: _____
 Contacted By: _____ Regarding: _____

Comments:

CorrectiveAction



ALS Environmental
 781 Industrial Cir, Ste 3
 Traverse City, Michigan 49686
 (Tel) 231.421.3204
 (Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
 ALS Environmental
 3352 128th Avenue
 Holland, Michigan 49424
 (Tel) 616.399.6070
 (Fax) 616.399.6185

Customer Information				Project Information			Parameter/Method Request for Analysis											
Purchase Order		Project Name	Hartland 36 Gas Plant	A	Sulfolane (1) Amber Liter													
Work Order		Project Number		B														
Company Name	ECT, Inc.	Bill To Company	MEC	C														
Sand Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven	D														
Address	3399 Veterans Dr.	Address	1510 Thomas Rd	E														
				F														
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI	G														
Phone	231-946-8200	Phone	231-258-6369	H														
Fax	231-946-8208	Fax		I														
e-Mail Address	jl Lewandowski@ectinc.com			J														
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold	
	402 GOLDEN OAKS	9/13/16	1140	Water	8	1	X											
Sampler(s): Please Print & Sign <i>James R. Smith</i>		Shipment Method: UPS Ground		Required Turnaround Time: (Check Box) <input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				Results Due Date:										
Relinquished by: <i>James R. Smith</i>		Date: 9/13/16	Time: 1630	Received by: UPS		Date:	Time:	Notes: ALS Project: MERITENERGY - Misc										
Relinquished by: UPS		Date: 9/14/16	Time: 0930	Received by (Laboratory): <i>[Signature]</i>		Date:	Time:	ALS Cooler ID	Cooler Temp 2.8°C	QC Package: (Check Box Below) <input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data <input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV: SW846 Methods/CLP like <input type="checkbox"/> Other:								
Logged by (Laboratory): <i>Ke</i>		Date: 9/14/16	Time: 1300	Checked by (Laboratory): <i>[Signature]</i>														
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C											Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.							



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 441 Jeni Lane)**

Work Order: **1609809**

Dear Sean,

ALS Environmental received 2 samples on 15-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 8.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

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Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 441 Jeni Lane)
Work Order: 1609809

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609809-01	441 Jeni Lane	Water		9/14/2016 13:46	9/15/2016 10:00	<input type="checkbox"/>
1609809-02	441 Jeni Lane Pond	Water		9/14/2016 13:58	9/15/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy
Project: ECT (Merit - 441 Jeni Lane)
Sample ID: 441 Jeni Lane
Collection Date: 9/14/2016 01:46 PM

Work Order: 1609809
Lab ID: 1609809-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/16/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/19/2016 05:33 AM
Surr: 2,4,6-Tribromophenol	52.9		38-115	%REC	1	9/19/2016 05:33 AM
Surr: 2-Fluorobiphenyl	43.7		32-100	%REC	1	9/19/2016 05:33 AM
Surr: 2-Fluorophenol	28.3		22-59	%REC	1	9/19/2016 05:33 AM
Surr: 4-Terphenyl-d14	65.3		23-112	%REC	1	9/19/2016 05:33 AM
Surr: Nitrobenzene-d5	44.5		31-93	%REC	1	9/19/2016 05:33 AM
Surr: Phenol-d6	15.9		13-36	%REC	1	9/19/2016 05:33 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy
Project: ECT (Merit - 441 Jeni Lane)
Sample ID: 441 Jeni Lane Pond
Collection Date: 9/14/2016 01:58 PM

Work Order: 1609809
Lab ID: 1609809-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/16/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/19/2016 05:53 AM
Surr: 2,4,6-Tribromophenol	60.9		38-115	%REC	1	9/19/2016 05:53 AM
Surr: 2-Fluorobiphenyl	50.1		32-100	%REC	1	9/19/2016 05:53 AM
Surr: 2-Fluorophenol	32.4		22-59	%REC	1	9/19/2016 05:53 AM
Surr: 4-Terphenyl-d14	60.4		23-112	%REC	1	9/19/2016 05:53 AM
Surr: Nitrobenzene-d5	45.8		31-93	%REC	1	9/19/2016 05:53 AM
Surr: Phenol-d6	19.5		13-36	%REC	1	9/19/2016 05:53 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
 Work Order: 1609809
 Project: ECT (Merit - 441 Jeni Lane)

QC BATCH REPORT

Batch ID: **91481** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:03 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038353		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
<i>Surr: 2,4,6-Tribromophenol</i>	30.02	0	50	0	60	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	31.92	0	50	0	63.8	32-100	0				
<i>Surr: 2-Fluorophenol</i>	18.02	0	50	0	36	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	35.62	0	50	0	71.2	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	32.13	0	50	0	64.3	31-93	0				
<i>Surr: Phenol-d6</i>	9.75	0	50	0	19.5	13-36	0				

LCS		Sample ID: SLCSW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:23 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038354		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	52.35	10	100	0	52.4	30-100	0				
<i>Surr: 2,4,6-Tribromophenol</i>	35.21	0	50	0	70.4	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	31.44	0	50	0	62.9	32-100	0				
<i>Surr: 2-Fluorophenol</i>	17.86	0	50	0	35.7	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	37.56	0	50	0	75.1	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	33.06	0	50	0	66.1	31-93	0				
<i>Surr: Phenol-d6</i>	10.51	0	50	0	21	13-36	0				

LCSD		Sample ID: SLCSDW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:43 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038355		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	59.44	10	100	0	59.4	30-100	52.35	12.7	30		
<i>Surr: 2,4,6-Tribromophenol</i>	32.69	0	50	0	65.4	38-115	35.21	7.42	30		
<i>Surr: 2-Fluorobiphenyl</i>	35.15	0	50	0	70.3	32-100	31.44	11.1	30		
<i>Surr: 2-Fluorophenol</i>	20.65	0	50	0	41.3	22-59	17.86	14.5	30		
<i>Surr: 4-Terphenyl-d14</i>	37.72	0	50	0	75.4	23-112	37.56	0.425	30		
<i>Surr: Nitrobenzene-d5</i>	31.01	0	50	0	62	31-93	33.06	6.4	30		
<i>Surr: Phenol-d6</i>	12.14	0	50	0	24.3	13-36	10.51	14.4	30		

The following samples were analyzed in this batch: 1609809-01A 1609809-02A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Project: ECT (Merit - 441 Jeni Lane)
WorkOrder: 1609809

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **15-Sep-16 10:00**

Work Order: **1609809**

Received by: **MBB**

Checklist completed by Meghan Broadbent 15-Sep-16
eSignature Date

Reviewed by: Gary Byar 15-Sep-16
eSignature Date

Matrices: water
Carrier name: UPS

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No
- Sample(s) received on ice? Yes No

Temperature(s)/Thermometer(s): 2.6/2.6 SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 9/15/2016 12:30:59 PM

Water - VOA vials have zero headspace? Yes No No VOA vials submitted

Water - pH acceptable upon receipt? Yes No N/A

pH adjusted? Yes No N/A

pH adjusted by:

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



ALS Environmental
781 Industrial Cir, Ste 3
Traverse City, Michigan 49686
(Tel) 231.421.3204
(Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

ALS Project Manager: Gary Byar		ALS Work Order #: 1009309															
Customer Information		Project Information		Parameter/Method Request for Analysis													
Purchase Order		Project Name	Hartland 36 Gas Plant	A	Sulfolane (1) Amber Liter												
Work Order		Project Number		B													
Company Name	ECT, Inc.	Bill To Company	MEC	C													
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven	D													
Address	3399 Veterans Dr.	Address	1510 Thomas Rd	E													
				F													
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI	G													
Phone	231-946-8200	Phone	231-258-6369	H													
Fax	231-946-8208	Fax		I													
e-Mail Address	jl Lewandowski@ectinc.com			J													
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
	441 Jeni Lane	9/14/16	13:46	Water	8	1	X										
	441 Jeni Lane POND	9/14/16	13:58	water	8	1	X										
Sampler(s): Please Print & Sign <i>Anne Power</i>		Shipment Method: UPS Ground		Required Turnaround Time: (Check Box) <input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				Results Due Date:									
Relinquished by: <i>[Signature]</i>	Date: 9/14/16	Time: 16:50	Received by:	Date:	Time:	Notes: ALS Project: MERITENERGY - Misc											
Relinquished by: <i>[Signature]</i>	Date: 9/15/16	Time: 1000	Received by (Laboratory): <i>[Signature]</i>	Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)									
Logged by (Laboratory): <i>[Signature]</i>	Date: 9/15/16	Time: 12:29	Checked by (Laboratory): <i>[Signature]</i>				26	<input checked="" type="checkbox"/> Level II: Standard QC	<input type="checkbox"/> Level III: Raw Data								
								<input type="checkbox"/> TRRP LRC	<input type="checkbox"/> TRRP Level IV								
								<input type="checkbox"/> Level IV: SW846 Methods/CLP like									
								<input type="checkbox"/> Other:									
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C												Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.					



10-Aug-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Hartland - 13631 Sheila Lane)**

Work Order: **1608296**

Dear Sean,

ALS Environmental received 1 sample on 05-Aug-2016 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 18.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

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RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Hartland - 13631 Sheila Lane)
Work Order: 1608296

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1608296-01	13631 Sheila Lane	Groundwater		8/3/2016 10:32	8/5/2016 09:30	<input type="checkbox"/>

ALS Group USA, Corp

Date: 10-Aug-16

Client: Merit Energy
Project: ECT (Hartland - 13631 Sheila Lane)
Sample ID: 13631 Sheila Lane
Collection Date: 8/3/2016 10:32 AM

Work Order: 1608296
Lab ID: 1608296-01
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 8/5/16	Analyst: RM
Diisopropanolamine	ND		50	µg/L	1	8/9/2016 04:10 AM
Sulfolane	ND		10	µg/L	1	8/9/2016 04:10 AM
Surr: 2,4,6-Tribromophenol	54.2		38-115	%REC	1	8/9/2016 04:10 AM
Surr: 2-Fluorobiphenyl	46.9		32-100	%REC	1	8/9/2016 04:10 AM
Surr: 2-Fluorophenol	27.9		22-59	%REC	1	8/9/2016 04:10 AM
Surr: 4-Terphenyl-d14	97.1		23-112	%REC	1	8/9/2016 04:10 AM
Surr: Nitrobenzene-d5	46.0		31-93	%REC	1	8/9/2016 04:10 AM
Surr: Phenol-d6	14.4		13-36	%REC	1	8/9/2016 04:10 AM
VOLATILE ORGANIC COMPOUNDS			SW8260B			Analyst: AK
1,1,1,2-Tetrachloroethane	ND		1.0	µg/L	1	8/5/2016 08:33 PM
1,1,1-Trichloroethane	ND		1.0	µg/L	1	8/5/2016 08:33 PM
1,1,2,2-Tetrachloroethane	ND		1.0	µg/L	1	8/5/2016 08:33 PM
1,1,2-Trichloroethane	ND		1.0	µg/L	1	8/5/2016 08:33 PM
1,1,2-Trichlorotrifluoroethane	ND		1.0	µg/L	1	8/5/2016 08:33 PM
1,1-Dichloroethane	ND		1.0	µg/L	1	8/5/2016 08:33 PM
1,1-Dichloroethene	ND		1.0	µg/L	1	8/5/2016 08:33 PM
1,2,3-Trichloropropane	ND		1.0	µg/L	1	8/5/2016 08:33 PM
1,2,4-Trichlorobenzene	ND		1.0	µg/L	1	8/5/2016 08:33 PM
1,2,4-Trimethylbenzene	ND		1.0	µg/L	1	8/5/2016 08:33 PM
1,2-Dibromo-3-chloropropane	ND		1.0	µg/L	1	8/5/2016 08:33 PM
1,2-Dibromoethane	ND		1.0	µg/L	1	8/5/2016 08:33 PM
1,2-Dichlorobenzene	ND		1.0	µg/L	1	8/5/2016 08:33 PM
1,2-Dichloroethane	ND		1.0	µg/L	1	8/5/2016 08:33 PM
1,2-Dichloropropane	ND		1.0	µg/L	1	8/5/2016 08:33 PM
1,3,5-Trimethylbenzene	ND		1.0	µg/L	1	8/5/2016 08:33 PM
1,3-Dichlorobenzene	ND		1.0	µg/L	1	8/5/2016 08:33 PM
1,4-Dichlorobenzene	ND		1.0	µg/L	1	8/5/2016 08:33 PM
2-Butanone	ND		5.0	µg/L	1	8/5/2016 08:33 PM
2-Hexanone	ND		5.0	µg/L	1	8/5/2016 08:33 PM
2-Methylnaphthalene	ND		5.0	µg/L	1	8/5/2016 08:33 PM
4-Methyl-2-pentanone	ND		1.0	µg/L	1	8/5/2016 08:33 PM
Acetone	ND		10	µg/L	1	8/5/2016 08:33 PM
Acrylonitrile	ND		1.0	µg/L	1	8/5/2016 08:33 PM
Benzene	ND		1.0	µg/L	1	8/5/2016 08:33 PM
Bromochloromethane	ND		1.0	µg/L	1	8/5/2016 08:33 PM
Bromodichloromethane	ND		1.0	µg/L	1	8/5/2016 08:33 PM
Bromoform	ND		1.0	µg/L	1	8/5/2016 08:33 PM
Bromomethane	ND		1.0	µg/L	1	8/5/2016 08:33 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 10-Aug-16

Client: Merit Energy
Project: ECT (Hartland - 13631 Sheila Lane)
Sample ID: 13631 Sheila Lane
Collection Date: 8/3/2016 10:32 AM

Work Order: 1608296
Lab ID: 1608296-01
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		1.0	µg/L	1	8/5/2016 08:33 PM
Carbon tetrachloride	ND		1.0	µg/L	1	8/5/2016 08:33 PM
Chlorobenzene	ND		1.0	µg/L	1	8/5/2016 08:33 PM
Chloroethane	ND		1.0	µg/L	1	8/5/2016 08:33 PM
Chloroform	ND		1.0	µg/L	1	8/5/2016 08:33 PM
Chloromethane	ND		1.0	µg/L	1	8/5/2016 08:33 PM
cis-1,2-Dichloroethene	ND		1.0	µg/L	1	8/5/2016 08:33 PM
cis-1,3-Dichloropropene	ND		1.0	µg/L	1	8/5/2016 08:33 PM
Dibromochloromethane	ND		1.0	µg/L	1	8/5/2016 08:33 PM
Dibromomethane	ND		1.0	µg/L	1	8/5/2016 08:33 PM
Dichlorodifluoromethane	ND		1.0	µg/L	1	8/5/2016 08:33 PM
Diethyl ether	ND		1.0	µg/L	1	8/5/2016 08:33 PM
Ethylbenzene	ND		1.0	µg/L	1	8/5/2016 08:33 PM
Hexachloroethane	ND		1.0	µg/L	1	8/5/2016 08:33 PM
Isopropylbenzene	ND		1.0	µg/L	1	8/5/2016 08:33 PM
m,p-Xylene	ND		2.0	µg/L	1	8/5/2016 08:33 PM
Methyl iodide	ND		1.0	µg/L	1	8/5/2016 08:33 PM
Methyl tert-butyl ether	ND		1.0	µg/L	1	8/5/2016 08:33 PM
Methylene chloride	ND		5.0	µg/L	1	8/5/2016 08:33 PM
Naphthalene	ND		5.0	µg/L	1	8/5/2016 08:33 PM
n-Propylbenzene	ND		1.0	µg/L	1	8/5/2016 08:33 PM
o-Xylene	ND		1.0	µg/L	1	8/5/2016 08:33 PM
Styrene	ND		1.0	µg/L	1	8/5/2016 08:33 PM
Tetrachloroethene	ND		1.0	µg/L	1	8/5/2016 08:33 PM
Toluene	ND		1.0	µg/L	1	8/5/2016 08:33 PM
trans-1,2-Dichloroethene	ND		1.0	µg/L	1	8/5/2016 08:33 PM
trans-1,3-Dichloropropene	ND		1.0	µg/L	1	8/5/2016 08:33 PM
trans-1,4-Dichloro-2-butene	ND		2.0	µg/L	1	8/5/2016 08:33 PM
Trichloroethene	ND		1.0	µg/L	1	8/5/2016 08:33 PM
Trichlorofluoromethane	ND		1.0	µg/L	1	8/5/2016 08:33 PM
Vinyl acetate	ND		5.0	µg/L	1	8/5/2016 08:33 PM
Vinyl chloride	ND		1.0	µg/L	1	8/5/2016 08:33 PM
Xylenes, Total	ND		3.0	µg/L	1	8/5/2016 08:33 PM
Surr: 1,2-Dichloroethane-d4	85.6		75-120	%REC	1	8/5/2016 08:33 PM
Surr: 4-Bromofluorobenzene	96.0		80-110	%REC	1	8/5/2016 08:33 PM
Surr: Dibromofluoromethane	89.4		85-115	%REC	1	8/5/2016 08:33 PM
Surr: Toluene-d8	100		85-110	%REC	1	8/5/2016 08:33 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
Project: ECT (Hartland - 13631 Sheila Lane)
Work Order: 1608296

Case Narrative

Batch R193219A Sample VLCSW1-160805 The LCS recovery for Volatile compound Tetrachloroethene was above the upper control limit. All the sample results in the batch were non-detect. No qualification is necessary for this analyte.

Batch R193219A The MS/MSD data for Volatiles is no related to this projects sample. No data requires qualification.

Client: Merit Energy
 Work Order: 1608296
 Project: ECT (Hartland - 13631 Sheila Lane)

QC BATCH REPORT

Batch ID: **89682** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-89682-89682				Units: µg/L		Analysis Date: 8/8/2016 08:51 PM		
Client ID:		Run ID: SVMS8_160808A		SeqNo: 3968850		Prep Date: 8/5/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	ND	50								
Sulfolane	ND	10								
<i>Surr: 2,4,6-Tribromophenol</i>	32.35	0	50	0	64.7	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	36.53	0	50	0	73.1	32-100	0			
<i>Surr: 2-Fluorophenol</i>	19.03	0	50	0	38.1	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	45.48	0	50	0	91	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	36.58	0	50	0	73.2	31-93	0			
<i>Surr: Phenol-d6</i>	9.38	0	50	0	18.8	13-36	0			

LCS		Sample ID: SLCSW1-89682-89682				Units: µg/L		Analysis Date: 8/8/2016 09:12 PM		
Client ID:		Run ID: SVMS8_160808A		SeqNo: 3968851		Prep Date: 8/5/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	3.57	50	20	0	17.8	10-50	0			
Sulfolane	11.76	10	20	0	58.8	30-100	0			
<i>Surr: 2,4,6-Tribromophenol</i>	32.34	0	50	0	64.7	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	37.17	0	50	0	74.3	32-100	0			
<i>Surr: 2-Fluorophenol</i>	19.78	0	50	0	39.6	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	49.38	0	50	0	98.8	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	35.31	0	50	0	70.6	31-93	0			
<i>Surr: Phenol-d6</i>	11.13	0	50	0	22.3	13-36	0			

LCSD		Sample ID: SLCSDW1-89682-89682				Units: µg/L		Analysis Date: 8/8/2016 09:33 PM		
Client ID:		Run ID: SVMS8_160808A		SeqNo: 3968852		Prep Date: 8/5/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	3.35	50	20	0	16.8	10-50	3.57	0	50	
Sulfolane	12.03	10	20	0	60.2	30-100	11.76	2.27	50	
<i>Surr: 2,4,6-Tribromophenol</i>	32.73	0	50	0	65.5	38-115	32.34	1.2	40	
<i>Surr: 2-Fluorobiphenyl</i>	38.09	0	50	0	76.2	32-100	37.17	2.44	40	
<i>Surr: 2-Fluorophenol</i>	18.36	0	50	0	36.7	22-59	19.78	7.45	40	
<i>Surr: 4-Terphenyl-d14</i>	48.18	0	50	0	96.4	23-112	49.38	2.46	40	
<i>Surr: Nitrobenzene-d5</i>	36.74	0	50	0	73.5	31-93	35.31	3.97	40	
<i>Surr: Phenol-d6</i>	10.18	0	50	0	20.4	13-36	11.13	8.92	40	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608296
 Project: ECT (Hartland - 13631 Sheila Lane)

QC BATCH REPORT

Batch ID: **89682** Instrument ID **SVMS8** Method: **SW846 8270D**

MS		Sample ID: 1608284-01B MS				Units: µg/L		Analysis Date: 8/8/2016 11:24 PM		
Client ID:		Run ID: SVMS8_160808A		SeqNo: 3968855		Prep Date: 8/5/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	3.25	50	20	0	16.2	10-50	0			
Sulfolane	12.15	10	20	0	60.8	30-100	0			
<i>Surr: 2,4,6-Tribromophenol</i>	34.22	0	50	0	68.4	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	38.42	0	50	0	76.8	32-100	0			
<i>Surr: 2-Fluorophenol</i>	17.81	0	50	0	35.6	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	42.35	0	50	0	84.7	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	37.97	0	50	0	75.9	31-93	0			
<i>Surr: Phenol-d6</i>	9.23	0	50	0	18.5	13-36	0			

DUP		Sample ID: 1608285-01B DUP				Units: µg/L		Analysis Date: 8/9/2016 12:05 AM		
Client ID:		Run ID: SVMS8_160808A		SeqNo: 3968857		Prep Date: 8/5/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	ND	50	0	0	0		0	0	50	
Sulfolane	ND	10	0	0	0		0	0	50	
<i>Surr: 2,4,6-Tribromophenol</i>	36.71	0	50	0	73.4	38-115	33.33	9.65	40	
<i>Surr: 2-Fluorobiphenyl</i>	42.42	0	50	0	84.8	32-100	36.64	14.6	40	
<i>Surr: 2-Fluorophenol</i>	20.27	0	50	0	40.5	22-59	20.78	2.48	40	
<i>Surr: 4-Terphenyl-d14</i>	46.4	0	50	0	92.8	23-112	45.62	1.7	40	
<i>Surr: Nitrobenzene-d5</i>	39.3	0	50	0	78.6	31-93	37.49	4.71	40	
<i>Surr: Phenol-d6</i>	10.33	0	50	0	20.7	13-36	10.9	5.37	40	

The following samples were analyzed in this batch:

1608296-01B

Client: Merit Energy
 Work Order: 1608296
 Project: ECT (Hartland - 13631 Sheila Lane)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

MBLK		Sample ID: VBLKW1-160805-R193219A				Units: µg/L		Analysis Date: 8/5/2016 04:16 PM		
Client ID:		Run ID: VMS7_160805A		SeqNo: 3965976		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
1,1,2-Trichlorotrifluoroethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2,3-Trichloropropane	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	1.0								
1,2-Dibromoethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,2-Dichloroethane	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
2-Butanone	ND	5.0								
2-Hexanone	ND	5.0								
2-Methylnaphthalene	ND	5.0								
4-Methyl-2-pentanone	ND	1.0								
Acetone	ND	10								
Acrylonitrile	ND	1.0								
Benzene	ND	1.0								
Bromochloromethane	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	1.0								
Carbon disulfide	ND	1.0								
Carbon tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	1.0								
Chloroform	ND	1.0								
Chloromethane	ND	1.0								
cis-1,2-Dichloroethene	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
Diethyl ether	ND	1.0								
Ethylbenzene	ND	1.0								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Work Order: 1608296
Project: ECT (Hartland - 13631 Sheila Lane)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7	Method: SW8260B						
Hexachloroethane	ND	1.0						
Isopropylbenzene	ND	1.0						
m,p-Xylene	ND	2.0						
Methyl iodide	ND	1.0						
Methyl tert-butyl ether	ND	1.0						
Methylene chloride	ND	5.0						
Naphthalene	ND	5.0						
n-Propylbenzene	ND	1.0						
o-Xylene	ND	1.0						
Styrene	ND	1.0						
Tetrachloroethene	ND	1.0						
Toluene	ND	1.0						
trans-1,2-Dichloroethene	ND	1.0						
trans-1,3-Dichloropropene	ND	1.0						
trans-1,4-Dichloro-2-butene	ND	2.0						
Trichloroethene	ND	1.0						
Trichlorofluoromethane	ND	1.0						
Vinyl acetate	ND	5.0						
Vinyl chloride	ND	1.0						
Xylenes, Total	ND	3.0						
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>16.65</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>83.2</i>	<i>75-120</i>	<i>0</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.46</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>97.3</i>	<i>80-110</i>	<i>0</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>17.64</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>88.2</i>	<i>85-115</i>	<i>0</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>19.85</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>99.2</i>	<i>85-110</i>	<i>0</i>	<i>0</i>

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608296
 Project: ECT (Hartland - 13631 Sheila Lane)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

LCS		Sample ID: VLCSW1-160805-R193219A				Units: µg/L		Analysis Date: 8/5/2016 03:05 PM		
Client ID:		Run ID: VMS7_160805A			SeqNo: 3965975		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.56	1.0	20	0	97.8	80-130	0			
1,1,1-Trichloroethane	19.1	1.0	20	0	95.5	75-130	0			
1,1,2,2-Tetrachloroethane	21.28	1.0	20	0	106	75-130	0			
1,1,2-Trichloroethane	21.61	1.0	20	0	108	75-125	0			
1,1-Dichloroethane	20.97	1.0	20	0	105	75-133	0			
1,1-Dichloroethene	23.78	1.0	20	0	119	70-145	0			
1,2,3-Trichloropropane	21.08	1.0	20	0	105	75-125	0			
1,2,4-Trichlorobenzene	20.33	1.0	20	0	102	70-135	0			
1,2,4-Trimethylbenzene	21.21	1.0	20	0	106	75-130	0			
1,2-Dibromo-3-chloropropane	18.89	1.0	20	0	94.4	60-130	0			
1,2-Dibromoethane	25.21	1.0	20	0	126	80-150	0			
1,2-Dichlorobenzene	21.24	1.0	20	0	106	70-130	0			
1,2-Dichloroethane	18.28	1.0	20	0	91.4	78-125	0			
1,2-Dichloropropane	21.36	1.0	20	0	107	75-125	0			
1,3,5-Trimethylbenzene	21.95	1.0	20	0	110	75-130	0			
1,3-Dichlorobenzene	21.41	1.0	20	0	107	75-130	0			
1,4-Dichlorobenzene	21.42	1.0	20	0	107	75-130	0			
2-Butanone	21.67	5.0	20	0	108	55-150	0			
2-Hexanone	21.04	5.0	20	0	105	60-135	0			
4-Methyl-2-pentanone	24.27	1.0	20	0	121	77-178	0			
Acetone	21.61	10	20	0	108	60-160	0			
Acrylonitrile	22.04	1.0	20	0	110	60-140	0			
Benzene	22.09	1.0	20	0	110	85-125	0			
Bromochloromethane	21.07	1.0	20	0	105	75-130	0			
Bromodichloromethane	18.63	1.0	20	0	93.2	75-125	0			
Bromoform	17.48	1.0	20	0	87.4	60-125	0			
Bromomethane	20.46	1.0	20	0	102	30-185	0			
Carbon disulfide	21.83	1.0	20	0	109	60-165	0			
Carbon tetrachloride	16.88	1.0	20	0	84.4	65-140	0			
Chlorobenzene	21.43	1.0	20	0	107	80-120	0			
Chloroethane	17.4	1.0	20	0	87	50-140	0			
Chloroform	18.37	1.0	20	0	91.8	80-130	0			
Chloromethane	17.48	1.0	20	0	87.4	50-130	0			
cis-1,2-Dichloroethene	19.7	1.0	20	0	98.5	75-134	0			
cis-1,3-Dichloropropene	20.55	1.0	20	0	103	70-130	0			
Dibromochloromethane	17.89	1.0	20	0	89.4	60-115	0			
Dibromomethane	20.41	1.0	20	0	102	85-125	0			
Dichlorodifluoromethane	11.7	1.0	20	0	58.5	20-120	0			
Ethylbenzene	21.34	1.0	20	0	107	85-125	0			
Hexachloroethane	13.53	1.0	20	0	67.6	50-124	0			
Isopropylbenzene	21.64	1.0	20	0	108	80-127	0			
m,p-Xylene	42.52	2.0	40	0	106	75-130	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Work Order: 1608296
Project: ECT (Hartland - 13631 Sheila Lane)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7		Method: SW8260B					
Methyl iodide	21.79	1.0	20	0	109	60-160	0	
Methyl tert-butyl ether	20.91	1.0	20	0	105	80-130	0	
Methylene chloride	20.55	5.0	20	0	103	75-140	0	
Naphthalene	21.8	5.0	20	0	109	55-160	0	
n-Propylbenzene	21.26	1.0	20	0	106	78-120	0	
o-Xylene	20.78	1.0	20	0	104	80-125	0	
Styrene	22.53	1.0	20	0	113	85-125	0	
Tetrachloroethene	28.15	1.0	20	0	141	77-138	0	S
Toluene	21.45	1.0	20	0	107	85-125	0	
trans-1,2-Dichloroethene	21.02	1.0	20	0	105	80-140	0	
trans-1,3-Dichloropropene	19	1.0	20	0	95	81-123	0	
trans-1,4-Dichloro-2-butene	16.54	2.0	20	0	82.7	46-118	0	
Trichloroethene	21.19	1.0	20	0	106	84-130	0	
Trichlorofluoromethane	15.48	1.0	20	0	77.4	60-140	0	
Vinyl chloride	17.28	1.0	20	0	86.4	50-136	0	
Xylenes, Total	63.3	3.0	60	0	106	80-126	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	17.26	0	20	0	86.3	75-120	0	
<i>Surr: 4-Bromofluorobenzene</i>	19.64	0	20	0	98.2	80-110	0	
<i>Surr: Dibromofluoromethane</i>	19	0	20	0	95	85-115	0	
<i>Surr: Toluene-d8</i>	19.74	0	20	0	98.7	85-110	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608296
 Project: ECT (Hartland - 13631 Sheila Lane)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

MS		Sample ID: 1608291-01A MS				Units: µg/L		Analysis Date: 8/5/2016 11:40 PM		
Client ID:		Run ID: VMS7_160805A			SeqNo: 3965989		Prep Date:		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	187.1	10	200	0	93.6	80-130		0		
1,1,1-Trichloroethane	194.5	10	200	0	97.2	75-130		0		
1,1,2,2-Tetrachloroethane	209.2	10	200	0	105	75-130		0		
1,1,2-Trichloroethane	221.6	10	200	0	111	75-125		0		
1,1-Dichloroethane	212.9	10	200	0	106	75-133		0		
1,1-Dichloroethene	266.4	10	200	0	133	70-145		0		
1,2,3-Trichloropropane	217.6	10	200	0	109	75-125		0		
1,2,4-Trichlorobenzene	200.5	10	200	0	100	70-135		0		
1,2,4-Trimethylbenzene	218.4	10	200	0	109	75-130		0		
1,2-Dibromo-3-chloropropane	157.8	10	200	0	78.9	60-130		0		
1,2-Dibromoethane	259.8	10	200	0	130	80-150		0		
1,2-Dichlorobenzene	219.2	10	200	0	110	70-130		0		
1,2-Dichloroethane	193.1	10	200	0	96.6	78-125		0		
1,2-Dichloropropane	223.3	10	200	0	112	75-125		0		
1,3,5-Trimethylbenzene	223.2	10	200	0	112	75-130		0		
1,3-Dichlorobenzene	223.6	10	200	0	112	75-130		0		
1,4-Dichlorobenzene	215.7	10	200	0	108	75-130		0		
2-Butanone	208.6	50	200	0	104	55-150		0		
2-Hexanone	205.6	50	200	0	103	60-135		0		
4-Methyl-2-pentanone	232.8	10	200	0	116	77-178		0		
Acetone	216	100	200	0	108	60-160		0		
Acrylonitrile	224.6	10	200	0	112	60-140		0		
Benzene	234.1	10	200	0	117	85-125		0		
Bromochloromethane	215.1	10	200	0	108	75-130		0		
Bromodichloromethane	184.5	10	200	0	92.2	75-125		0		
Bromoform	152.4	10	200	0	76.2	60-125		0		
Bromomethane	187.7	10	200	0	93.8	30-185		0		
Carbon disulfide	231.8	10	200	0	116	60-165		0		
Carbon tetrachloride	162.5	10	200	0	81.2	65-140		0		
Chlorobenzene	226.8	10	200	0	113	80-120		0		
Chloroethane	185.3	10	200	0	92.6	50-140		0		
Chloroform	191.8	10	200	0	95.9	80-130		0		
Chloromethane	179.5	10	200	0	89.8	50-130		0		
cis-1,2-Dichloroethene	199.8	10	200	0	99.9	75-134		0		
cis-1,3-Dichloropropene	195.6	10	200	0	97.8	70-130		0		
Dibromochloromethane	163.3	10	200	0	81.6	60-115		0		
Dibromomethane	207.6	10	200	0	104	85-125		0		
Dichlorodifluoromethane	149.1	10	200	0	74.6	20-120		0		
Ethylbenzene	225.8	10	200	0	113	85-125		0		
Hexachloroethane	108	10	200	0	54	50-124		0		
Isopropylbenzene	227.9	10	200	0	114	80-127		0		
m,p-Xylene	445.8	20	400	0	111	75-130		0		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608296
 Project: ECT (Hartland - 13631 Sheila Lane)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7		Method: SW8260B					
Methyl iodide	282	10	200	0	141	60-160	0	
Methyl tert-butyl ether	211	10	200	0	106	80-130	0	
Methylene chloride	218.8	50	200	0	109	75-140	0	
Naphthalene	216.1	50	200	0	108	55-160	0	
n-Propylbenzene	219.2	10	200	0	110	78-120	0	
o-Xylene	218.1	10	200	0	109	80-125	0	
Styrene	232.8	10	200	0	116	85-125	0	
Tetrachloroethene	318.4	10	200	0	159	77-138	0	S
Toluene	225	10	200	0	112	85-125	0	
trans-1,2-Dichloroethene	222.5	10	200	0	111	80-140	0	
trans-1,3-Dichloropropene	174.7	10	200	0	87.4	81-123	0	
trans-1,4-Dichloro-2-butene	136	20	200	0	68	46-118	0	
Trichloroethene	228.6	10	200	0	114	84-130	0	
Trichlorofluoromethane	161.4	10	200	0	80.7	60-140	0	
Vinyl chloride	177.6	10	200	0	88.8	50-136	0	
Xylenes, Total	663.9	30	600	0	111	80-126	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>166.8</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>83.4</i>	<i>75-120</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>195.6</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>97.8</i>	<i>80-110</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>187</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>93.5</i>	<i>85-115</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>197.9</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>99</i>	<i>85-110</i>	<i>0</i>	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608296
 Project: ECT (Hartland - 13631 Sheila Lane)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

MSD		Sample ID: 1608291-01A MSD				Units: µg/L		Analysis Date: 8/6/2016 12:03 PM		
Client ID:		Run ID: VMS7_160805A			SeqNo: 3965990		Prep Date:		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	172.3	10	200	0	86.2	80-130	187.1	8.24	30	
1,1,1-Trichloroethane	186.1	10	200	0	93	75-130	194.5	4.41	30	
1,1,2,2-Tetrachloroethane	195.1	10	200	0	97.6	75-130	209.2	6.98	30	
1,1,2-Trichloroethane	207.7	10	200	0	104	75-125	221.6	6.48	30	
1,1-Dichloroethane	202.7	10	200	0	101	75-133	212.9	4.91	30	
1,1-Dichloroethene	242.4	10	200	0	121	70-145	266.4	9.43	30	
1,2,3-Trichloropropane	197.1	10	200	0	98.6	75-125	217.6	9.89	30	
1,2,4-Trichlorobenzene	195.7	10	200	0	97.8	70-135	200.5	2.42	30	
1,2,4-Trimethylbenzene	204.2	10	200	0	102	75-130	218.4	6.72	30	
1,2-Dibromo-3-chloropropane	151.7	10	200	0	75.8	60-130	157.8	3.94	30	
1,2-Dibromoethane	239.5	10	200	0	120	80-150	259.8	8.13	30	
1,2-Dichlorobenzene	207.3	10	200	0	104	70-130	219.2	5.58	30	
1,2-Dichloroethane	179.2	10	200	0	89.6	78-125	193.1	7.47	30	
1,2-Dichloropropane	205.9	10	200	0	103	75-125	223.3	8.11	30	
1,3,5-Trimethylbenzene	212	10	200	0	106	75-130	223.2	5.15	30	
1,3-Dichlorobenzene	213.2	10	200	0	107	75-130	223.6	4.76	30	
1,4-Dichlorobenzene	207.7	10	200	0	104	75-130	215.7	3.78	30	
2-Butanone	194.4	50	200	0	97.2	55-150	208.6	7.05	30	
2-Hexanone	183.1	50	200	0	91.6	60-135	205.6	11.6	30	
4-Methyl-2-pentanone	211	10	200	0	106	77-178	232.8	9.82	30	
Acetone	201.4	100	200	0	101	60-160	216	7	30	
Acrylonitrile	205.6	10	200	0	103	60-140	224.6	8.83	30	
Benzene	219.9	10	200	0	110	85-125	234.1	6.26	30	
Bromochloromethane	204.4	10	200	0	102	75-130	215.1	5.1	30	
Bromodichloromethane	171.9	10	200	0	86	75-125	184.5	7.07	30	
Bromoform	145.2	10	200	0	72.6	60-125	152.4	4.84	30	
Bromomethane	164.2	10	200	0	82.1	30-185	187.7	13.4	30	
Carbon disulfide	216.9	10	200	0	108	60-165	231.8	6.64	30	
Carbon tetrachloride	154.6	10	200	0	77.3	65-140	162.5	4.98	30	
Chlorobenzene	212.3	10	200	0	106	80-120	226.8	6.6	30	
Chloroethane	164.2	10	200	0	82.1	50-140	185.3	12.1	30	
Chloroform	182.6	10	200	0	91.3	80-130	191.8	4.91	30	
Chloromethane	174.5	10	200	0	87.2	50-130	179.5	2.82	30	
cis-1,2-Dichloroethene	186.4	10	200	0	93.2	75-134	199.8	6.94	30	
cis-1,3-Dichloropropene	183.4	10	200	0	91.7	70-130	195.6	6.44	30	
Dibromochloromethane	154.8	10	200	0	77.4	60-115	163.3	5.34	30	
Dibromomethane	196.7	10	200	0	98.4	85-125	207.6	5.39	30	
Dichlorodifluoromethane	137.6	10	200	0	68.8	20-120	149.1	8.02	30	
Ethylbenzene	212	10	200	0	106	85-125	225.8	6.3	30	
Hexachloroethane	111.2	10	200	0	55.6	50-124	108	2.92	30	
Isopropylbenzene	215.6	10	200	0	108	80-127	227.9	5.55	30	
m,p-Xylene	428.1	20	400	0	107	75-130	445.8	4.05	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608296
 Project: ECT (Hartland - 13631 Sheila Lane)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7			Method: SW8260B						
Methyl iodide	247.4	10	200	0	124	60-160	282	13.1	30	
Methyl tert-butyl ether	199	10	200	0	99.5	80-130	211	5.85	30	
Methylene chloride	206	50	200	0	103	75-140	218.8	6.03	30	
Naphthalene	204.1	50	200	0	102	55-160	216.1	5.71	30	
n-Propylbenzene	206.4	10	200	0	103	78-120	219.2	6.02	30	
o-Xylene	203.4	10	200	0	102	80-125	218.1	6.98	30	
Styrene	219.8	10	200	0	110	85-125	232.8	5.74	30	
Tetrachloroethene	290.1	10	200	0	145	77-138	318.4	9.3	30	S
Toluene	210.6	10	200	0	105	85-125	225	6.61	30	
trans-1,2-Dichloroethene	208.6	10	200	0	104	80-140	222.5	6.45	30	
trans-1,3-Dichloropropene	162	10	200	0	81	81-123	174.7	7.54	30	
trans-1,4-Dichloro-2-butene	129.9	20	200	0	65	46-118	136	4.59	30	
Trichloroethene	215.2	10	200	0	108	84-130	228.6	6.04	30	
Trichlorofluoromethane	151.8	10	200	0	75.9	60-140	161.4	6.13	30	
Vinyl chloride	173.9	10	200	0	87	50-136	177.6	2.11	30	
Xylenes, Total	631.5	30	600	0	105	80-126	663.9	5	30	
<i>Surr: 1,2-Dichloroethane-d4</i>	167.5	0	200	0	83.8	75-120	166.8	0.419	30	
<i>Surr: 4-Bromofluorobenzene</i>	187.9	0	200	0	94	80-110	195.6	4.02	30	
<i>Surr: Dibromofluoromethane</i>	182.2	0	200	0	91.1	85-115	187	2.6	30	
<i>Surr: Toluene-d8</i>	196	0	200	0	98	85-110	197.9	0.965	30	

The following samples were analyzed in this batch:

1608296-01A

Client: Merit Energy
Project: ECT (Hartland - 13631 Sheila Lane)
WorkOrder: 1608296

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **05-Aug-16 09:30**

Work Order: **1608296**

Received by: **MEB**

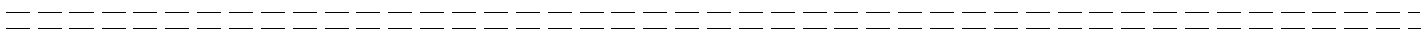
Checklist completed by Meghan Broadbent 05-Aug-16
eSignature Date

Reviewed by: Gary Byar 05-Aug-16
eSignature Date

Matrices: water
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.2/3.2</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<input type="text"/>		
Date/Time sample(s) sent to storage:	<u>8/5/2016 10:47:38 AM</u>		
Water - VOA vials have zero headspace?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<input type="text"/>		

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



RETURN SAMPLES TO:
 ALS Environmental
 781 Industrial Cir, Ste 3
 Traverse City, Michigan 49686
 (Tel) 231.421.3204
 (Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

ALS Environmental
 3352 128th Avenue
 Holland, Michigan 49424
 (Tel) 616.399.6070
 (Fax) 616.399.6185

Customer Information		Project Information					Parameter/Method Request for Analysis										
Purchase Order		Project Name	Hartland 38 Gas Plant			A	Full VOCs 8260					(2) 40 ml vials w HCL					
Work Order		Project Number				B	Sulfolane & DIPA 8270					(2) Amber Liters					
Company Name	ECT, Inc.	Bill To Company	MEC			C	RUSH										
Send Report To	Jeremy Lewandowski	Invoice Attn	Sean Craven			D											
Address	3399 Veterans Dr.	Address	1510 Thomas Rd			E											
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI			F											
Phone	231-946-8200	Phone	231-258-6369			G											
Fax	231-946-8208	Fax				H											
e-Mail Address	jlewandowski@ectinc.com					I											
						J											
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
	13631 SHEILA LANE	8-3-16	1032	GW	1	4	X	X									
Sampler(s): Please Print & Sign <i>Jeremy Lewandowski</i>		Shipment Method:			Required Turnaround Time: (Check Box) <input type="checkbox"/> 10 Wk Days <input type="checkbox"/> 5-7 Wk Days <input checked="" type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				Results Due Date: 8/5/16 930								
Relinquished by: <i>[Signature]</i>	Date: 8-3-16	Time: 21:30	Received by: ECT SAMPLE STORAGE		Date: 8-3-16	Time: 21:30	Notes: Rec'd by Lab: <i>[Signature]</i> ALS Project: MERITENERGY - Misc										
Relinquished by: ECT SAMPLE STORAGE/ECT <i>[Signature]</i>	Date: 8-4-16	Time: 1130	Received by (Laboratory): <i>[Signature]</i>		Date: 8-4-16	Time: 12:15	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below) <input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data <input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV: SWB46 Methods/CLP like <input type="checkbox"/> Other:								
Logged by (Laboratory): <i>[Signature]</i>	Date: 8/5/16	Time: 1045	Checked by (Laboratory): <i>[Signature]</i>					3.2									
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C							Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.										



21-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 456 Golden Oaks)**

Work Order: **1609821**

Dear Sean,

ALS Environmental received 1 sample on 15-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 456 Golden Oaks)
Work Order: 1609821

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609821-01	456 Golden Oaks	Water		9/14/2016 13:30	9/15/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 21-Sep-16

Client: Merit Energy
Project: ECT (Merit - 456 Golden Oaks)
Sample ID: 456 Golden Oaks
Collection Date: 9/14/2016 01:30 PM

Work Order: 1609821
Lab ID: 1609821-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/20/16	Analyst: RM
Sulfolane	ND		11	µg/L	1	9/20/2016 10:32 PM
Surr: 2,4,6-Tribromophenol	61.9		38-115	%REC	1	9/20/2016 10:32 PM
Surr: 2-Fluorobiphenyl	55.6		32-100	%REC	1	9/20/2016 10:32 PM
Surr: 2-Fluorophenol	36.4		22-59	%REC	1	9/20/2016 10:32 PM
Surr: 4-Terphenyl-d14	65.1		23-112	%REC	1	9/20/2016 10:32 PM
Surr: Nitrobenzene-d5	51.5		31-93	%REC	1	9/20/2016 10:32 PM
Surr: Phenol-d6	23.0		13-36	%REC	1	9/20/2016 10:32 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
 Work Order: 1609821
 Project: ECT (Merit - 456 Golden Oaks)

QC BATCH REPORT

Batch ID: **91632** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91632-91632				Units: µg/L		Analysis Date: 9/20/2016 08:14 PM			
Client ID:		Run ID: SVMS8_160920A				SeqNo: 4038986		Prep Date: 9/20/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
Surr: 2,4,6-Tribromophenol	32.38	0	50	0	64.8	38-115	0				
Surr: 2-Fluorobiphenyl	27.78	0	50	0	55.6	32-100	0				
Surr: 2-Fluorophenol	18.06	0	50	0	36.1	22-59	0				
Surr: 4-Terphenyl-d14	32.47	0	50	0	64.9	23-112	0				
Surr: Nitrobenzene-d5	26.59	0	50	0	53.2	31-93	0				
Surr: Phenol-d6	11.3	0	50	0	22.6	13-36	0				

LCS		Sample ID: SLCSW1-91632-91632				Units: µg/L		Analysis Date: 9/20/2016 08:34 PM			
Client ID:		Run ID: SVMS8_160920A				SeqNo: 4038987		Prep Date: 9/20/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	65.13	10	100	0	65.1	30-100	0				
Surr: 2,4,6-Tribromophenol	37.32	0	50	0	74.6	38-115	0				
Surr: 2-Fluorobiphenyl	33.25	0	50	0	66.5	32-100	0				
Surr: 2-Fluorophenol	19.89	0	50	0	39.8	22-59	0				
Surr: 4-Terphenyl-d14	34.73	0	50	0	69.5	23-112	0				
Surr: Nitrobenzene-d5	32.45	0	50	0	64.9	31-93	0				
Surr: Phenol-d6	13.43	0	50	0	26.9	13-36	0				

LCSD		Sample ID: SLCSDW1-91632-91632				Units: µg/L		Analysis Date: 9/20/2016 08:53 PM			
Client ID:		Run ID: SVMS8_160920A				SeqNo: 4038988		Prep Date: 9/20/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	53.64	10	100	0	53.6	30-100	65.13	19.3	30		
Surr: 2,4,6-Tribromophenol	37.96	0	50	0	75.9	38-115	37.32	1.7	30		
Surr: 2-Fluorobiphenyl	34.35	0	50	0	68.7	32-100	33.25	3.25	30		
Surr: 2-Fluorophenol	20.18	0	50	0	40.4	22-59	19.89	1.45	30		
Surr: 4-Terphenyl-d14	35.47	0	50	0	70.9	23-112	34.73	2.11	30		
Surr: Nitrobenzene-d5	32.05	0	50	0	64.1	31-93	32.45	1.24	30		
Surr: Phenol-d6	13.29	0	50	0	26.6	13-36	13.43	1.05	30		

The following samples were analyzed in this batch: 1609821-01A

Client: Merit Energy
Project: ECT (Merit - 456 Golden Oaks)
WorkOrder: 1609821

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **15-Sep-16 10:00**

Work Order: **1609821**

Received by: **MBB**

Checklist completed by Meghan Broadbent 15-Sep-16
eSignature Date

Reviewed by: Gary Byar 15-Sep-16
eSignature Date

Matrices: water

Carrier name: UPS

Shipping container/cooler in good condition? Yes No Not Present

Custody seals intact on shipping container/cooler? Yes No Not Present

Custody seals intact on sample bottles? Yes No Not Present

Chain of custody present? Yes No

Chain of custody signed when relinquished and received? Yes No

Chain of custody agrees with sample labels? Yes No

Samples in proper container/bottle? Yes No

Sample containers intact? Yes No

Sufficient sample volume for indicated test? Yes No

All samples received within holding time? Yes No

Container/Temp Blank temperature in compliance? Yes No

Sample(s) received on ice? Yes No

Temperature(s)/Thermometer(s): 3.6/3.6 SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 9/15/2016 12:51:22 PM

Water - VOA vials have zero headspace? Yes No No VOA vials submitted

Water - pH acceptable upon receipt? Yes No N/A

pH adjusted? Yes No N/A

pH adjusted by:

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 12647 Golden Oaks)**

Work Order: **1609699**

Dear Sean,

ALS Environmental received 1 sample on 14-Sep-2016 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

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Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 12647 Golden Oaks)
Work Order: 1609699

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609699-01	12647 Golden Oaks	Water		9/13/2016 10:45	9/14/2016 09:30	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy

Project: ECT (Merit - 12647 Golden Oaks)

Work Order: 1609699

Sample ID: 12647 Golden Oaks

Lab ID: 1609699-01

Collection Date: 9/13/2016 10:45 AM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/15/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/18/2016 06:30 PM
Surr: 2,4,6-Tribromophenol	59.3		38-115	%REC	1	9/18/2016 06:30 PM
Surr: 2-Fluorobiphenyl	56.8		32-100	%REC	1	9/18/2016 06:30 PM
Surr: 2-Fluorophenol	34.4		22-59	%REC	1	9/18/2016 06:30 PM
Surr: 4-Terphenyl-d14	67.9		23-112	%REC	1	9/18/2016 06:30 PM
Surr: Nitrobenzene-d5	55.9		31-93	%REC	1	9/18/2016 06:30 PM
Surr: Phenol-d6	19.1		13-36	%REC	1	9/18/2016 06:30 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
Work Order: 1609699
Project: ECT (Merit - 12647 Golden Oaks)

QC BATCH REPORT

Batch ID: **91411** Instrument ID: **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:03 PM		
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038350		Prep Date: 9/15/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	ND	10								
<i>Surr: 2,4,6-Tribromophenol</i>	27.6	0	50	0	55.2	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	25.19	0	50	0	50.4	32-100	0			
<i>Surr: 2-Fluorophenol</i>	15.86	0	50	0	31.7	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	32.97	0	50	0	65.9	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	24.52	0	50	0	49	31-93	0			
<i>Surr: Phenol-d6</i>	9.85	0	50	0	19.7	13-36	0			

LCS		Sample ID: SLCSW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:23 PM		
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038351		Prep Date: 9/15/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	56.19	10	100	0	56.2	30-100	0			
<i>Surr: 2,4,6-Tribromophenol</i>	34.23	0	50	0	68.5	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	32.05	0	50	0	64.1	32-100	0			
<i>Surr: 2-Fluorophenol</i>	19.67	0	50	0	39.3	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	38.75	0	50	0	77.5	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	34.48	0	50	0	69	31-93	0			
<i>Surr: Phenol-d6</i>	11.72	0	50	0	23.4	13-36	0			

LCSD		Sample ID: SLCSDW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:43 PM		
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038352		Prep Date: 9/15/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	56.47	10	100	0	56.5	30-100	56.19	0.497	30	
<i>Surr: 2,4,6-Tribromophenol</i>	35.01	0	50	0	70	38-115	34.23	2.25	30	
<i>Surr: 2-Fluorobiphenyl</i>	34.71	0	50	0	69.4	32-100	32.05	7.97	30	
<i>Surr: 2-Fluorophenol</i>	18.78	0	50	0	37.6	22-59	19.67	4.63	30	
<i>Surr: 4-Terphenyl-d14</i>	44.18	0	50	0	88.4	23-112	38.75	13.1	30	
<i>Surr: Nitrobenzene-d5</i>	34.43	0	50	0	68.9	31-93	34.48	0.145	30	
<i>Surr: Phenol-d6</i>	10.96	0	50	0	21.9	13-36	11.72	6.7	30	

The following samples were analyzed in this batch: 1609699-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Project: ECT (Merit - 12647 Golden Oaks)
WorkOrder: 1609699

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCS D	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **14-Sep-16 09:30**

Work Order: **1609699**

Received by: **KRW**

Checklist completed by KathW ieraga 14-Sep-16
eSignature Date

Reviewed by: GaryBya 14-Sep-16
eSignature Date

Matrices: Water
 Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>2.8/2.8 C</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>9/14/2016 1:22:31 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<u></u>		

Login Notes:

Client Contacted: _____ Date Contacted: _____ Person Contacted: _____
 Contacted By: _____ Regarding: _____

Comments:

CorrectiveAction:



ALS Environmental
 781 Industrial Cir, Ste 3
 Traverse City, Michigan 49686
 (Tel) 231.421.3204
 (Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
 ALS Environmental
 3352 128th Avenue
 Holland, Michigan 49424
 (Tel) 616.399.6070
 (Fax) 616.399.6185

Customer Information			Project Information				Parameter/Method Request for Analysis											
Purchase Order			Project Name	Hartland 36 Gas Plant			A	Sulfolane (1) Amber Liter										
Work Order			Project Number				B											
Company Name	ECT, Inc.		Bill To Company	MEC			C											
Send Report To	Jeremy Lawandowski		Invoice Attn.	Sean Craven			D											
Address	3399 Veterans Dr.		Address	1510 Thomas Rd			E											
City/State/Zip	Traverse City, MI 49684		City/State/Zip	Kalkaska, MI			F											
Phone	231-946-8200		Phone	231-258-6369			G											
Fax	231-946-8208		Fax				H											
e-Mail Address	jlawandowski@ectinc.com						I											
							J											
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold	
	12647 GOLDEN OAKS	9/13/16	1045	Water	8	1	X											
Sampler(s): Please Print & Sign <i>JAMES LAWANDOWSKI</i>			Shipment Method: UPS Ground		Required Turnaround Time: (Check Box) <input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				Results Due Date:									
Relinquished by: <i>JAMES LAWANDOWSKI</i>		Date: 9/13/16	Time: 1630	Received by: UPS		Date:	Time:	Notes: ALS Project: MERITENERGY - Misc										
Relinquished by: UPS		Date: 9/14/16	Time: 0930	Received by (Laboratory): <i>[Signature]</i>		Date:	Time:	ALS Cooler ID	Cooler Temp 7.8°C	QC Package: (Check Box Below) <input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data <input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV: SW846 Methods/CLP like <input type="checkbox"/> Other:								
Logged by (Laboratory): <i>Kew</i>		Date: 9/14/16	Time: 1320	Checked by (Laboratory): <i>GRB</i>														
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C																		

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 442 Jeni Lane)**

Work Order: **1609723**

Dear Sean,

ALS Environmental received 1 sample on 14-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 8.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 442 Jeni Lane)
Work Order: 1609723

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609723-01	442 Jeni Lane	Water		9/13/2016 15:23	9/14/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy
Project: ECT (Merit - 442 Jeni Lane)
Sample ID: 442 Jeni Lane
Collection Date: 9/13/2016 03:23 PM

Work Order: 1609723
Lab ID: 1609723-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/15/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/18/2016 09:49 PM
Surr: 2,4,6-Tribromophenol	50.3		38-115	%REC	1	9/18/2016 09:49 PM
Surr: 2-Fluorobiphenyl	49.3		32-100	%REC	1	9/18/2016 09:49 PM
Surr: 2-Fluorophenol	32.9		22-59	%REC	1	9/18/2016 09:49 PM
Surr: 4-Terphenyl-d14	66.4		23-112	%REC	1	9/18/2016 09:49 PM
Surr: Nitrobenzene-d5	50.4		31-93	%REC	1	9/18/2016 09:49 PM
Surr: Phenol-d6	20.0		13-36	%REC	1	9/18/2016 09:49 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
 Work Order: 1609723
 Project: ECT (Merit - 442 Jeni Lane)

QC BATCH REPORT

Batch ID: **91411** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:03 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038350		Prep Date: 9/15/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
<i>Surr: 2,4,6-Tribromophenol</i>	27.6	0	50	0	55.2	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	25.19	0	50	0	50.4	32-100	0				
<i>Surr: 2-Fluorophenol</i>	15.86	0	50	0	31.7	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	32.97	0	50	0	65.9	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	24.52	0	50	0	49	31-93	0				
<i>Surr: Phenol-d6</i>	9.85	0	50	0	19.7	13-36	0				

LCS		Sample ID: SLCSW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:23 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038351		Prep Date: 9/15/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	56.19	10	100	0	56.2	30-100	0				
<i>Surr: 2,4,6-Tribromophenol</i>	34.23	0	50	0	68.5	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	32.05	0	50	0	64.1	32-100	0				
<i>Surr: 2-Fluorophenol</i>	19.67	0	50	0	39.3	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	38.75	0	50	0	77.5	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	34.48	0	50	0	69	31-93	0				
<i>Surr: Phenol-d6</i>	11.72	0	50	0	23.4	13-36	0				

LCSD		Sample ID: SLCSDW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:43 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038352		Prep Date: 9/15/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	56.47	10	100	0	56.5	30-100	56.19	0.497	30		
<i>Surr: 2,4,6-Tribromophenol</i>	35.01	0	50	0	70	38-115	34.23	2.25	30		
<i>Surr: 2-Fluorobiphenyl</i>	34.71	0	50	0	69.4	32-100	32.05	7.97	30		
<i>Surr: 2-Fluorophenol</i>	18.78	0	50	0	37.6	22-59	19.67	4.63	30		
<i>Surr: 4-Terphenyl-d14</i>	44.18	0	50	0	88.4	23-112	38.75	13.1	30		
<i>Surr: Nitrobenzene-d5</i>	34.43	0	50	0	68.9	31-93	34.48	0.145	30		
<i>Surr: Phenol-d6</i>	10.96	0	50	0	21.9	13-36	11.72	6.7	30		

The following samples were analyzed in this batch: 1609723-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Project: ECT (Merit - 442 Jeni Lane)
WorkOrder: 1609723

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **14-Sep-16 10:00**

Work Order: **1609723**

Received by: **MBB**

Checklist completed by Meghan Broadbent 14-Sep-16
eSignature Date

Reviewed by: Gary Byar 14-Sep-16
eSignature Date

Matrices: water

Carrier name: UPS

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No
- Sample(s) received on ice? Yes No

Temperature(s)/Thermometer(s):

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage:

Water - VOA vials have zero headspace? Yes No No VOA vials submitted

Water - pH acceptable upon receipt? Yes No N/A

pH adjusted? Yes No N/A

pH adjusted by:

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



ALS Environmental
781 Industrial Cir, Ste 3
Traverse City, Michigan 49686
(Tel) 231.421.3204
(Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

ALS Project Manager: Gary Byar		ALS Work Order #: 1009723																
Customer Information		Project Information		Parameter/Method Request for Analysis														
Purchase Order		Project Name	Hartland 36 Gas Plant	A	Sulfolane (1) Amber Liter													
Work Order		Project Number		B														
Company Name	ECT, Inc.	Bill To Company	MEC	C														
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven	D														
Address	3399 Veterans Dr.	Address	1510 Thomas Rd	E														
				F														
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI	G														
Phone	231-946-8200	Phone	231-258-6369	H														
Fax	231-946-8208	Fax		I														
e-Mail Address	jl Lewandowski@ectinc.com			J														
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold	
	442 Jeni Lane	9/13/16	15:23	Water	8	1	X											
Sampler(s): Please Print & Sign <i>Anne Power</i>		Shipment Method: UPS Ground		Required Turnaround Time: (Check Box) <input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				Other		Results Due Date:								
Relinquished by: <i>[Signature]</i>		Date: 9/13/16	Time: 16:40	Received by:		Date:	Time:	Notes: ALS Project: MERITENERGY - Misc										
Relinquished by:		Date: 9/14/16	Time: 1600	Received by (Laboratory): <i>[Signature]</i>		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)								
Logged by (Laboratory): <i>[Signature]</i>		Date: 9/14/16	Time: 14:29	Checked by (Laboratory): <i>[Signature]</i>					30	<input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data								
										<input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV								
										<input type="checkbox"/> Level IV: SW846 Methods/CLP like								
										<input type="checkbox"/> Other:								
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C										Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.								

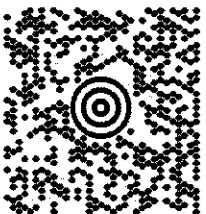
40 LBS

1 OF 1

FROM:
LISA ZUBER
(517) 272-9200
ECT, INC.
3125 SOVEREIGN DRIVE
LANSING, MI 48911-4240

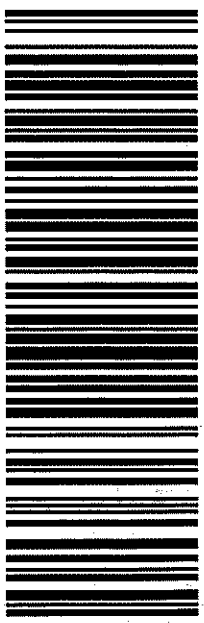
SHIP TO:
SAMPLE RECEIVING
(616) 399-6070
ALS ENVIRONMENTAL
3352 128TH AVENUE
HOLLAND MI 49424-9263

REF 1:1300685, 2001



MI 495 9-04


UPS NEXT DAY AIR 1
TRACKING #: 1Z V54 9W4 01 5268 7263



BILLING: 3RD PARTY

Fold here and place in label pouch



10-Aug-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Hartland - 483 Jeni Lane)**

Work Order: **1608287**

Dear Sean,

ALS Environmental received 1 sample on 05-Aug-2016 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 18.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Hartland - 483 Jeni Lane)
Work Order: 1608287

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1608287-01	483 Jeni Lane	Groundwater		8/3/2016 14:04	8/5/2016 09:30	<input type="checkbox"/>

ALS Group USA, Corp

Date: 10-Aug-16

Client: Merit Energy
Project: ECT (Hartland - 483 Jeni Lane)
Sample ID: 483 Jeni Lane
Collection Date: 8/3/2016 02:04 PM

Work Order: 1608287
Lab ID: 1608287-01
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 8/5/16	Analyst: RM
Diisopropanolamine	ND		50	µg/L	1	8/9/2016 01:28 AM
Sulfolane	ND		10	µg/L	1	8/9/2016 01:28 AM
Surr: 2,4,6-Tribromophenol	67.1		38-115	%REC	1	8/9/2016 01:28 AM
Surr: 2-Fluorobiphenyl	68.3		32-100	%REC	1	8/9/2016 01:28 AM
Surr: 2-Fluorophenol	35.8		22-59	%REC	1	8/9/2016 01:28 AM
Surr: 4-Terphenyl-d14	89.0		23-112	%REC	1	8/9/2016 01:28 AM
Surr: Nitrobenzene-d5	68.1		31-93	%REC	1	8/9/2016 01:28 AM
Surr: Phenol-d6	20.7		13-36	%REC	1	8/9/2016 01:28 AM
VOLATILE ORGANIC COMPOUNDS			SW8260B			Analyst: AK
1,1,1,2-Tetrachloroethane	ND		1.0	µg/L	1	8/5/2016 06:36 PM
1,1,1-Trichloroethane	ND		1.0	µg/L	1	8/5/2016 06:36 PM
1,1,2,2-Tetrachloroethane	ND		1.0	µg/L	1	8/5/2016 06:36 PM
1,1,2-Trichloroethane	ND		1.0	µg/L	1	8/5/2016 06:36 PM
1,1,2-Trichlorotrifluoroethane	ND		1.0	µg/L	1	8/5/2016 06:36 PM
1,1-Dichloroethane	ND		1.0	µg/L	1	8/5/2016 06:36 PM
1,1-Dichloroethene	ND		1.0	µg/L	1	8/5/2016 06:36 PM
1,2,3-Trichloropropane	ND		1.0	µg/L	1	8/5/2016 06:36 PM
1,2,4-Trichlorobenzene	ND		1.0	µg/L	1	8/5/2016 06:36 PM
1,2,4-Trimethylbenzene	ND		1.0	µg/L	1	8/5/2016 06:36 PM
1,2-Dibromo-3-chloropropane	ND		1.0	µg/L	1	8/5/2016 06:36 PM
1,2-Dibromoethane	ND		1.0	µg/L	1	8/5/2016 06:36 PM
1,2-Dichlorobenzene	ND		1.0	µg/L	1	8/5/2016 06:36 PM
1,2-Dichloroethane	ND		1.0	µg/L	1	8/5/2016 06:36 PM
1,2-Dichloropropane	ND		1.0	µg/L	1	8/5/2016 06:36 PM
1,3,5-Trimethylbenzene	ND		1.0	µg/L	1	8/5/2016 06:36 PM
1,3-Dichlorobenzene	ND		1.0	µg/L	1	8/5/2016 06:36 PM
1,4-Dichlorobenzene	ND		1.0	µg/L	1	8/5/2016 06:36 PM
2-Butanone	ND		5.0	µg/L	1	8/5/2016 06:36 PM
2-Hexanone	ND		5.0	µg/L	1	8/5/2016 06:36 PM
2-Methylnaphthalene	ND		5.0	µg/L	1	8/5/2016 06:36 PM
4-Methyl-2-pentanone	ND		1.0	µg/L	1	8/5/2016 06:36 PM
Acetone	ND		10	µg/L	1	8/5/2016 06:36 PM
Acrylonitrile	ND		1.0	µg/L	1	8/5/2016 06:36 PM
Benzene	ND		1.0	µg/L	1	8/5/2016 06:36 PM
Bromochloromethane	ND		1.0	µg/L	1	8/5/2016 06:36 PM
Bromodichloromethane	ND		1.0	µg/L	1	8/5/2016 06:36 PM
Bromoform	ND		1.0	µg/L	1	8/5/2016 06:36 PM
Bromomethane	ND		1.0	µg/L	1	8/5/2016 06:36 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 10-Aug-16

Client: Merit Energy
Project: ECT (Hartland - 483 Jeni Lane)
Sample ID: 483 Jeni Lane
Collection Date: 8/3/2016 02:04 PM

Work Order: 1608287
Lab ID: 1608287-01
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		1.0	µg/L	1	8/5/2016 06:36 PM
Carbon tetrachloride	ND		1.0	µg/L	1	8/5/2016 06:36 PM
Chlorobenzene	ND		1.0	µg/L	1	8/5/2016 06:36 PM
Chloroethane	ND		1.0	µg/L	1	8/5/2016 06:36 PM
Chloroform	ND		1.0	µg/L	1	8/5/2016 06:36 PM
Chloromethane	ND		1.0	µg/L	1	8/5/2016 06:36 PM
cis-1,2-Dichloroethene	ND		1.0	µg/L	1	8/5/2016 06:36 PM
cis-1,3-Dichloropropene	ND		1.0	µg/L	1	8/5/2016 06:36 PM
Dibromochloromethane	ND		1.0	µg/L	1	8/5/2016 06:36 PM
Dibromomethane	ND		1.0	µg/L	1	8/5/2016 06:36 PM
Dichlorodifluoromethane	ND		1.0	µg/L	1	8/5/2016 06:36 PM
Diethyl ether	ND		1.0	µg/L	1	8/5/2016 06:36 PM
Ethylbenzene	ND		1.0	µg/L	1	8/5/2016 06:36 PM
Hexachloroethane	ND		1.0	µg/L	1	8/5/2016 06:36 PM
Isopropylbenzene	ND		1.0	µg/L	1	8/5/2016 06:36 PM
m,p-Xylene	ND		2.0	µg/L	1	8/5/2016 06:36 PM
Methyl iodide	ND		1.0	µg/L	1	8/5/2016 06:36 PM
Methyl tert-butyl ether	ND		1.0	µg/L	1	8/5/2016 06:36 PM
Methylene chloride	ND		5.0	µg/L	1	8/5/2016 06:36 PM
Naphthalene	ND		5.0	µg/L	1	8/5/2016 06:36 PM
n-Propylbenzene	ND		1.0	µg/L	1	8/5/2016 06:36 PM
o-Xylene	ND		1.0	µg/L	1	8/5/2016 06:36 PM
Styrene	ND		1.0	µg/L	1	8/5/2016 06:36 PM
Tetrachloroethene	ND		1.0	µg/L	1	8/5/2016 06:36 PM
Toluene	ND		1.0	µg/L	1	8/5/2016 06:36 PM
trans-1,2-Dichloroethene	ND		1.0	µg/L	1	8/5/2016 06:36 PM
trans-1,3-Dichloropropene	ND		1.0	µg/L	1	8/5/2016 06:36 PM
trans-1,4-Dichloro-2-butene	ND		2.0	µg/L	1	8/5/2016 06:36 PM
Trichloroethene	ND		1.0	µg/L	1	8/5/2016 06:36 PM
Trichlorofluoromethane	ND		1.0	µg/L	1	8/5/2016 06:36 PM
Vinyl acetate	ND		5.0	µg/L	1	8/5/2016 06:36 PM
Vinyl chloride	ND		1.0	µg/L	1	8/5/2016 06:36 PM
Xylenes, Total	ND		3.0	µg/L	1	8/5/2016 06:36 PM
Surr: 1,2-Dichloroethane-d4	86.2		75-120	%REC	1	8/5/2016 06:36 PM
Surr: 4-Bromofluorobenzene	96.6		80-110	%REC	1	8/5/2016 06:36 PM
Surr: Dibromofluoromethane	89.0		85-115	%REC	1	8/5/2016 06:36 PM
Surr: Toluene-d8	97.2		85-110	%REC	1	8/5/2016 06:36 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
Project: ECT (Hartland - 483 Jeni Lane)
Work Order: 1608287

Case Narrative

Batch R193219A Sample VLCSW1-160805 The LCS recovery for Volatile compound Tetrachloroethene was above the upper control limit. All the sample results in the batch were non-detect. No qualification is necessary for this analyte.

Batch R193219A The MS/MSD data for Volatiles is not related to this projects sample. No data requires qualification.

Client: Merit Energy
 Work Order: 1608287
 Project: ECT (Hartland - 483 Jeni Lane)

QC BATCH REPORT

Batch ID: **89682** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-89682-89682				Units: µg/L		Analysis Date: 8/8/2016 08:51 PM		
Client ID:		Run ID: SVMS8_160808A		SeqNo: 3968850		Prep Date: 8/5/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	ND	50								
Sulfolane	ND	10								
<i>Surr: 2,4,6-Tribromophenol</i>	32.35	0	50	0	64.7	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	36.53	0	50	0	73.1	32-100	0			
<i>Surr: 2-Fluorophenol</i>	19.03	0	50	0	38.1	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	45.48	0	50	0	91	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	36.58	0	50	0	73.2	31-93	0			
<i>Surr: Phenol-d6</i>	9.38	0	50	0	18.8	13-36	0			

LCS		Sample ID: SLCSW1-89682-89682				Units: µg/L		Analysis Date: 8/8/2016 09:12 PM		
Client ID:		Run ID: SVMS8_160808A		SeqNo: 3968851		Prep Date: 8/5/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	3.57	50	20	0	17.8	10-50	0			
Sulfolane	11.76	10	20	0	58.8	30-100	0			
<i>Surr: 2,4,6-Tribromophenol</i>	32.34	0	50	0	64.7	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	37.17	0	50	0	74.3	32-100	0			
<i>Surr: 2-Fluorophenol</i>	19.78	0	50	0	39.6	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	49.38	0	50	0	98.8	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	35.31	0	50	0	70.6	31-93	0			
<i>Surr: Phenol-d6</i>	11.13	0	50	0	22.3	13-36	0			

LCSD		Sample ID: SLCSDW1-89682-89682				Units: µg/L		Analysis Date: 8/8/2016 09:33 PM		
Client ID:		Run ID: SVMS8_160808A		SeqNo: 3968852		Prep Date: 8/5/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	3.35	50	20	0	16.8	10-50	3.57	0	50	
Sulfolane	12.03	10	20	0	60.2	30-100	11.76	2.27	50	
<i>Surr: 2,4,6-Tribromophenol</i>	32.73	0	50	0	65.5	38-115	32.34	1.2	40	
<i>Surr: 2-Fluorobiphenyl</i>	38.09	0	50	0	76.2	32-100	37.17	2.44	40	
<i>Surr: 2-Fluorophenol</i>	18.36	0	50	0	36.7	22-59	19.78	7.45	40	
<i>Surr: 4-Terphenyl-d14</i>	48.18	0	50	0	96.4	23-112	49.38	2.46	40	
<i>Surr: Nitrobenzene-d5</i>	36.74	0	50	0	73.5	31-93	35.31	3.97	40	
<i>Surr: Phenol-d6</i>	10.18	0	50	0	20.4	13-36	11.13	8.92	40	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608287
 Project: ECT (Hartland - 483 Jeni Lane)

QC BATCH REPORT

Batch ID: **89682** Instrument ID **SVMS8** Method: **SW846 8270D**

MS		Sample ID: 1608284-01B MS				Units: µg/L		Analysis Date: 8/8/2016 11:24 PM		
Client ID:		Run ID: SVMS8_160808A		SeqNo: 3968855		Prep Date: 8/5/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	3.25	50	20	0	16.2	10-50	0			
Sulfolane	12.15	10	20	0	60.8	30-100	0			
<i>Surr: 2,4,6-Tribromophenol</i>	34.22	0	50	0	68.4	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	38.42	0	50	0	76.8	32-100	0			
<i>Surr: 2-Fluorophenol</i>	17.81	0	50	0	35.6	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	42.35	0	50	0	84.7	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	37.97	0	50	0	75.9	31-93	0			
<i>Surr: Phenol-d6</i>	9.23	0	50	0	18.5	13-36	0			

DUP		Sample ID: 1608285-01B DUP				Units: µg/L		Analysis Date: 8/9/2016 12:05 AM		
Client ID:		Run ID: SVMS8_160808A		SeqNo: 3968857		Prep Date: 8/5/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	ND	50	0	0	0		0	0	50	
Sulfolane	ND	10	0	0	0		0	0	50	
<i>Surr: 2,4,6-Tribromophenol</i>	36.71	0	50	0	73.4	38-115	33.33	9.65	40	
<i>Surr: 2-Fluorobiphenyl</i>	42.42	0	50	0	84.8	32-100	36.64	14.6	40	
<i>Surr: 2-Fluorophenol</i>	20.27	0	50	0	40.5	22-59	20.78	2.48	40	
<i>Surr: 4-Terphenyl-d14</i>	46.4	0	50	0	92.8	23-112	45.62	1.7	40	
<i>Surr: Nitrobenzene-d5</i>	39.3	0	50	0	78.6	31-93	37.49	4.71	40	
<i>Surr: Phenol-d6</i>	10.33	0	50	0	20.7	13-36	10.9	5.37	40	

The following samples were analyzed in this batch:

1608287-01B

Client: Merit Energy
 Work Order: 1608287
 Project: ECT (Hartland - 483 Jeni Lane)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

MBLK		Sample ID: VBLKW1-160805-R193219A				Units: µg/L		Analysis Date: 8/5/2016 04:16 PM		
Client ID:		Run ID: VMS7_160805A		SeqNo: 3965976		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
1,1,2-Trichlorotrifluoroethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2,3-Trichloropropane	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	1.0								
1,2-Dibromoethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,2-Dichloroethane	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
2-Butanone	ND	5.0								
2-Hexanone	ND	5.0								
2-Methylnaphthalene	ND	5.0								
4-Methyl-2-pentanone	ND	1.0								
Acetone	ND	10								
Acrylonitrile	ND	1.0								
Benzene	ND	1.0								
Bromochloromethane	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	1.0								
Carbon disulfide	ND	1.0								
Carbon tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	1.0								
Chloroform	ND	1.0								
Chloromethane	ND	1.0								
cis-1,2-Dichloroethene	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
Diethyl ether	ND	1.0								
Ethylbenzene	ND	1.0								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Work Order: 1608287
Project: ECT (Hartland - 483 Jeni Lane)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7	Method: SW8260B						
Hexachloroethane	ND	1.0						
Isopropylbenzene	ND	1.0						
m,p-Xylene	ND	2.0						
Methyl iodide	ND	1.0						
Methyl tert-butyl ether	ND	1.0						
Methylene chloride	ND	5.0						
Naphthalene	ND	5.0						
n-Propylbenzene	ND	1.0						
o-Xylene	ND	1.0						
Styrene	ND	1.0						
Tetrachloroethene	ND	1.0						
Toluene	ND	1.0						
trans-1,2-Dichloroethene	ND	1.0						
trans-1,3-Dichloropropene	ND	1.0						
trans-1,4-Dichloro-2-butene	ND	2.0						
Trichloroethene	ND	1.0						
Trichlorofluoromethane	ND	1.0						
Vinyl acetate	ND	5.0						
Vinyl chloride	ND	1.0						
Xylenes, Total	ND	3.0						
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>16.65</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>83.2</i>	<i>75-120</i>	<i>0</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.46</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>97.3</i>	<i>80-110</i>	<i>0</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>17.64</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>88.2</i>	<i>85-115</i>	<i>0</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>19.85</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>99.2</i>	<i>85-110</i>	<i>0</i>	<i>0</i>

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608287
 Project: ECT (Hartland - 483 Jeni Lane)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

LCS		Sample ID: VLCSW1-160805-R193219A				Units: µg/L		Analysis Date: 8/5/2016 03:05 PM		
Client ID:		Run ID: VMS7_160805A			SeqNo: 3965975		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.56	1.0	20	0	97.8	80-130	0			
1,1,1-Trichloroethane	19.1	1.0	20	0	95.5	75-130	0			
1,1,2,2-Tetrachloroethane	21.28	1.0	20	0	106	75-130	0			
1,1,2-Trichloroethane	21.61	1.0	20	0	108	75-125	0			
1,1-Dichloroethane	20.97	1.0	20	0	105	75-133	0			
1,1-Dichloroethene	23.78	1.0	20	0	119	70-145	0			
1,2,3-Trichloropropane	21.08	1.0	20	0	105	75-125	0			
1,2,4-Trichlorobenzene	20.33	1.0	20	0	102	70-135	0			
1,2,4-Trimethylbenzene	21.21	1.0	20	0	106	75-130	0			
1,2-Dibromo-3-chloropropane	18.89	1.0	20	0	94.4	60-130	0			
1,2-Dibromoethane	25.21	1.0	20	0	126	80-150	0			
1,2-Dichlorobenzene	21.24	1.0	20	0	106	70-130	0			
1,2-Dichloroethane	18.28	1.0	20	0	91.4	78-125	0			
1,2-Dichloropropane	21.36	1.0	20	0	107	75-125	0			
1,3,5-Trimethylbenzene	21.95	1.0	20	0	110	75-130	0			
1,3-Dichlorobenzene	21.41	1.0	20	0	107	75-130	0			
1,4-Dichlorobenzene	21.42	1.0	20	0	107	75-130	0			
2-Butanone	21.67	5.0	20	0	108	55-150	0			
2-Hexanone	21.04	5.0	20	0	105	60-135	0			
4-Methyl-2-pentanone	24.27	1.0	20	0	121	77-178	0			
Acetone	21.61	10	20	0	108	60-160	0			
Acrylonitrile	22.04	1.0	20	0	110	60-140	0			
Benzene	22.09	1.0	20	0	110	85-125	0			
Bromochloromethane	21.07	1.0	20	0	105	75-130	0			
Bromodichloromethane	18.63	1.0	20	0	93.2	75-125	0			
Bromoform	17.48	1.0	20	0	87.4	60-125	0			
Bromomethane	20.46	1.0	20	0	102	30-185	0			
Carbon disulfide	21.83	1.0	20	0	109	60-165	0			
Carbon tetrachloride	16.88	1.0	20	0	84.4	65-140	0			
Chlorobenzene	21.43	1.0	20	0	107	80-120	0			
Chloroethane	17.4	1.0	20	0	87	50-140	0			
Chloroform	18.37	1.0	20	0	91.8	80-130	0			
Chloromethane	17.48	1.0	20	0	87.4	50-130	0			
cis-1,2-Dichloroethene	19.7	1.0	20	0	98.5	75-134	0			
cis-1,3-Dichloropropene	20.55	1.0	20	0	103	70-130	0			
Dibromochloromethane	17.89	1.0	20	0	89.4	60-115	0			
Dibromomethane	20.41	1.0	20	0	102	85-125	0			
Dichlorodifluoromethane	11.7	1.0	20	0	58.5	20-120	0			
Ethylbenzene	21.34	1.0	20	0	107	85-125	0			
Hexachloroethane	13.53	1.0	20	0	67.6	50-124	0			
Isopropylbenzene	21.64	1.0	20	0	108	80-127	0			
m,p-Xylene	42.52	2.0	40	0	106	75-130	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Work Order: 1608287
Project: ECT (Hartland - 483 Jeni Lane)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7		Method: SW8260B					
Methyl iodide	21.79	1.0	20	0	109	60-160	0	
Methyl tert-butyl ether	20.91	1.0	20	0	105	80-130	0	
Methylene chloride	20.55	5.0	20	0	103	75-140	0	
Naphthalene	21.8	5.0	20	0	109	55-160	0	
n-Propylbenzene	21.26	1.0	20	0	106	78-120	0	
o-Xylene	20.78	1.0	20	0	104	80-125	0	
Styrene	22.53	1.0	20	0	113	85-125	0	
Tetrachloroethene	28.15	1.0	20	0	141	77-138	0	S
Toluene	21.45	1.0	20	0	107	85-125	0	
trans-1,2-Dichloroethene	21.02	1.0	20	0	105	80-140	0	
trans-1,3-Dichloropropene	19	1.0	20	0	95	81-123	0	
trans-1,4-Dichloro-2-butene	16.54	2.0	20	0	82.7	46-118	0	
Trichloroethene	21.19	1.0	20	0	106	84-130	0	
Trichlorofluoromethane	15.48	1.0	20	0	77.4	60-140	0	
Vinyl chloride	17.28	1.0	20	0	86.4	50-136	0	
Xylenes, Total	63.3	3.0	60	0	106	80-126	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	17.26	0	20	0	86.3	75-120	0	
<i>Surr: 4-Bromofluorobenzene</i>	19.64	0	20	0	98.2	80-110	0	
<i>Surr: Dibromofluoromethane</i>	19	0	20	0	95	85-115	0	
<i>Surr: Toluene-d8</i>	19.74	0	20	0	98.7	85-110	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608287
 Project: ECT (Hartland - 483 Jeni Lane)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

MS		Sample ID: 1608291-01A MS				Units: µg/L		Analysis Date: 8/5/2016 11:40 PM		
Client ID:		Run ID: VMS7_160805A			SeqNo: 3965989		Prep Date:		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	187.1	10	200	0	93.6	80-130	0			
1,1,1-Trichloroethane	194.5	10	200	0	97.2	75-130	0			
1,1,2,2-Tetrachloroethane	209.2	10	200	0	105	75-130	0			
1,1,2-Trichloroethane	221.6	10	200	0	111	75-125	0			
1,1-Dichloroethane	212.9	10	200	0	106	75-133	0			
1,1-Dichloroethene	266.4	10	200	0	133	70-145	0			
1,2,3-Trichloropropane	217.6	10	200	0	109	75-125	0			
1,2,4-Trichlorobenzene	200.5	10	200	0	100	70-135	0			
1,2,4-Trimethylbenzene	218.4	10	200	0	109	75-130	0			
1,2-Dibromo-3-chloropropane	157.8	10	200	0	78.9	60-130	0			
1,2-Dibromoethane	259.8	10	200	0	130	80-150	0			
1,2-Dichlorobenzene	219.2	10	200	0	110	70-130	0			
1,2-Dichloroethane	193.1	10	200	0	96.6	78-125	0			
1,2-Dichloropropane	223.3	10	200	0	112	75-125	0			
1,3,5-Trimethylbenzene	223.2	10	200	0	112	75-130	0			
1,3-Dichlorobenzene	223.6	10	200	0	112	75-130	0			
1,4-Dichlorobenzene	215.7	10	200	0	108	75-130	0			
2-Butanone	208.6	50	200	0	104	55-150	0			
2-Hexanone	205.6	50	200	0	103	60-135	0			
4-Methyl-2-pentanone	232.8	10	200	0	116	77-178	0			
Acetone	216	100	200	0	108	60-160	0			
Acrylonitrile	224.6	10	200	0	112	60-140	0			
Benzene	234.1	10	200	0	117	85-125	0			
Bromochloromethane	215.1	10	200	0	108	75-130	0			
Bromodichloromethane	184.5	10	200	0	92.2	75-125	0			
Bromoform	152.4	10	200	0	76.2	60-125	0			
Bromomethane	187.7	10	200	0	93.8	30-185	0			
Carbon disulfide	231.8	10	200	0	116	60-165	0			
Carbon tetrachloride	162.5	10	200	0	81.2	65-140	0			
Chlorobenzene	226.8	10	200	0	113	80-120	0			
Chloroethane	185.3	10	200	0	92.6	50-140	0			
Chloroform	191.8	10	200	0	95.9	80-130	0			
Chloromethane	179.5	10	200	0	89.8	50-130	0			
cis-1,2-Dichloroethene	199.8	10	200	0	99.9	75-134	0			
cis-1,3-Dichloropropene	195.6	10	200	0	97.8	70-130	0			
Dibromochloromethane	163.3	10	200	0	81.6	60-115	0			
Dibromomethane	207.6	10	200	0	104	85-125	0			
Dichlorodifluoromethane	149.1	10	200	0	74.6	20-120	0			
Ethylbenzene	225.8	10	200	0	113	85-125	0			
Hexachloroethane	108	10	200	0	54	50-124	0			
Isopropylbenzene	227.9	10	200	0	114	80-127	0			
m,p-Xylene	445.8	20	400	0	111	75-130	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608287
 Project: ECT (Hartland - 483 Jeni Lane)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7		Method: SW8260B					
Methyl iodide	282	10	200	0	141	60-160	0	
Methyl tert-butyl ether	211	10	200	0	106	80-130	0	
Methylene chloride	218.8	50	200	0	109	75-140	0	
Naphthalene	216.1	50	200	0	108	55-160	0	
n-Propylbenzene	219.2	10	200	0	110	78-120	0	
o-Xylene	218.1	10	200	0	109	80-125	0	
Styrene	232.8	10	200	0	116	85-125	0	
Tetrachloroethene	318.4	10	200	0	159	77-138	0	
Toluene	225	10	200	0	112	85-125	0	
trans-1,2-Dichloroethene	222.5	10	200	0	111	80-140	0	
trans-1,3-Dichloropropene	174.7	10	200	0	87.4	81-123	0	
trans-1,4-Dichloro-2-butene	136	20	200	0	68	46-118	0	
Trichloroethene	228.6	10	200	0	114	84-130	0	
Trichlorofluoromethane	161.4	10	200	0	80.7	60-140	0	
Vinyl chloride	177.6	10	200	0	88.8	50-136	0	
Xylenes, Total	663.9	30	600	0	111	80-126	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>166.8</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>83.4</i>	<i>75-120</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>195.6</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>97.8</i>	<i>80-110</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>187</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>93.5</i>	<i>85-115</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>197.9</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>99</i>	<i>85-110</i>	<i>0</i>	

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Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608287
 Project: ECT (Hartland - 483 Jeni Lane)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

MSD		Sample ID: 1608291-01A MSD				Units: µg/L		Analysis Date: 8/6/2016 12:03 PM		
Client ID:		Run ID: VMS7_160805A			SeqNo: 3965990		Prep Date:		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	172.3	10	200	0	86.2	80-130	187.1	8.24	30	
1,1,1-Trichloroethane	186.1	10	200	0	93	75-130	194.5	4.41	30	
1,1,2,2-Tetrachloroethane	195.1	10	200	0	97.6	75-130	209.2	6.98	30	
1,1,2-Trichloroethane	207.7	10	200	0	104	75-125	221.6	6.48	30	
1,1-Dichloroethane	202.7	10	200	0	101	75-133	212.9	4.91	30	
1,1-Dichloroethene	242.4	10	200	0	121	70-145	266.4	9.43	30	
1,2,3-Trichloropropane	197.1	10	200	0	98.6	75-125	217.6	9.89	30	
1,2,4-Trichlorobenzene	195.7	10	200	0	97.8	70-135	200.5	2.42	30	
1,2,4-Trimethylbenzene	204.2	10	200	0	102	75-130	218.4	6.72	30	
1,2-Dibromo-3-chloropropane	151.7	10	200	0	75.8	60-130	157.8	3.94	30	
1,2-Dibromoethane	239.5	10	200	0	120	80-150	259.8	8.13	30	
1,2-Dichlorobenzene	207.3	10	200	0	104	70-130	219.2	5.58	30	
1,2-Dichloroethane	179.2	10	200	0	89.6	78-125	193.1	7.47	30	
1,2-Dichloropropane	205.9	10	200	0	103	75-125	223.3	8.11	30	
1,3,5-Trimethylbenzene	212	10	200	0	106	75-130	223.2	5.15	30	
1,3-Dichlorobenzene	213.2	10	200	0	107	75-130	223.6	4.76	30	
1,4-Dichlorobenzene	207.7	10	200	0	104	75-130	215.7	3.78	30	
2-Butanone	194.4	50	200	0	97.2	55-150	208.6	7.05	30	
2-Hexanone	183.1	50	200	0	91.6	60-135	205.6	11.6	30	
4-Methyl-2-pentanone	211	10	200	0	106	77-178	232.8	9.82	30	
Acetone	201.4	100	200	0	101	60-160	216	7	30	
Acrylonitrile	205.6	10	200	0	103	60-140	224.6	8.83	30	
Benzene	219.9	10	200	0	110	85-125	234.1	6.26	30	
Bromochloromethane	204.4	10	200	0	102	75-130	215.1	5.1	30	
Bromodichloromethane	171.9	10	200	0	86	75-125	184.5	7.07	30	
Bromoform	145.2	10	200	0	72.6	60-125	152.4	4.84	30	
Bromomethane	164.2	10	200	0	82.1	30-185	187.7	13.4	30	
Carbon disulfide	216.9	10	200	0	108	60-165	231.8	6.64	30	
Carbon tetrachloride	154.6	10	200	0	77.3	65-140	162.5	4.98	30	
Chlorobenzene	212.3	10	200	0	106	80-120	226.8	6.6	30	
Chloroethane	164.2	10	200	0	82.1	50-140	185.3	12.1	30	
Chloroform	182.6	10	200	0	91.3	80-130	191.8	4.91	30	
Chloromethane	174.5	10	200	0	87.2	50-130	179.5	2.82	30	
cis-1,2-Dichloroethene	186.4	10	200	0	93.2	75-134	199.8	6.94	30	
cis-1,3-Dichloropropene	183.4	10	200	0	91.7	70-130	195.6	6.44	30	
Dibromochloromethane	154.8	10	200	0	77.4	60-115	163.3	5.34	30	
Dibromomethane	196.7	10	200	0	98.4	85-125	207.6	5.39	30	
Dichlorodifluoromethane	137.6	10	200	0	68.8	20-120	149.1	8.02	30	
Ethylbenzene	212	10	200	0	106	85-125	225.8	6.3	30	
Hexachloroethane	111.2	10	200	0	55.6	50-124	108	2.92	30	
Isopropylbenzene	215.6	10	200	0	108	80-127	227.9	5.55	30	
m,p-Xylene	428.1	20	400	0	107	75-130	445.8	4.05	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608287
 Project: ECT (Hartland - 483 Jeni Lane)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7		Method: SW8260B							
Methyl iodide	247.4	10	200	0	124	60-160	282	13.1	30	
Methyl tert-butyl ether	199	10	200	0	99.5	80-130	211	5.85	30	
Methylene chloride	206	50	200	0	103	75-140	218.8	6.03	30	
Naphthalene	204.1	50	200	0	102	55-160	216.1	5.71	30	
n-Propylbenzene	206.4	10	200	0	103	78-120	219.2	6.02	30	
o-Xylene	203.4	10	200	0	102	80-125	218.1	6.98	30	
Styrene	219.8	10	200	0	110	85-125	232.8	5.74	30	
Tetrachloroethene	290.1	10	200	0	145	77-138	318.4	9.3	30 S	
Toluene	210.6	10	200	0	105	85-125	225	6.61	30	
trans-1,2-Dichloroethene	208.6	10	200	0	104	80-140	222.5	6.45	30	
trans-1,3-Dichloropropene	162	10	200	0	81	81-123	174.7	7.54	30	
trans-1,4-Dichloro-2-butene	129.9	20	200	0	65	46-118	136	4.59	30	
Trichloroethene	215.2	10	200	0	108	84-130	228.6	6.04	30	
Trichlorofluoromethane	151.8	10	200	0	75.9	60-140	161.4	6.13	30	
Vinyl chloride	173.9	10	200	0	87	50-136	177.6	2.11	30	
Xylenes, Total	631.5	30	600	0	105	80-126	663.9	5	30	
<i>Surr: 1,2-Dichloroethane-d4</i>	167.5	0	200	0	83.8	75-120	166.8	0.419	30	
<i>Surr: 4-Bromofluorobenzene</i>	187.9	0	200	0	94	80-110	195.6	4.02	30	
<i>Surr: Dibromofluoromethane</i>	182.2	0	200	0	91.1	85-115	187	2.6	30	
<i>Surr: Toluene-d8</i>	196	0	200	0	98	85-110	197.9	0.965	30	

The following samples were analyzed in this batch:

1608287-01A

Client: Merit Energy
Project: ECT (Hartland - 483 Jeni Lane)
WorkOrder: 1608287

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **05-Aug-16 09:30**

Work Order: **1608287**

Received by: **MEB**

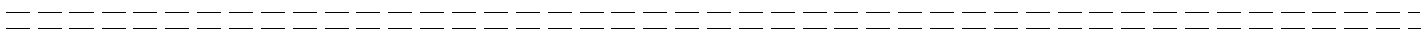
Checklist completed by Meghan Broadbent 05-Aug-16
eSignature Date

Reviewed by: Gary Byar 05-Aug-16
eSignature Date

Matrices: water
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>2.4/2.4</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>8/5/2016 10:28:53 AM</u>		
Water - VOA vials have zero headspace?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<u></u>		

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



RETURN SAMPLES TO:
 ALS Environmental
 781 Industrial Cir, Ste 3
 Traverse City, Michigan 49686
 (Tel) 231.421.3204
 (Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

ALS Environmental
 3352 128th Avenue
 Holland, Michigan 49424
 (Tel) 616.399.6070
 (Fax) 616.399.6185

Customer Information			Project Information				Parameter/Method Request for Analysis										
Purchase Order		Project Name	Hartland 36 Gas Plant		A	Full VOCs 8260		(2) 40 ml vials w HCL									
Work Order		Project Number			B	Sulfolane & DIPA 8270		(2) Amber Liters									
Company Name	ECT, Inc.	Bill To Company	MEC		C												
Send Report To	Jeremy Lewandowski	Invoice Attn	Sean Craven		D												
Address	3399 Veterans Dr.	Address	1510 Thomas Rd		E			RUSH									
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kaikaska, MI		F												
Phone	231-946-8200	Phone	231-258-6369		G												
Fax	231-946-8208	Fax			H												
e-Mail Address	jlewandowski@ectinc.com				I												
					J												
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
	483 JENI LAKE	8-3-16	1404	GW	1	4	X	X									
Sampler(s): Please Print & Sign <i>Jeremy Lewandowski</i>		Shipment Method:		Required Turnaround Time: (Check Box) <input type="checkbox"/> 10 Wk Days <input type="checkbox"/> 5-7 Wk Days <input checked="" type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				Results Due Date: 8/5/16 930									
Relinquished by: <i>[Signature]</i>		Date: 8-3-16	Time: 2130	Received by: ECT SAMPLE STORAGE <i>[Signature]</i>		Date: 8-3-16	Time: 2130	Notes: Rec'd by Lab: <i>MB</i> 8/5/16 ALS Project: MERITENERGY - Misc									
Relinquished by: ECT SAMPLE STORAGE <i>[Signature]</i>		Date: 8-4-16	Time: 1150	Received by (Laboratory): <i>[Signature]</i>		Date: 8-4-16	Time: 1215	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)							
Logged by (Laboratory): <i>[Signature]</i>		Date: 8/5/16	Time: 1027	Checked by (Laboratory): <i>[Signature]</i>				24		<input checked="" type="checkbox"/> Level II: Standard QC	<input type="checkbox"/> Level III: Raw Data		<input type="checkbox"/> TRRP LRC		<input type="checkbox"/> TRRP Level IV		
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C		Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.															



10-Aug-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Hartland - 13624 Sheila Lane)**

Work Order: **1608288**

Dear Sean,

ALS Environmental received 1 sample on 05-Aug-2016 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 18.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Hartland - 13624 Sheila Lane)
Work Order: 1608288

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1608288-01	13624 Sheila Lane	Groundwater		8/3/2016 16:33	8/5/2016 09:30	<input type="checkbox"/>

ALS Group USA, Corp

Date: 10-Aug-16

Client: Merit Energy
Project: ECT (Hartland - 13624 Sheila Lane)
Sample ID: 13624 Sheila Lane
Collection Date: 8/3/2016 04:33 PM

Work Order: 1608288
Lab ID: 1608288-01
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 8/5/16	Analyst: RM
Diisopropanolamine	ND		54	µg/L	1	8/9/2016 01:48 AM
Sulfolane	ND		11	µg/L	1	8/9/2016 01:48 AM
Surr: 2,4,6-Tribromophenol	68.9		38-115	%REC	1	8/9/2016 01:48 AM
Surr: 2-Fluorobiphenyl	63.0		32-100	%REC	1	8/9/2016 01:48 AM
Surr: 2-Fluorophenol	27.2		22-59	%REC	1	8/9/2016 01:48 AM
Surr: 4-Terphenyl-d14	99.5		23-112	%REC	1	8/9/2016 01:48 AM
Surr: Nitrobenzene-d5	54.8		31-93	%REC	1	8/9/2016 01:48 AM
Surr: Phenol-d6	16.8		13-36	%REC	1	8/9/2016 01:48 AM
VOLATILE ORGANIC COMPOUNDS			SW8260B			Analyst: AK
1,1,1,2-Tetrachloroethane	ND		1.0	µg/L	1	8/5/2016 07:00 PM
1,1,1-Trichloroethane	ND		1.0	µg/L	1	8/5/2016 07:00 PM
1,1,2,2-Tetrachloroethane	ND		1.0	µg/L	1	8/5/2016 07:00 PM
1,1,2-Trichloroethane	ND		1.0	µg/L	1	8/5/2016 07:00 PM
1,1,2-Trichlorotrifluoroethane	ND		1.0	µg/L	1	8/5/2016 07:00 PM
1,1-Dichloroethane	ND		1.0	µg/L	1	8/5/2016 07:00 PM
1,1-Dichloroethene	ND		1.0	µg/L	1	8/5/2016 07:00 PM
1,2,3-Trichloropropane	ND		1.0	µg/L	1	8/5/2016 07:00 PM
1,2,4-Trichlorobenzene	ND		1.0	µg/L	1	8/5/2016 07:00 PM
1,2,4-Trimethylbenzene	ND		1.0	µg/L	1	8/5/2016 07:00 PM
1,2-Dibromo-3-chloropropane	ND		1.0	µg/L	1	8/5/2016 07:00 PM
1,2-Dibromoethane	ND		1.0	µg/L	1	8/5/2016 07:00 PM
1,2-Dichlorobenzene	ND		1.0	µg/L	1	8/5/2016 07:00 PM
1,2-Dichloroethane	ND		1.0	µg/L	1	8/5/2016 07:00 PM
1,2-Dichloropropane	ND		1.0	µg/L	1	8/5/2016 07:00 PM
1,3,5-Trimethylbenzene	ND		1.0	µg/L	1	8/5/2016 07:00 PM
1,3-Dichlorobenzene	ND		1.0	µg/L	1	8/5/2016 07:00 PM
1,4-Dichlorobenzene	ND		1.0	µg/L	1	8/5/2016 07:00 PM
2-Butanone	ND		5.0	µg/L	1	8/5/2016 07:00 PM
2-Hexanone	ND		5.0	µg/L	1	8/5/2016 07:00 PM
2-Methylnaphthalene	ND		5.0	µg/L	1	8/5/2016 07:00 PM
4-Methyl-2-pentanone	ND		1.0	µg/L	1	8/5/2016 07:00 PM
Acetone	19		10	µg/L	1	8/5/2016 07:00 PM
Acrylonitrile	ND		1.0	µg/L	1	8/5/2016 07:00 PM
Benzene	ND		1.0	µg/L	1	8/5/2016 07:00 PM
Bromochloromethane	ND		1.0	µg/L	1	8/5/2016 07:00 PM
Bromodichloromethane	ND		1.0	µg/L	1	8/5/2016 07:00 PM
Bromoform	ND		1.0	µg/L	1	8/5/2016 07:00 PM
Bromomethane	ND		1.0	µg/L	1	8/5/2016 07:00 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 10-Aug-16

Client: Merit Energy
Project: ECT (Hartland - 13624 Sheila Lane)
Sample ID: 13624 Sheila Lane
Collection Date: 8/3/2016 04:33 PM

Work Order: 1608288
Lab ID: 1608288-01
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		1.0	µg/L	1	8/5/2016 07:00 PM
Carbon tetrachloride	ND		1.0	µg/L	1	8/5/2016 07:00 PM
Chlorobenzene	ND		1.0	µg/L	1	8/5/2016 07:00 PM
Chloroethane	ND		1.0	µg/L	1	8/5/2016 07:00 PM
Chloroform	ND		1.0	µg/L	1	8/5/2016 07:00 PM
Chloromethane	ND		1.0	µg/L	1	8/5/2016 07:00 PM
cis-1,2-Dichloroethene	ND		1.0	µg/L	1	8/5/2016 07:00 PM
cis-1,3-Dichloropropene	ND		1.0	µg/L	1	8/5/2016 07:00 PM
Dibromochloromethane	ND		1.0	µg/L	1	8/5/2016 07:00 PM
Dibromomethane	ND		1.0	µg/L	1	8/5/2016 07:00 PM
Dichlorodifluoromethane	ND		1.0	µg/L	1	8/5/2016 07:00 PM
Diethyl ether	ND		1.0	µg/L	1	8/5/2016 07:00 PM
Ethylbenzene	ND		1.0	µg/L	1	8/5/2016 07:00 PM
Hexachloroethane	ND		1.0	µg/L	1	8/5/2016 07:00 PM
Isopropylbenzene	ND		1.0	µg/L	1	8/5/2016 07:00 PM
m,p-Xylene	ND		2.0	µg/L	1	8/5/2016 07:00 PM
Methyl iodide	ND		1.0	µg/L	1	8/5/2016 07:00 PM
Methyl tert-butyl ether	ND		1.0	µg/L	1	8/5/2016 07:00 PM
Methylene chloride	ND		5.0	µg/L	1	8/5/2016 07:00 PM
Naphthalene	ND		5.0	µg/L	1	8/5/2016 07:00 PM
n-Propylbenzene	ND		1.0	µg/L	1	8/5/2016 07:00 PM
o-Xylene	ND		1.0	µg/L	1	8/5/2016 07:00 PM
Styrene	ND		1.0	µg/L	1	8/5/2016 07:00 PM
Tetrachloroethene	ND		1.0	µg/L	1	8/5/2016 07:00 PM
Toluene	ND		1.0	µg/L	1	8/5/2016 07:00 PM
trans-1,2-Dichloroethene	ND		1.0	µg/L	1	8/5/2016 07:00 PM
trans-1,3-Dichloropropene	ND		1.0	µg/L	1	8/5/2016 07:00 PM
trans-1,4-Dichloro-2-butene	ND		2.0	µg/L	1	8/5/2016 07:00 PM
Trichloroethene	ND		1.0	µg/L	1	8/5/2016 07:00 PM
Trichlorofluoromethane	ND		1.0	µg/L	1	8/5/2016 07:00 PM
Vinyl acetate	ND		5.0	µg/L	1	8/5/2016 07:00 PM
Vinyl chloride	ND		1.0	µg/L	1	8/5/2016 07:00 PM
Xylenes, Total	ND		3.0	µg/L	1	8/5/2016 07:00 PM
Surr: 1,2-Dichloroethane-d4	84.7		75-120	%REC	1	8/5/2016 07:00 PM
Surr: 4-Bromofluorobenzene	97.4		80-110	%REC	1	8/5/2016 07:00 PM
Surr: Dibromofluoromethane	88.7		85-115	%REC	1	8/5/2016 07:00 PM
Surr: Toluene-d8	99.5		85-110	%REC	1	8/5/2016 07:00 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
Project: ECT (Hartland - 13624 Sheila Lane)
Work Order: 1608288

Case Narrative

Batch R193219A Sample VLCSW1-160805 The LCS recovery for Volatile compound Tetrachloroethene was above the upper control limit. All the sample results in the batch were non-detect. No qualification is necessary for this analyte.

Batch R193219A The MS/MSD data for Volatiles is no related to this projects sample. No data requires qualification.

Client: Merit Energy
 Work Order: 1608288
 Project: ECT (Hartland - 13624 Sheila Lane)

QC BATCH REPORT

Batch ID: **89682** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-89682-89682				Units: µg/L		Analysis Date: 8/8/2016 08:51 PM			
Client ID:		Run ID: SVMS8_160808A				SeqNo: 3968850		Prep Date: 8/5/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Diisopropanolamine	ND	50									
Sulfolane	ND	10									
<i>Surr: 2,4,6-Tribromophenol</i>	32.35	0	50	0	64.7	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	36.53	0	50	0	73.1	32-100	0				
<i>Surr: 2-Fluorophenol</i>	19.03	0	50	0	38.1	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	45.48	0	50	0	91	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	36.58	0	50	0	73.2	31-93	0				
<i>Surr: Phenol-d6</i>	9.38	0	50	0	18.8	13-36	0				

LCS		Sample ID: SLCSW1-89682-89682				Units: µg/L		Analysis Date: 8/8/2016 09:12 PM			
Client ID:		Run ID: SVMS8_160808A				SeqNo: 3968851		Prep Date: 8/5/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Diisopropanolamine	3.57	50	20	0	17.8	10-50	0				
Sulfolane	11.76	10	20	0	58.8	30-100	0				
<i>Surr: 2,4,6-Tribromophenol</i>	32.34	0	50	0	64.7	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	37.17	0	50	0	74.3	32-100	0				
<i>Surr: 2-Fluorophenol</i>	19.78	0	50	0	39.6	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	49.38	0	50	0	98.8	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	35.31	0	50	0	70.6	31-93	0				
<i>Surr: Phenol-d6</i>	11.13	0	50	0	22.3	13-36	0				

LCSD		Sample ID: SLCSDW1-89682-89682				Units: µg/L		Analysis Date: 8/8/2016 09:33 PM			
Client ID:		Run ID: SVMS8_160808A				SeqNo: 3968852		Prep Date: 8/5/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Diisopropanolamine	3.35	50	20	0	16.8	10-50	3.57	0	50		
Sulfolane	12.03	10	20	0	60.2	30-100	11.76	2.27	50		
<i>Surr: 2,4,6-Tribromophenol</i>	32.73	0	50	0	65.5	38-115	32.34	1.2	40		
<i>Surr: 2-Fluorobiphenyl</i>	38.09	0	50	0	76.2	32-100	37.17	2.44	40		
<i>Surr: 2-Fluorophenol</i>	18.36	0	50	0	36.7	22-59	19.78	7.45	40		
<i>Surr: 4-Terphenyl-d14</i>	48.18	0	50	0	96.4	23-112	49.38	2.46	40		
<i>Surr: Nitrobenzene-d5</i>	36.74	0	50	0	73.5	31-93	35.31	3.97	40		
<i>Surr: Phenol-d6</i>	10.18	0	50	0	20.4	13-36	11.13	8.92	40		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608288
 Project: ECT (Hartland - 13624 Sheila Lane)

QC BATCH REPORT

Batch ID: 89682 Instrument ID SVMS8 Method: SW846 8270D

MS		Sample ID: 1608284-01B MS				Units: µg/L		Analysis Date: 8/8/2016 11:24 PM		
Client ID:		Run ID: SVMS8_160808A		SeqNo: 3968855		Prep Date: 8/5/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	3.25	50	20	0	16.2	10-50		0		
Sulfolane	12.15	10	20	0	60.8	30-100		0		
<i>Surr: 2,4,6-Tribromophenol</i>	34.22	0	50	0	68.4	38-115		0		
<i>Surr: 2-Fluorobiphenyl</i>	38.42	0	50	0	76.8	32-100		0		
<i>Surr: 2-Fluorophenol</i>	17.81	0	50	0	35.6	22-59		0		
<i>Surr: 4-Terphenyl-d14</i>	42.35	0	50	0	84.7	23-112		0		
<i>Surr: Nitrobenzene-d5</i>	37.97	0	50	0	75.9	31-93		0		
<i>Surr: Phenol-d6</i>	9.23	0	50	0	18.5	13-36		0		

DUP		Sample ID: 1608285-01B DUP				Units: µg/L		Analysis Date: 8/9/2016 12:05 AM		
Client ID:		Run ID: SVMS8_160808A		SeqNo: 3968857		Prep Date: 8/5/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	ND	50	0	0	0			0	0	50
Sulfolane	ND	10	0	0	0			0	0	50
<i>Surr: 2,4,6-Tribromophenol</i>	36.71	0	50	0	73.4	38-115	33.33	9.65	40	
<i>Surr: 2-Fluorobiphenyl</i>	42.42	0	50	0	84.8	32-100	36.64	14.6	40	
<i>Surr: 2-Fluorophenol</i>	20.27	0	50	0	40.5	22-59	20.78	2.48	40	
<i>Surr: 4-Terphenyl-d14</i>	46.4	0	50	0	92.8	23-112	45.62	1.7	40	
<i>Surr: Nitrobenzene-d5</i>	39.3	0	50	0	78.6	31-93	37.49	4.71	40	
<i>Surr: Phenol-d6</i>	10.33	0	50	0	20.7	13-36	10.9	5.37	40	

The following samples were analyzed in this batch:

1608288-01B

Client: Merit Energy
 Work Order: 1608288
 Project: ECT (Hartland - 13624 Sheila Lane)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

MBLK		Sample ID: VBLKW1-160805-R193219A				Units: µg/L		Analysis Date: 8/5/2016 04:16 PM		
Client ID:		Run ID: VMS7_160805A		SeqNo: 3965976		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
1,1,2-Trichlorotrifluoroethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2,3-Trichloropropane	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	1.0								
1,2-Dibromoethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,2-Dichloroethane	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
2-Butanone	ND	5.0								
2-Hexanone	ND	5.0								
2-Methylnaphthalene	ND	5.0								
4-Methyl-2-pentanone	ND	1.0								
Acetone	ND	10								
Acrylonitrile	ND	1.0								
Benzene	ND	1.0								
Bromochloromethane	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	1.0								
Carbon disulfide	ND	1.0								
Carbon tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	1.0								
Chloroform	ND	1.0								
Chloromethane	ND	1.0								
cis-1,2-Dichloroethene	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
Diethyl ether	ND	1.0								
Ethylbenzene	ND	1.0								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Work Order: 1608288
Project: ECT (Hartland - 13624 Sheila Lane)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7	Method: SW8260B						
Hexachloroethane	ND	1.0						
Isopropylbenzene	ND	1.0						
m,p-Xylene	ND	2.0						
Methyl iodide	ND	1.0						
Methyl tert-butyl ether	ND	1.0						
Methylene chloride	ND	5.0						
Naphthalene	ND	5.0						
n-Propylbenzene	ND	1.0						
o-Xylene	ND	1.0						
Styrene	ND	1.0						
Tetrachloroethene	ND	1.0						
Toluene	ND	1.0						
trans-1,2-Dichloroethene	ND	1.0						
trans-1,3-Dichloropropene	ND	1.0						
trans-1,4-Dichloro-2-butene	ND	2.0						
Trichloroethene	ND	1.0						
Trichlorofluoromethane	ND	1.0						
Vinyl acetate	ND	5.0						
Vinyl chloride	ND	1.0						
Xylenes, Total	ND	3.0						
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>16.65</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>83.2</i>	<i>75-120</i>	<i>0</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.46</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>97.3</i>	<i>80-110</i>	<i>0</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>17.64</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>88.2</i>	<i>85-115</i>	<i>0</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>19.85</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>99.2</i>	<i>85-110</i>	<i>0</i>	<i>0</i>

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608288
 Project: ECT (Hartland - 13624 Sheila Lane)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

LCS		Sample ID: VLCSW1-160805-R193219A				Units: µg/L		Analysis Date: 8/5/2016 03:05 PM		
Client ID:		Run ID: VMS7_160805A			SeqNo: 3965975		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.56	1.0	20	0	97.8	80-130	0			
1,1,1-Trichloroethane	19.1	1.0	20	0	95.5	75-130	0			
1,1,2,2-Tetrachloroethane	21.28	1.0	20	0	106	75-130	0			
1,1,2-Trichloroethane	21.61	1.0	20	0	108	75-125	0			
1,1-Dichloroethane	20.97	1.0	20	0	105	75-133	0			
1,1-Dichloroethene	23.78	1.0	20	0	119	70-145	0			
1,2,3-Trichloropropane	21.08	1.0	20	0	105	75-125	0			
1,2,4-Trichlorobenzene	20.33	1.0	20	0	102	70-135	0			
1,2,4-Trimethylbenzene	21.21	1.0	20	0	106	75-130	0			
1,2-Dibromo-3-chloropropane	18.89	1.0	20	0	94.4	60-130	0			
1,2-Dibromoethane	25.21	1.0	20	0	126	80-150	0			
1,2-Dichlorobenzene	21.24	1.0	20	0	106	70-130	0			
1,2-Dichloroethane	18.28	1.0	20	0	91.4	78-125	0			
1,2-Dichloropropane	21.36	1.0	20	0	107	75-125	0			
1,3,5-Trimethylbenzene	21.95	1.0	20	0	110	75-130	0			
1,3-Dichlorobenzene	21.41	1.0	20	0	107	75-130	0			
1,4-Dichlorobenzene	21.42	1.0	20	0	107	75-130	0			
2-Butanone	21.67	5.0	20	0	108	55-150	0			
2-Hexanone	21.04	5.0	20	0	105	60-135	0			
4-Methyl-2-pentanone	24.27	1.0	20	0	121	77-178	0			
Acetone	21.61	10	20	0	108	60-160	0			
Acrylonitrile	22.04	1.0	20	0	110	60-140	0			
Benzene	22.09	1.0	20	0	110	85-125	0			
Bromochloromethane	21.07	1.0	20	0	105	75-130	0			
Bromodichloromethane	18.63	1.0	20	0	93.2	75-125	0			
Bromoform	17.48	1.0	20	0	87.4	60-125	0			
Bromomethane	20.46	1.0	20	0	102	30-185	0			
Carbon disulfide	21.83	1.0	20	0	109	60-165	0			
Carbon tetrachloride	16.88	1.0	20	0	84.4	65-140	0			
Chlorobenzene	21.43	1.0	20	0	107	80-120	0			
Chloroethane	17.4	1.0	20	0	87	50-140	0			
Chloroform	18.37	1.0	20	0	91.8	80-130	0			
Chloromethane	17.48	1.0	20	0	87.4	50-130	0			
cis-1,2-Dichloroethene	19.7	1.0	20	0	98.5	75-134	0			
cis-1,3-Dichloropropene	20.55	1.0	20	0	103	70-130	0			
Dibromochloromethane	17.89	1.0	20	0	89.4	60-115	0			
Dibromomethane	20.41	1.0	20	0	102	85-125	0			
Dichlorodifluoromethane	11.7	1.0	20	0	58.5	20-120	0			
Ethylbenzene	21.34	1.0	20	0	107	85-125	0			
Hexachloroethane	13.53	1.0	20	0	67.6	50-124	0			
Isopropylbenzene	21.64	1.0	20	0	108	80-127	0			
m,p-Xylene	42.52	2.0	40	0	106	75-130	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Work Order: 1608288
Project: ECT (Hartland - 13624 Sheila Lane)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7		Method: SW8260B					
Methyl iodide	21.79	1.0	20	0	109	60-160	0	
Methyl tert-butyl ether	20.91	1.0	20	0	105	80-130	0	
Methylene chloride	20.55	5.0	20	0	103	75-140	0	
Naphthalene	21.8	5.0	20	0	109	55-160	0	
n-Propylbenzene	21.26	1.0	20	0	106	78-120	0	
o-Xylene	20.78	1.0	20	0	104	80-125	0	
Styrene	22.53	1.0	20	0	113	85-125	0	
Tetrachloroethene	28.15	1.0	20	0	141	77-138	0	S
Toluene	21.45	1.0	20	0	107	85-125	0	
trans-1,2-Dichloroethene	21.02	1.0	20	0	105	80-140	0	
trans-1,3-Dichloropropene	19	1.0	20	0	95	81-123	0	
trans-1,4-Dichloro-2-butene	16.54	2.0	20	0	82.7	46-118	0	
Trichloroethene	21.19	1.0	20	0	106	84-130	0	
Trichlorofluoromethane	15.48	1.0	20	0	77.4	60-140	0	
Vinyl chloride	17.28	1.0	20	0	86.4	50-136	0	
Xylenes, Total	63.3	3.0	60	0	106	80-126	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	17.26	0	20	0	86.3	75-120	0	
<i>Surr: 4-Bromofluorobenzene</i>	19.64	0	20	0	98.2	80-110	0	
<i>Surr: Dibromofluoromethane</i>	19	0	20	0	95	85-115	0	
<i>Surr: Toluene-d8</i>	19.74	0	20	0	98.7	85-110	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608288
 Project: ECT (Hartland - 13624 Sheila Lane)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

MS		Sample ID: 1608291-01A MS				Units: µg/L		Analysis Date: 8/5/2016 11:40 PM		
Client ID:		Run ID: VMS7_160805A			SeqNo: 3965989		Prep Date:		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	187.1	10	200	0	93.6	80-130		0		
1,1,1-Trichloroethane	194.5	10	200	0	97.2	75-130		0		
1,1,2,2-Tetrachloroethane	209.2	10	200	0	105	75-130		0		
1,1,2-Trichloroethane	221.6	10	200	0	111	75-125		0		
1,1-Dichloroethane	212.9	10	200	0	106	75-133		0		
1,1-Dichloroethene	266.4	10	200	0	133	70-145		0		
1,2,3-Trichloropropane	217.6	10	200	0	109	75-125		0		
1,2,4-Trichlorobenzene	200.5	10	200	0	100	70-135		0		
1,2,4-Trimethylbenzene	218.4	10	200	0	109	75-130		0		
1,2-Dibromo-3-chloropropane	157.8	10	200	0	78.9	60-130		0		
1,2-Dibromoethane	259.8	10	200	0	130	80-150		0		
1,2-Dichlorobenzene	219.2	10	200	0	110	70-130		0		
1,2-Dichloroethane	193.1	10	200	0	96.6	78-125		0		
1,2-Dichloropropane	223.3	10	200	0	112	75-125		0		
1,3,5-Trimethylbenzene	223.2	10	200	0	112	75-130		0		
1,3-Dichlorobenzene	223.6	10	200	0	112	75-130		0		
1,4-Dichlorobenzene	215.7	10	200	0	108	75-130		0		
2-Butanone	208.6	50	200	0	104	55-150		0		
2-Hexanone	205.6	50	200	0	103	60-135		0		
4-Methyl-2-pentanone	232.8	10	200	0	116	77-178		0		
Acetone	216	100	200	0	108	60-160		0		
Acrylonitrile	224.6	10	200	0	112	60-140		0		
Benzene	234.1	10	200	0	117	85-125		0		
Bromochloromethane	215.1	10	200	0	108	75-130		0		
Bromodichloromethane	184.5	10	200	0	92.2	75-125		0		
Bromoform	152.4	10	200	0	76.2	60-125		0		
Bromomethane	187.7	10	200	0	93.8	30-185		0		
Carbon disulfide	231.8	10	200	0	116	60-165		0		
Carbon tetrachloride	162.5	10	200	0	81.2	65-140		0		
Chlorobenzene	226.8	10	200	0	113	80-120		0		
Chloroethane	185.3	10	200	0	92.6	50-140		0		
Chloroform	191.8	10	200	0	95.9	80-130		0		
Chloromethane	179.5	10	200	0	89.8	50-130		0		
cis-1,2-Dichloroethene	199.8	10	200	0	99.9	75-134		0		
cis-1,3-Dichloropropene	195.6	10	200	0	97.8	70-130		0		
Dibromochloromethane	163.3	10	200	0	81.6	60-115		0		
Dibromomethane	207.6	10	200	0	104	85-125		0		
Dichlorodifluoromethane	149.1	10	200	0	74.6	20-120		0		
Ethylbenzene	225.8	10	200	0	113	85-125		0		
Hexachloroethane	108	10	200	0	54	50-124		0		
Isopropylbenzene	227.9	10	200	0	114	80-127		0		
m,p-Xylene	445.8	20	400	0	111	75-130		0		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608288
 Project: ECT (Hartland - 13624 Sheila Lane)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7		Method: SW8260B					
Methyl iodide	282	10	200	0	141	60-160	0	
Methyl tert-butyl ether	211	10	200	0	106	80-130	0	
Methylene chloride	218.8	50	200	0	109	75-140	0	
Naphthalene	216.1	50	200	0	108	55-160	0	
n-Propylbenzene	219.2	10	200	0	110	78-120	0	
o-Xylene	218.1	10	200	0	109	80-125	0	
Styrene	232.8	10	200	0	116	85-125	0	
Tetrachloroethene	318.4	10	200	0	159	77-138	0	
							S	
Toluene	225	10	200	0	112	85-125	0	
trans-1,2-Dichloroethene	222.5	10	200	0	111	80-140	0	
trans-1,3-Dichloropropene	174.7	10	200	0	87.4	81-123	0	
trans-1,4-Dichloro-2-butene	136	20	200	0	68	46-118	0	
Trichloroethene	228.6	10	200	0	114	84-130	0	
Trichlorofluoromethane	161.4	10	200	0	80.7	60-140	0	
Vinyl chloride	177.6	10	200	0	88.8	50-136	0	
Xylenes, Total	663.9	30	600	0	111	80-126	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>166.8</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>83.4</i>	<i>75-120</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>195.6</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>97.8</i>	<i>80-110</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>187</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>93.5</i>	<i>85-115</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>197.9</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>99</i>	<i>85-110</i>	<i>0</i>	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608288
 Project: ECT (Hartland - 13624 Sheila Lane)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

MSD		Sample ID: 1608291-01A MSD				Units: µg/L		Analysis Date: 8/6/2016 12:03 PM		
Client ID:		Run ID: VMS7_160805A				SeqNo: 3965990		Prep Date:		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	172.3	10	200	0	86.2	80-130	187.1	8.24	30	
1,1,1-Trichloroethane	186.1	10	200	0	93	75-130	194.5	4.41	30	
1,1,2,2-Tetrachloroethane	195.1	10	200	0	97.6	75-130	209.2	6.98	30	
1,1,2-Trichloroethane	207.7	10	200	0	104	75-125	221.6	6.48	30	
1,1-Dichloroethane	202.7	10	200	0	101	75-133	212.9	4.91	30	
1,1-Dichloroethene	242.4	10	200	0	121	70-145	266.4	9.43	30	
1,2,3-Trichloropropane	197.1	10	200	0	98.6	75-125	217.6	9.89	30	
1,2,4-Trichlorobenzene	195.7	10	200	0	97.8	70-135	200.5	2.42	30	
1,2,4-Trimethylbenzene	204.2	10	200	0	102	75-130	218.4	6.72	30	
1,2-Dibromo-3-chloropropane	151.7	10	200	0	75.8	60-130	157.8	3.94	30	
1,2-Dibromoethane	239.5	10	200	0	120	80-150	259.8	8.13	30	
1,2-Dichlorobenzene	207.3	10	200	0	104	70-130	219.2	5.58	30	
1,2-Dichloroethane	179.2	10	200	0	89.6	78-125	193.1	7.47	30	
1,2-Dichloropropane	205.9	10	200	0	103	75-125	223.3	8.11	30	
1,3,5-Trimethylbenzene	212	10	200	0	106	75-130	223.2	5.15	30	
1,3-Dichlorobenzene	213.2	10	200	0	107	75-130	223.6	4.76	30	
1,4-Dichlorobenzene	207.7	10	200	0	104	75-130	215.7	3.78	30	
2-Butanone	194.4	50	200	0	97.2	55-150	208.6	7.05	30	
2-Hexanone	183.1	50	200	0	91.6	60-135	205.6	11.6	30	
4-Methyl-2-pentanone	211	10	200	0	106	77-178	232.8	9.82	30	
Acetone	201.4	100	200	0	101	60-160	216	7	30	
Acrylonitrile	205.6	10	200	0	103	60-140	224.6	8.83	30	
Benzene	219.9	10	200	0	110	85-125	234.1	6.26	30	
Bromochloromethane	204.4	10	200	0	102	75-130	215.1	5.1	30	
Bromodichloromethane	171.9	10	200	0	86	75-125	184.5	7.07	30	
Bromoform	145.2	10	200	0	72.6	60-125	152.4	4.84	30	
Bromomethane	164.2	10	200	0	82.1	30-185	187.7	13.4	30	
Carbon disulfide	216.9	10	200	0	108	60-165	231.8	6.64	30	
Carbon tetrachloride	154.6	10	200	0	77.3	65-140	162.5	4.98	30	
Chlorobenzene	212.3	10	200	0	106	80-120	226.8	6.6	30	
Chloroethane	164.2	10	200	0	82.1	50-140	185.3	12.1	30	
Chloroform	182.6	10	200	0	91.3	80-130	191.8	4.91	30	
Chloromethane	174.5	10	200	0	87.2	50-130	179.5	2.82	30	
cis-1,2-Dichloroethene	186.4	10	200	0	93.2	75-134	199.8	6.94	30	
cis-1,3-Dichloropropene	183.4	10	200	0	91.7	70-130	195.6	6.44	30	
Dibromochloromethane	154.8	10	200	0	77.4	60-115	163.3	5.34	30	
Dibromomethane	196.7	10	200	0	98.4	85-125	207.6	5.39	30	
Dichlorodifluoromethane	137.6	10	200	0	68.8	20-120	149.1	8.02	30	
Ethylbenzene	212	10	200	0	106	85-125	225.8	6.3	30	
Hexachloroethane	111.2	10	200	0	55.6	50-124	108	2.92	30	
Isopropylbenzene	215.6	10	200	0	108	80-127	227.9	5.55	30	
m,p-Xylene	428.1	20	400	0	107	75-130	445.8	4.05	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608288
 Project: ECT (Hartland - 13624 Sheila Lane)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7		Method: SW8260B							
Methyl iodide	247.4	10	200	0	124	60-160	282	13.1	30	
Methyl tert-butyl ether	199	10	200	0	99.5	80-130	211	5.85	30	
Methylene chloride	206	50	200	0	103	75-140	218.8	6.03	30	
Naphthalene	204.1	50	200	0	102	55-160	216.1	5.71	30	
n-Propylbenzene	206.4	10	200	0	103	78-120	219.2	6.02	30	
o-Xylene	203.4	10	200	0	102	80-125	218.1	6.98	30	
Styrene	219.8	10	200	0	110	85-125	232.8	5.74	30	
Tetrachloroethene	290.1	10	200	0	145	77-138	318.4	9.3	30 S	
Toluene	210.6	10	200	0	105	85-125	225	6.61	30	
trans-1,2-Dichloroethene	208.6	10	200	0	104	80-140	222.5	6.45	30	
trans-1,3-Dichloropropene	162	10	200	0	81	81-123	174.7	7.54	30	
trans-1,4-Dichloro-2-butene	129.9	20	200	0	65	46-118	136	4.59	30	
Trichloroethene	215.2	10	200	0	108	84-130	228.6	6.04	30	
Trichlorofluoromethane	151.8	10	200	0	75.9	60-140	161.4	6.13	30	
Vinyl chloride	173.9	10	200	0	87	50-136	177.6	2.11	30	
Xylenes, Total	631.5	30	600	0	105	80-126	663.9	5	30	
<i>Surr: 1,2-Dichloroethane-d4</i>	167.5	0	200	0	83.8	75-120	166.8	0.419	30	
<i>Surr: 4-Bromofluorobenzene</i>	187.9	0	200	0	94	80-110	195.6	4.02	30	
<i>Surr: Dibromofluoromethane</i>	182.2	0	200	0	91.1	85-115	187	2.6	30	
<i>Surr: Toluene-d8</i>	196	0	200	0	98	85-110	197.9	0.965	30	

The following samples were analyzed in this batch:

1608288-01A

Client: Merit Energy
Project: ECT (Hartland - 13624 Sheila Lane)
WorkOrder: 1608288

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **05-Aug-16 09:30**

Work Order: **1608288**

Received by: **MEB**

Checklist completed by Meghan Broadbent 05-Aug-16
eSignature Date

Reviewed by: Gary Byar 05-Aug-16
eSignature Date

Matrices: water

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>2.4/2.4</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<input type="text"/>		
Date/Time sample(s) sent to storage:	<u>8/5/2016 10:30:48 AM</u>		
Water - VOA vials have zero headspace?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<input type="text"/>		

Login Notes:

Client Contacted: _____ Date Contacted: _____ Person Contacted: _____

Contacted By: _____ Regarding: _____

Comments:

CorrectiveAction:



10-Aug-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Hartland - 13638 Sheila Lane)**

Work Order: **1608291**

Dear Sean,

ALS Environmental received 1 sample on 05-Aug-2016 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 18.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Hartland - 13638 Sheila Lane)
Work Order: 1608291

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1608291-01	13638 Sheila Lane	Groundwater		8/3/2016 16:55	8/5/2016 09:30	<input type="checkbox"/>

ALS Group USA, Corp

Date: 10-Aug-16

Client: Merit Energy
Project: ECT (Hartland - 13638 Sheila Lane)
Sample ID: 13638 Sheila Lane
Collection Date: 8/3/2016 04:55 PM

Work Order: 1608291
Lab ID: 1608291-01
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 8/5/16	Analyst: RM
Diisopropanolamine	ND		50	µg/L	1	8/9/2016 02:49 AM
Sulfolane	ND		10	µg/L	1	8/9/2016 02:49 AM
Surr: 2,4,6-Tribromophenol	70.3		38-115	%REC	1	8/9/2016 02:49 AM
Surr: 2-Fluorobiphenyl	78.2		32-100	%REC	1	8/9/2016 02:49 AM
Surr: 2-Fluorophenol	40.5		22-59	%REC	1	8/9/2016 02:49 AM
Surr: 4-Terphenyl-d14	99.1		23-112	%REC	1	8/9/2016 02:49 AM
Surr: Nitrobenzene-d5	75.3		31-93	%REC	1	8/9/2016 02:49 AM
Surr: Phenol-d6	21.6		13-36	%REC	1	8/9/2016 02:49 AM
VOLATILE ORGANIC COMPOUNDS			SW8260B			Analyst: AK
1,1,1,2-Tetrachloroethane	ND		1.0	µg/L	1	8/5/2016 07:23 PM
1,1,1-Trichloroethane	ND		1.0	µg/L	1	8/5/2016 07:23 PM
1,1,2,2-Tetrachloroethane	ND		1.0	µg/L	1	8/5/2016 07:23 PM
1,1,2-Trichloroethane	ND		1.0	µg/L	1	8/5/2016 07:23 PM
1,1,2-Trichlorotrifluoroethane	ND		1.0	µg/L	1	8/5/2016 07:23 PM
1,1-Dichloroethane	ND		1.0	µg/L	1	8/5/2016 07:23 PM
1,1-Dichloroethene	ND		1.0	µg/L	1	8/5/2016 07:23 PM
1,2,3-Trichloropropane	ND		1.0	µg/L	1	8/5/2016 07:23 PM
1,2,4-Trichlorobenzene	ND		1.0	µg/L	1	8/5/2016 07:23 PM
1,2,4-Trimethylbenzene	ND		1.0	µg/L	1	8/5/2016 07:23 PM
1,2-Dibromo-3-chloropropane	ND		1.0	µg/L	1	8/5/2016 07:23 PM
1,2-Dibromoethane	ND		1.0	µg/L	1	8/5/2016 07:23 PM
1,2-Dichlorobenzene	ND		1.0	µg/L	1	8/5/2016 07:23 PM
1,2-Dichloroethane	ND		1.0	µg/L	1	8/5/2016 07:23 PM
1,2-Dichloropropane	ND		1.0	µg/L	1	8/5/2016 07:23 PM
1,3,5-Trimethylbenzene	ND		1.0	µg/L	1	8/5/2016 07:23 PM
1,3-Dichlorobenzene	ND		1.0	µg/L	1	8/5/2016 07:23 PM
1,4-Dichlorobenzene	ND		1.0	µg/L	1	8/5/2016 07:23 PM
2-Butanone	ND		5.0	µg/L	1	8/5/2016 07:23 PM
2-Hexanone	ND		5.0	µg/L	1	8/5/2016 07:23 PM
2-Methylnaphthalene	ND		5.0	µg/L	1	8/5/2016 07:23 PM
4-Methyl-2-pentanone	ND		1.0	µg/L	1	8/5/2016 07:23 PM
Acetone	ND		10	µg/L	1	8/5/2016 07:23 PM
Acrylonitrile	ND		1.0	µg/L	1	8/5/2016 07:23 PM
Benzene	ND		1.0	µg/L	1	8/5/2016 07:23 PM
Bromochloromethane	ND		1.0	µg/L	1	8/5/2016 07:23 PM
Bromodichloromethane	ND		1.0	µg/L	1	8/5/2016 07:23 PM
Bromoform	ND		1.0	µg/L	1	8/5/2016 07:23 PM
Bromomethane	ND		1.0	µg/L	1	8/5/2016 07:23 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 10-Aug-16

Client: Merit Energy
Project: ECT (Hartland - 13638 Sheila Lane)
Sample ID: 13638 Sheila Lane
Collection Date: 8/3/2016 04:55 PM

Work Order: 1608291
Lab ID: 1608291-01
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		1.0	µg/L	1	8/5/2016 07:23 PM
Carbon tetrachloride	ND		1.0	µg/L	1	8/5/2016 07:23 PM
Chlorobenzene	ND		1.0	µg/L	1	8/5/2016 07:23 PM
Chloroethane	ND		1.0	µg/L	1	8/5/2016 07:23 PM
Chloroform	ND		1.0	µg/L	1	8/5/2016 07:23 PM
Chloromethane	ND		1.0	µg/L	1	8/5/2016 07:23 PM
cis-1,2-Dichloroethene	ND		1.0	µg/L	1	8/5/2016 07:23 PM
cis-1,3-Dichloropropene	ND		1.0	µg/L	1	8/5/2016 07:23 PM
Dibromochloromethane	ND		1.0	µg/L	1	8/5/2016 07:23 PM
Dibromomethane	ND		1.0	µg/L	1	8/5/2016 07:23 PM
Dichlorodifluoromethane	ND		1.0	µg/L	1	8/5/2016 07:23 PM
Diethyl ether	ND		1.0	µg/L	1	8/5/2016 07:23 PM
Ethylbenzene	ND		1.0	µg/L	1	8/5/2016 07:23 PM
Hexachloroethane	ND		1.0	µg/L	1	8/5/2016 07:23 PM
Isopropylbenzene	ND		1.0	µg/L	1	8/5/2016 07:23 PM
m,p-Xylene	ND		2.0	µg/L	1	8/5/2016 07:23 PM
Methyl iodide	ND		1.0	µg/L	1	8/5/2016 07:23 PM
Methyl tert-butyl ether	ND		1.0	µg/L	1	8/5/2016 07:23 PM
Methylene chloride	ND		5.0	µg/L	1	8/5/2016 07:23 PM
Naphthalene	ND		5.0	µg/L	1	8/5/2016 07:23 PM
n-Propylbenzene	ND		1.0	µg/L	1	8/5/2016 07:23 PM
o-Xylene	ND		1.0	µg/L	1	8/5/2016 07:23 PM
Styrene	ND		1.0	µg/L	1	8/5/2016 07:23 PM
Tetrachloroethene	ND		1.0	µg/L	1	8/5/2016 07:23 PM
Toluene	ND		1.0	µg/L	1	8/5/2016 07:23 PM
trans-1,2-Dichloroethene	ND		1.0	µg/L	1	8/5/2016 07:23 PM
trans-1,3-Dichloropropene	ND		1.0	µg/L	1	8/5/2016 07:23 PM
trans-1,4-Dichloro-2-butene	ND		2.0	µg/L	1	8/5/2016 07:23 PM
Trichloroethene	ND		1.0	µg/L	1	8/5/2016 07:23 PM
Trichlorofluoromethane	ND		1.0	µg/L	1	8/5/2016 07:23 PM
Vinyl acetate	ND		5.0	µg/L	1	8/5/2016 07:23 PM
Vinyl chloride	ND		1.0	µg/L	1	8/5/2016 07:23 PM
Xylenes, Total	ND		3.0	µg/L	1	8/5/2016 07:23 PM
Surr: 1,2-Dichloroethane-d4	84.4		75-120	%REC	1	8/5/2016 07:23 PM
Surr: 4-Bromofluorobenzene	99.4		80-110	%REC	1	8/5/2016 07:23 PM
Surr: Dibromofluoromethane	89.4		85-115	%REC	1	8/5/2016 07:23 PM
Surr: Toluene-d8	101		85-110	%REC	1	8/5/2016 07:23 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
Project: ECT (Hartland - 13638 Sheila Lane)
Work Order: 1608291

Case Narrative

Batch R193219A Sample VLCSW1-160805 The LCS recovery for Volatile compound Tetrachloroethene was above the upper control limit. All the sample results in the batch were non-detect. No qualification is necessary for this analyte.

Batch R193219A Sample 1608291-01A MS The MS/MSD recovery for Volatile compound Tetrachloroethene was above the upper control limit. The corresponding result in the parent sample was non-detect, therefore no qualification is necessary. Client Sample ID: 13638 Sheila Lane

Client: Merit Energy
Work Order: 1608291
Project: ECT (Hartland - 13638 Sheila Lane)

QC BATCH REPORT

Batch ID: **89682** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-89682-89682				Units: µg/L		Analysis Date: 8/8/2016 08:51 PM			
Client ID:		Run ID: SVMS8_160808A				SeqNo: 3968850		Prep Date: 8/5/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Diisopropanolamine	ND	50									
Sulfolane	ND	10									
<i>Surr: 2,4,6-Tribromophenol</i>	32.35	0	50	0	64.7	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	36.53	0	50	0	73.1	32-100	0				
<i>Surr: 2-Fluorophenol</i>	19.03	0	50	0	38.1	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	45.48	0	50	0	91	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	36.58	0	50	0	73.2	31-93	0				
<i>Surr: Phenol-d6</i>	9.38	0	50	0	18.8	13-36	0				

LCS		Sample ID: SLCSW1-89682-89682				Units: µg/L		Analysis Date: 8/8/2016 09:12 PM			
Client ID:		Run ID: SVMS8_160808A				SeqNo: 3968851		Prep Date: 8/5/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Diisopropanolamine	3.57	50	20	0	17.8	10-50	0				
Sulfolane	11.76	10	20	0	58.8	30-100	0				
<i>Surr: 2,4,6-Tribromophenol</i>	32.34	0	50	0	64.7	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	37.17	0	50	0	74.3	32-100	0				
<i>Surr: 2-Fluorophenol</i>	19.78	0	50	0	39.6	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	49.38	0	50	0	98.8	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	35.31	0	50	0	70.6	31-93	0				
<i>Surr: Phenol-d6</i>	11.13	0	50	0	22.3	13-36	0				

LCSD		Sample ID: SLCSDW1-89682-89682				Units: µg/L		Analysis Date: 8/8/2016 09:33 PM			
Client ID:		Run ID: SVMS8_160808A				SeqNo: 3968852		Prep Date: 8/5/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Diisopropanolamine	3.35	50	20	0	16.8	10-50	3.57	0	50		
Sulfolane	12.03	10	20	0	60.2	30-100	11.76	2.27	50		
<i>Surr: 2,4,6-Tribromophenol</i>	32.73	0	50	0	65.5	38-115	32.34	1.2	40		
<i>Surr: 2-Fluorobiphenyl</i>	38.09	0	50	0	76.2	32-100	37.17	2.44	40		
<i>Surr: 2-Fluorophenol</i>	18.36	0	50	0	36.7	22-59	19.78	7.45	40		
<i>Surr: 4-Terphenyl-d14</i>	48.18	0	50	0	96.4	23-112	49.38	2.46	40		
<i>Surr: Nitrobenzene-d5</i>	36.74	0	50	0	73.5	31-93	35.31	3.97	40		
<i>Surr: Phenol-d6</i>	10.18	0	50	0	20.4	13-36	11.13	8.92	40		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608291
 Project: ECT (Hartland - 13638 Sheila Lane)

QC BATCH REPORT

Batch ID: **89682** Instrument ID **SVMS8** Method: **SW846 8270D**

MS		Sample ID: 1608284-01B MS				Units: µg/L		Analysis Date: 8/8/2016 11:24 PM		
Client ID:		Run ID: SVMS8_160808A		SeqNo: 3968855		Prep Date: 8/5/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	3.25	50	20	0	16.2	10-50	0			
Sulfolane	12.15	10	20	0	60.8	30-100	0			
<i>Surr: 2,4,6-Tribromophenol</i>	34.22	0	50	0	68.4	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	38.42	0	50	0	76.8	32-100	0			
<i>Surr: 2-Fluorophenol</i>	17.81	0	50	0	35.6	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	42.35	0	50	0	84.7	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	37.97	0	50	0	75.9	31-93	0			
<i>Surr: Phenol-d6</i>	9.23	0	50	0	18.5	13-36	0			

DUP		Sample ID: 1608285-01B DUP				Units: µg/L		Analysis Date: 8/9/2016 12:05 AM		
Client ID:		Run ID: SVMS8_160808A		SeqNo: 3968857		Prep Date: 8/5/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	ND	50	0	0	0		0	0	50	
Sulfolane	ND	10	0	0	0		0	0	50	
<i>Surr: 2,4,6-Tribromophenol</i>	36.71	0	50	0	73.4	38-115	33.33	9.65	40	
<i>Surr: 2-Fluorobiphenyl</i>	42.42	0	50	0	84.8	32-100	36.64	14.6	40	
<i>Surr: 2-Fluorophenol</i>	20.27	0	50	0	40.5	22-59	20.78	2.48	40	
<i>Surr: 4-Terphenyl-d14</i>	46.4	0	50	0	92.8	23-112	45.62	1.7	40	
<i>Surr: Nitrobenzene-d5</i>	39.3	0	50	0	78.6	31-93	37.49	4.71	40	
<i>Surr: Phenol-d6</i>	10.33	0	50	0	20.7	13-36	10.9	5.37	40	

The following samples were analyzed in this batch:

1608291-01B

Client: Merit Energy
 Work Order: 1608291
 Project: ECT (Hartland - 13638 Sheila Lane)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

MBLK		Sample ID: VBLKW1-160805-R193219A				Units: µg/L		Analysis Date: 8/5/2016 04:16 PM		
Client ID:		Run ID: VMS7_160805A		SeqNo: 3965976		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
1,1,2-Trichlorotrifluoroethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2,3-Trichloropropane	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	1.0								
1,2-Dibromoethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,2-Dichloroethane	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
2-Butanone	ND	5.0								
2-Hexanone	ND	5.0								
2-Methylnaphthalene	ND	5.0								
4-Methyl-2-pentanone	ND	1.0								
Acetone	ND	10								
Acrylonitrile	ND	1.0								
Benzene	ND	1.0								
Bromochloromethane	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	1.0								
Carbon disulfide	ND	1.0								
Carbon tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	1.0								
Chloroform	ND	1.0								
Chloromethane	ND	1.0								
cis-1,2-Dichloroethene	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
Diethyl ether	ND	1.0								
Ethylbenzene	ND	1.0								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Work Order: 1608291
Project: ECT (Hartland - 13638 Sheila Lane)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7	Method: SW8260B						
Hexachloroethane	ND	1.0						
Isopropylbenzene	ND	1.0						
m,p-Xylene	ND	2.0						
Methyl iodide	ND	1.0						
Methyl tert-butyl ether	ND	1.0						
Methylene chloride	ND	5.0						
Naphthalene	ND	5.0						
n-Propylbenzene	ND	1.0						
o-Xylene	ND	1.0						
Styrene	ND	1.0						
Tetrachloroethene	ND	1.0						
Toluene	ND	1.0						
trans-1,2-Dichloroethene	ND	1.0						
trans-1,3-Dichloropropene	ND	1.0						
trans-1,4-Dichloro-2-butene	ND	2.0						
Trichloroethene	ND	1.0						
Trichlorofluoromethane	ND	1.0						
Vinyl acetate	ND	5.0						
Vinyl chloride	ND	1.0						
Xylenes, Total	ND	3.0						
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>16.65</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>83.2</i>	<i>75-120</i>	<i>0</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.46</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>97.3</i>	<i>80-110</i>	<i>0</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>17.64</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>88.2</i>	<i>85-115</i>	<i>0</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>19.85</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>99.2</i>	<i>85-110</i>	<i>0</i>	<i>0</i>

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608291
 Project: ECT (Hartland - 13638 Sheila Lane)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

LCS		Sample ID: VLCSW1-160805-R193219A				Units: µg/L		Analysis Date: 8/5/2016 03:05 PM		
Client ID:		Run ID: VMS7_160805A			SeqNo: 3965975		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.56	1.0	20	0	97.8	80-130	0			
1,1,1-Trichloroethane	19.1	1.0	20	0	95.5	75-130	0			
1,1,2,2-Tetrachloroethane	21.28	1.0	20	0	106	75-130	0			
1,1,2-Trichloroethane	21.61	1.0	20	0	108	75-125	0			
1,1-Dichloroethane	20.97	1.0	20	0	105	75-133	0			
1,1-Dichloroethene	23.78	1.0	20	0	119	70-145	0			
1,2,3-Trichloropropane	21.08	1.0	20	0	105	75-125	0			
1,2,4-Trichlorobenzene	20.33	1.0	20	0	102	70-135	0			
1,2,4-Trimethylbenzene	21.21	1.0	20	0	106	75-130	0			
1,2-Dibromo-3-chloropropane	18.89	1.0	20	0	94.4	60-130	0			
1,2-Dibromoethane	25.21	1.0	20	0	126	80-150	0			
1,2-Dichlorobenzene	21.24	1.0	20	0	106	70-130	0			
1,2-Dichloroethane	18.28	1.0	20	0	91.4	78-125	0			
1,2-Dichloropropane	21.36	1.0	20	0	107	75-125	0			
1,3,5-Trimethylbenzene	21.95	1.0	20	0	110	75-130	0			
1,3-Dichlorobenzene	21.41	1.0	20	0	107	75-130	0			
1,4-Dichlorobenzene	21.42	1.0	20	0	107	75-130	0			
2-Butanone	21.67	5.0	20	0	108	55-150	0			
2-Hexanone	21.04	5.0	20	0	105	60-135	0			
4-Methyl-2-pentanone	24.27	1.0	20	0	121	77-178	0			
Acetone	21.61	10	20	0	108	60-160	0			
Acrylonitrile	22.04	1.0	20	0	110	60-140	0			
Benzene	22.09	1.0	20	0	110	85-125	0			
Bromochloromethane	21.07	1.0	20	0	105	75-130	0			
Bromodichloromethane	18.63	1.0	20	0	93.2	75-125	0			
Bromoform	17.48	1.0	20	0	87.4	60-125	0			
Bromomethane	20.46	1.0	20	0	102	30-185	0			
Carbon disulfide	21.83	1.0	20	0	109	60-165	0			
Carbon tetrachloride	16.88	1.0	20	0	84.4	65-140	0			
Chlorobenzene	21.43	1.0	20	0	107	80-120	0			
Chloroethane	17.4	1.0	20	0	87	50-140	0			
Chloroform	18.37	1.0	20	0	91.8	80-130	0			
Chloromethane	17.48	1.0	20	0	87.4	50-130	0			
cis-1,2-Dichloroethene	19.7	1.0	20	0	98.5	75-134	0			
cis-1,3-Dichloropropene	20.55	1.0	20	0	103	70-130	0			
Dibromochloromethane	17.89	1.0	20	0	89.4	60-115	0			
Dibromomethane	20.41	1.0	20	0	102	85-125	0			
Dichlorodifluoromethane	11.7	1.0	20	0	58.5	20-120	0			
Ethylbenzene	21.34	1.0	20	0	107	85-125	0			
Hexachloroethane	13.53	1.0	20	0	67.6	50-124	0			
Isopropylbenzene	21.64	1.0	20	0	108	80-127	0			
m,p-Xylene	42.52	2.0	40	0	106	75-130	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Work Order: 1608291
Project: ECT (Hartland - 13638 Sheila Lane)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7		Method: SW8260B					
Methyl iodide	21.79	1.0	20	0	109	60-160	0	
Methyl tert-butyl ether	20.91	1.0	20	0	105	80-130	0	
Methylene chloride	20.55	5.0	20	0	103	75-140	0	
Naphthalene	21.8	5.0	20	0	109	55-160	0	
n-Propylbenzene	21.26	1.0	20	0	106	78-120	0	
o-Xylene	20.78	1.0	20	0	104	80-125	0	
Styrene	22.53	1.0	20	0	113	85-125	0	
Tetrachloroethene	28.15	1.0	20	0	141	77-138	0	S
Toluene	21.45	1.0	20	0	107	85-125	0	
trans-1,2-Dichloroethene	21.02	1.0	20	0	105	80-140	0	
trans-1,3-Dichloropropene	19	1.0	20	0	95	81-123	0	
trans-1,4-Dichloro-2-butene	16.54	2.0	20	0	82.7	46-118	0	
Trichloroethene	21.19	1.0	20	0	106	84-130	0	
Trichlorofluoromethane	15.48	1.0	20	0	77.4	60-140	0	
Vinyl chloride	17.28	1.0	20	0	86.4	50-136	0	
Xylenes, Total	63.3	3.0	60	0	106	80-126	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	17.26	0	20	0	86.3	75-120	0	
<i>Surr: 4-Bromofluorobenzene</i>	19.64	0	20	0	98.2	80-110	0	
<i>Surr: Dibromofluoromethane</i>	19	0	20	0	95	85-115	0	
<i>Surr: Toluene-d8</i>	19.74	0	20	0	98.7	85-110	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608291
 Project: ECT (Hartland - 13638 Sheila Lane)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

MS		Sample ID: 1608291-01A MS				Units: µg/L		Analysis Date: 8/5/2016 11:40 PM		
Client ID: 13638 Sheila Lane		Run ID: VMS7_160805A				SeqNo: 3965989		Prep Date:		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	187.1	10	200	0	93.6	80-130	0			
1,1,1-Trichloroethane	194.5	10	200	0	97.2	75-130	0			
1,1,2,2-Tetrachloroethane	209.2	10	200	0	105	75-130	0			
1,1,2-Trichloroethane	221.6	10	200	0	111	75-125	0			
1,1-Dichloroethane	212.9	10	200	0	106	75-133	0			
1,1-Dichloroethene	266.4	10	200	0	133	70-145	0			
1,2,3-Trichloropropane	217.6	10	200	0	109	75-125	0			
1,2,4-Trichlorobenzene	200.5	10	200	0	100	70-135	0			
1,2,4-Trimethylbenzene	218.4	10	200	0	109	75-130	0			
1,2-Dibromo-3-chloropropane	157.8	10	200	0	78.9	60-130	0			
1,2-Dibromoethane	259.8	10	200	0	130	80-150	0			
1,2-Dichlorobenzene	219.2	10	200	0	110	70-130	0			
1,2-Dichloroethane	193.1	10	200	0	96.6	78-125	0			
1,2-Dichloropropane	223.3	10	200	0	112	75-125	0			
1,3,5-Trimethylbenzene	223.2	10	200	0	112	75-130	0			
1,3-Dichlorobenzene	223.6	10	200	0	112	75-130	0			
1,4-Dichlorobenzene	215.7	10	200	0	108	75-130	0			
2-Butanone	208.6	50	200	0	104	55-150	0			
2-Hexanone	205.6	50	200	0	103	60-135	0			
4-Methyl-2-pentanone	232.8	10	200	0	116	77-178	0			
Acetone	216	100	200	0	108	60-160	0			
Acrylonitrile	224.6	10	200	0	112	60-140	0			
Benzene	234.1	10	200	0	117	85-125	0			
Bromochloromethane	215.1	10	200	0	108	75-130	0			
Bromodichloromethane	184.5	10	200	0	92.2	75-125	0			
Bromoform	152.4	10	200	0	76.2	60-125	0			
Bromomethane	187.7	10	200	0	93.8	30-185	0			
Carbon disulfide	231.8	10	200	0	116	60-165	0			
Carbon tetrachloride	162.5	10	200	0	81.2	65-140	0			
Chlorobenzene	226.8	10	200	0	113	80-120	0			
Chloroethane	185.3	10	200	0	92.6	50-140	0			
Chloroform	191.8	10	200	0	95.9	80-130	0			
Chloromethane	179.5	10	200	0	89.8	50-130	0			
cis-1,2-Dichloroethene	199.8	10	200	0	99.9	75-134	0			
cis-1,3-Dichloropropene	195.6	10	200	0	97.8	70-130	0			
Dibromochloromethane	163.3	10	200	0	81.6	60-115	0			
Dibromomethane	207.6	10	200	0	104	85-125	0			
Dichlorodifluoromethane	149.1	10	200	0	74.6	20-120	0			
Ethylbenzene	225.8	10	200	0	113	85-125	0			
Hexachloroethane	108	10	200	0	54	50-124	0			
Isopropylbenzene	227.9	10	200	0	114	80-127	0			
m,p-Xylene	445.8	20	400	0	111	75-130	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608291
 Project: ECT (Hartland - 13638 Sheila Lane)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7		Method: SW8260B					
Methyl iodide	282	10	200	0	141	60-160	0	
Methyl tert-butyl ether	211	10	200	0	106	80-130	0	
Methylene chloride	218.8	50	200	0	109	75-140	0	
Naphthalene	216.1	50	200	0	108	55-160	0	
n-Propylbenzene	219.2	10	200	0	110	78-120	0	
o-Xylene	218.1	10	200	0	109	80-125	0	
Styrene	232.8	10	200	0	116	85-125	0	
Tetrachloroethene	318.4	10	200	0	159	77-138	0	S
Toluene	225	10	200	0	112	85-125	0	
trans-1,2-Dichloroethene	222.5	10	200	0	111	80-140	0	
trans-1,3-Dichloropropene	174.7	10	200	0	87.4	81-123	0	
trans-1,4-Dichloro-2-butene	136	20	200	0	68	46-118	0	
Trichloroethene	228.6	10	200	0	114	84-130	0	
Trichlorofluoromethane	161.4	10	200	0	80.7	60-140	0	
Vinyl chloride	177.6	10	200	0	88.8	50-136	0	
Xylenes, Total	663.9	30	600	0	111	80-126	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>166.8</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>83.4</i>	<i>75-120</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>195.6</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>97.8</i>	<i>80-110</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>187</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>93.5</i>	<i>85-115</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>197.9</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>99</i>	<i>85-110</i>	<i>0</i>	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608291
 Project: ECT (Hartland - 13638 Sheila Lane)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

MSD		Sample ID: 1608291-01A MSD				Units: µg/L		Analysis Date: 8/6/2016 12:03 PM		
Client ID: 13638 Sheila Lane		Run ID: VMS7_160805A				SeqNo: 3965990		Prep Date:		DF: 10
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	172.3	10	200	0	86.2	80-130	187.1	8.24	30	
1,1,1-Trichloroethane	186.1	10	200	0	93	75-130	194.5	4.41	30	
1,1,2,2-Tetrachloroethane	195.1	10	200	0	97.6	75-130	209.2	6.98	30	
1,1,2-Trichloroethane	207.7	10	200	0	104	75-125	221.6	6.48	30	
1,1-Dichloroethane	202.7	10	200	0	101	75-133	212.9	4.91	30	
1,1-Dichloroethene	242.4	10	200	0	121	70-145	266.4	9.43	30	
1,2,3-Trichloropropane	197.1	10	200	0	98.6	75-125	217.6	9.89	30	
1,2,4-Trichlorobenzene	195.7	10	200	0	97.8	70-135	200.5	2.42	30	
1,2,4-Trimethylbenzene	204.2	10	200	0	102	75-130	218.4	6.72	30	
1,2-Dibromo-3-chloropropane	151.7	10	200	0	75.8	60-130	157.8	3.94	30	
1,2-Dibromoethane	239.5	10	200	0	120	80-150	259.8	8.13	30	
1,2-Dichlorobenzene	207.3	10	200	0	104	70-130	219.2	5.58	30	
1,2-Dichloroethane	179.2	10	200	0	89.6	78-125	193.1	7.47	30	
1,2-Dichloropropane	205.9	10	200	0	103	75-125	223.3	8.11	30	
1,3,5-Trimethylbenzene	212	10	200	0	106	75-130	223.2	5.15	30	
1,3-Dichlorobenzene	213.2	10	200	0	107	75-130	223.6	4.76	30	
1,4-Dichlorobenzene	207.7	10	200	0	104	75-130	215.7	3.78	30	
2-Butanone	194.4	50	200	0	97.2	55-150	208.6	7.05	30	
2-Hexanone	183.1	50	200	0	91.6	60-135	205.6	11.6	30	
4-Methyl-2-pentanone	211	10	200	0	106	77-178	232.8	9.82	30	
Acetone	201.4	100	200	0	101	60-160	216	7	30	
Acrylonitrile	205.6	10	200	0	103	60-140	224.6	8.83	30	
Benzene	219.9	10	200	0	110	85-125	234.1	6.26	30	
Bromochloromethane	204.4	10	200	0	102	75-130	215.1	5.1	30	
Bromodichloromethane	171.9	10	200	0	86	75-125	184.5	7.07	30	
Bromoform	145.2	10	200	0	72.6	60-125	152.4	4.84	30	
Bromomethane	164.2	10	200	0	82.1	30-185	187.7	13.4	30	
Carbon disulfide	216.9	10	200	0	108	60-165	231.8	6.64	30	
Carbon tetrachloride	154.6	10	200	0	77.3	65-140	162.5	4.98	30	
Chlorobenzene	212.3	10	200	0	106	80-120	226.8	6.6	30	
Chloroethane	164.2	10	200	0	82.1	50-140	185.3	12.1	30	
Chloroform	182.6	10	200	0	91.3	80-130	191.8	4.91	30	
Chloromethane	174.5	10	200	0	87.2	50-130	179.5	2.82	30	
cis-1,2-Dichloroethene	186.4	10	200	0	93.2	75-134	199.8	6.94	30	
cis-1,3-Dichloropropene	183.4	10	200	0	91.7	70-130	195.6	6.44	30	
Dibromochloromethane	154.8	10	200	0	77.4	60-115	163.3	5.34	30	
Dibromomethane	196.7	10	200	0	98.4	85-125	207.6	5.39	30	
Dichlorodifluoromethane	137.6	10	200	0	68.8	20-120	149.1	8.02	30	
Ethylbenzene	212	10	200	0	106	85-125	225.8	6.3	30	
Hexachloroethane	111.2	10	200	0	55.6	50-124	108	2.92	30	
Isopropylbenzene	215.6	10	200	0	108	80-127	227.9	5.55	30	
m,p-Xylene	428.1	20	400	0	107	75-130	445.8	4.05	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608291
 Project: ECT (Hartland - 13638 Sheila Lane)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7		Method: SW8260B							
Methyl iodide	247.4	10	200	0	124	60-160	282	13.1	30	
Methyl tert-butyl ether	199	10	200	0	99.5	80-130	211	5.85	30	
Methylene chloride	206	50	200	0	103	75-140	218.8	6.03	30	
Naphthalene	204.1	50	200	0	102	55-160	216.1	5.71	30	
n-Propylbenzene	206.4	10	200	0	103	78-120	219.2	6.02	30	
o-Xylene	203.4	10	200	0	102	80-125	218.1	6.98	30	
Styrene	219.8	10	200	0	110	85-125	232.8	5.74	30	
Tetrachloroethene	290.1	10	200	0	145	77-138	318.4	9.3	30 S	
Toluene	210.6	10	200	0	105	85-125	225	6.61	30	
trans-1,2-Dichloroethene	208.6	10	200	0	104	80-140	222.5	6.45	30	
trans-1,3-Dichloropropene	162	10	200	0	81	81-123	174.7	7.54	30	
trans-1,4-Dichloro-2-butene	129.9	20	200	0	65	46-118	136	4.59	30	
Trichloroethene	215.2	10	200	0	108	84-130	228.6	6.04	30	
Trichlorofluoromethane	151.8	10	200	0	75.9	60-140	161.4	6.13	30	
Vinyl chloride	173.9	10	200	0	87	50-136	177.6	2.11	30	
Xylenes, Total	631.5	30	600	0	105	80-126	663.9	5	30	
<i>Surr: 1,2-Dichloroethane-d4</i>	167.5	0	200	0	83.8	75-120	166.8	0.419	30	
<i>Surr: 4-Bromofluorobenzene</i>	187.9	0	200	0	94	80-110	195.6	4.02	30	
<i>Surr: Dibromofluoromethane</i>	182.2	0	200	0	91.1	85-115	187	2.6	30	
<i>Surr: Toluene-d8</i>	196	0	200	0	98	85-110	197.9	0.965	30	

The following samples were analyzed in this batch:

1608291-01A

Client: Merit Energy
Project: ECT (Hartland - 13638 Sheila Lane)
WorkOrder: 1608291

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **05-Aug-16 09:30**

Work Order: **1608291**

Received by: **MEB**

Checklist completed by Meghan Broadbent 05-Aug-16
eSignature Date

Reviewed by: Gary Byar 05-Aug-16
eSignature Date

Matrices: water

Carrier name: FedEx

Shipping container/cooler in good condition? Yes No Not Present

Custody seals intact on shipping container/cooler? Yes No Not Present

Custody seals intact on sample bottles? Yes No Not Present

Chain of custody present? Yes No

Chain of custody signed when relinquished and received? Yes No

Chain of custody agrees with sample labels? Yes No

Samples in proper container/bottle? Yes No

Sample containers intact? Yes No

Sufficient sample volume for indicated test? Yes No

All samples received within holding time? Yes No

Container/Temp Blank temperature in compliance? Yes No

Sample(s) received on ice? Yes No

Temperature(s)/Thermometer(s):

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage:

Water - VOA vials have zero headspace? Yes No No VOA vials submitted

Water - pH acceptable upon receipt? Yes No N/A

pH adjusted? Yes No N/A

pH adjusted by:

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



RETURN SAMPLES TO:
 ALS Environmental
 781 Industrial Cir, Ste 3
 Traverse City, Michigan 49686
 (Tel) 231.421.3204
 (Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

ALS Environmental,
 3352 128th Avenue
 Holland, Michigan 49424
 (Tel) 616.399.6070
 (Fax) 616.399.6185

ALS Project Manager: Gary Byar		ALS Work Order #: 1608291															
Customer Information			Project Information				Parameter/Method Request for Analysis										
Purchase Order		Project Name	Hartland 36 Gas Plant		A	Full VOCs 8260		(2) 40 ml vials w HCL									
Work Order		Project Number			B	Sulfolane & DIPA 8270		(2) Amber Liters									
Company Name	ECT, Inc.	Bill To Company	MEC		C												
Send Report To	Jeremy Lewandowski	Invoice Attn	Sean Craven		D												
Address	3399 Veterans Dr.	Address	1510 Thomas Rd		E			RUSH									
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI		F												
Phone	231-946-8200	Phone	231-258-6389		G												
Fax	231-946-8208	Fax			H												
e-Mail Address	jlewandowski@ectinc.com				I												
J																	
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
	13638 SHEILA LANE	8-3-16	1655	GW	1	4	X	X									
Sampler(s): Please Print & Sign <i>Jeremy Lewandowski</i> Shipment Method: _____ Required Turnaround Time: (Check Box) <input type="checkbox"/> 10 Wk Days <input type="checkbox"/> 5-7 Wk Days <input checked="" type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour <input type="checkbox"/> Other _____ Results Due Date: _____																	
Relinquished by: <i>ECT SAMPLE STORAGE</i>		Date: 8-2-16	Time: 2150	Received by: <i>ECT SAMPLE STORAGE</i>		Date: 8-3-16	Time: 200	Notes: <i>Rec'd by Lab: MB Bissett 8/5/16 930</i> ALS Project: MERITENERGY - Misc									
Relinquished by: <i>Jeremy Lewandowski</i>		Date: 8-4-16	Time: 1150	Received by (Laboratory): <i>[Signature]</i>		Date: 8-4-16	Time: 1130										
Relinquished by: <i>[Signature]</i>		Date: 8-4-16	Time: 1215	Checked by (Laboratory): <i>[Signature]</i>		Date: 8/4/16	Time: 12:15	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)							
Logged by (Laboratory): <i>MB</i>		Date: 8/5/16	Time: 1034	Checked by (Laboratory): <i>[Signature]</i>		Date: 8/5/16	Time: 1034		3.0	<input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data <input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV: SW846 Methods/CLP like <input type="checkbox"/> Other: _____							
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.																	



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 369 Jeni Lane)**

Work Order: **1609804**

Dear Sean,

ALS Environmental received 1 sample on 15-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

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RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 369 Jeni Lane)
Work Order: 1609804

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609804-01	369 Jeni Lane	Water		9/14/2016 10:35	9/15/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy
Project: ECT (Merit - 369 Jeni Lane)
Sample ID: 369 Jeni Lane
Collection Date: 9/14/2016 10:35 AM

Work Order: 1609804
Lab ID: 1609804-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/16/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/19/2016 04:34 AM
Surr: 2,4,6-Tribromophenol	60.2		38-115	%REC	1	9/19/2016 04:34 AM
Surr: 2-Fluorobiphenyl	56.1		32-100	%REC	1	9/19/2016 04:34 AM
Surr: 2-Fluorophenol	31.8		22-59	%REC	1	9/19/2016 04:34 AM
Surr: 4-Terphenyl-d14	75.4		23-112	%REC	1	9/19/2016 04:34 AM
Surr: Nitrobenzene-d5	52.3		31-93	%REC	1	9/19/2016 04:34 AM
Surr: Phenol-d6	17.3		13-36	%REC	1	9/19/2016 04:34 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
 Work Order: 1609804
 Project: ECT (Merit - 369 Jeni Lane)

QC BATCH REPORT

Batch ID: **91481** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:03 PM			
Client ID:		Run ID: SVMS8_160918A				SeqNo: 4038353		Prep Date: 9/16/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
<i>Surr: 2,4,6-Tribromophenol</i>	30.02	0	50	0	60	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	31.92	0	50	0	63.8	32-100	0				
<i>Surr: 2-Fluorophenol</i>	18.02	0	50	0	36	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	35.62	0	50	0	71.2	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	32.13	0	50	0	64.3	31-93	0				
<i>Surr: Phenol-d6</i>	9.75	0	50	0	19.5	13-36	0				

LCS		Sample ID: SLCSW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:23 PM			
Client ID:		Run ID: SVMS8_160918A				SeqNo: 4038354		Prep Date: 9/16/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	52.35	10	100	0	52.4	30-100	0				
<i>Surr: 2,4,6-Tribromophenol</i>	35.21	0	50	0	70.4	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	31.44	0	50	0	62.9	32-100	0				
<i>Surr: 2-Fluorophenol</i>	17.86	0	50	0	35.7	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	37.56	0	50	0	75.1	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	33.06	0	50	0	66.1	31-93	0				
<i>Surr: Phenol-d6</i>	10.51	0	50	0	21	13-36	0				

LCSD		Sample ID: SLCSDW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:43 PM			
Client ID:		Run ID: SVMS8_160918A				SeqNo: 4038355		Prep Date: 9/16/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	59.44	10	100	0	59.4	30-100	52.35	12.7	30		
<i>Surr: 2,4,6-Tribromophenol</i>	32.69	0	50	0	65.4	38-115	35.21	7.42	30		
<i>Surr: 2-Fluorobiphenyl</i>	35.15	0	50	0	70.3	32-100	31.44	11.1	30		
<i>Surr: 2-Fluorophenol</i>	20.65	0	50	0	41.3	22-59	17.86	14.5	30		
<i>Surr: 4-Terphenyl-d14</i>	37.72	0	50	0	75.4	23-112	37.56	0.425	30		
<i>Surr: Nitrobenzene-d5</i>	31.01	0	50	0	62	31-93	33.06	6.4	30		
<i>Surr: Phenol-d6</i>	12.14	0	50	0	24.3	13-36	10.51	14.4	30		

The following samples were analyzed in this batch: 1609804-01A

Client: Merit Energy
Project: ECT (Merit - 369 Jeni Lane)
WorkOrder: 1609804

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **15-Sep-16 10:00**

Work Order: **1609804**

Received by: **MBB**

Checklist completed by Meghan Broadbent 15-Sep-16
eSignature Date

Reviewed by: Gary Byar 15-Sep-16
eSignature Date

Matrices: water
Carrier name: UPS

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No
- Sample(s) received on ice? Yes No

Temperature(s)/Thermometer(s): 2.6/2.6 SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 9/15/2016 12:22:45 PM

Water - VOA vials have zero headspace? Yes No No VOA vials submitted

Water - pH acceptable upon receipt? Yes No N/A

pH adjusted? Yes No N/A

pH adjusted by:

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



ALS Environmental
781 Industrial Cir, Sta 3
Traverse City, Michigan 49686
(Tel) 231.421.3204
(Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

Customer Information		Project Information				Parameter/Method Request for Analysis											
Purchase Order		Project Name	Hartland 36 Gas Plant		A	Sulfolane										(1) Amber Liter	
Work Order		Project Number			B												
Company Name	ECT, Inc.	Bill To Company	MEC		C												
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven		D												
Address	3399 Veterans Dr.	Address	1510 Thomas Rd		E												
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI		F												
Phone	231-946-8200	Phone	231-258-6369		G												
Fax	231-946-8208	Fax			H												
e-Mail Address	jlewandowski@ectinc.com				I												
					J												
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
	369 Jeri Lane	9/14/16	10:35	Water	8	1	X										
Sampler(s): Please Print & Sign <i>Anne Paver</i>		Shipment Method: UPS Ground		Required Turnaround Time: (Check Box) <input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				Other: _____				Results Due Date:					
Relinquished by: <i>[Signature]</i>	Date: 9/14/16	Time: 16:30	Received by:		Date:	Time:	Notes: ALS Project: MERITENERGY - Misc										
Relinquished by: <i>[Signature]</i>	Date: 9/15/16	Time: 1000	Received by (Laboratory): <i>[Signature]</i>		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)								
Logged by (Laboratory): <i>MB</i>		Date: 9/15/16	Time: 1220	Checked by (Laboratory): <i>[Signature]</i>				2.6	<input checked="" type="checkbox"/> Level II: Standard QC	<input type="checkbox"/> Level III: Raw Data							
									<input type="checkbox"/> TRRP LRC	<input type="checkbox"/> TRRP Level IV							
									<input type="checkbox"/> Level IV: SW846 Methods/CLP like								
									<input type="checkbox"/> Other: _____								
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other											8-4°C		Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.				



10-Aug-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Hartland - 13582 Sheila Lane)**

Work Order: **1608285**

Dear Sean,

ALS Environmental received 1 sample on 05-Aug-2016 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 18.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Hartland - 13582 Sheila Lane)
Work Order: 1608285

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1608285-01	13582 Sheila Lane	Groundwater		8/3/2016 14:21	8/5/2016 09:30	<input type="checkbox"/>

ALS Group USA, Corp

Date: 10-Aug-16

Client: Merit Energy
Project: ECT (Hartland - 13582 Sheila Lane)
Sample ID: 13582 Sheila Lane
Collection Date: 8/3/2016 02:21 PM

Work Order: 1608285
Lab ID: 1608285-01
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 8/5/16	Analyst: RM
Diisopropanolamine	ND		50	µg/L	1	8/9/2016 12:26 AM
Sulfolane	ND		10	µg/L	1	8/9/2016 12:26 AM
Surr: 2,4,6-Tribromophenol	66.7		38-115	%REC	1	8/9/2016 12:26 AM
Surr: 2-Fluorobiphenyl	73.3		32-100	%REC	1	8/9/2016 12:26 AM
Surr: 2-Fluorophenol	41.6		22-59	%REC	1	8/9/2016 12:26 AM
Surr: 4-Terphenyl-d14	91.2		23-112	%REC	1	8/9/2016 12:26 AM
Surr: Nitrobenzene-d5	75.0		31-93	%REC	1	8/9/2016 12:26 AM
Surr: Phenol-d6	21.8		13-36	%REC	1	8/9/2016 12:26 AM
VOLATILE ORGANIC COMPOUNDS			SW8260B			Analyst: AK
1,1,1,2-Tetrachloroethane	ND		1.0	µg/L	1	8/5/2016 06:13 PM
1,1,1-Trichloroethane	ND		1.0	µg/L	1	8/5/2016 06:13 PM
1,1,2,2-Tetrachloroethane	ND		1.0	µg/L	1	8/5/2016 06:13 PM
1,1,2-Trichloroethane	ND		1.0	µg/L	1	8/5/2016 06:13 PM
1,1,2-Trichlorotrifluoroethane	ND		1.0	µg/L	1	8/5/2016 06:13 PM
1,1-Dichloroethane	ND		1.0	µg/L	1	8/5/2016 06:13 PM
1,1-Dichloroethene	ND		1.0	µg/L	1	8/5/2016 06:13 PM
1,2,3-Trichloropropane	ND		1.0	µg/L	1	8/5/2016 06:13 PM
1,2,4-Trichlorobenzene	ND		1.0	µg/L	1	8/5/2016 06:13 PM
1,2,4-Trimethylbenzene	ND		1.0	µg/L	1	8/5/2016 06:13 PM
1,2-Dibromo-3-chloropropane	ND		1.0	µg/L	1	8/5/2016 06:13 PM
1,2-Dibromoethane	ND		1.0	µg/L	1	8/5/2016 06:13 PM
1,2-Dichlorobenzene	ND		1.0	µg/L	1	8/5/2016 06:13 PM
1,2-Dichloroethane	ND		1.0	µg/L	1	8/5/2016 06:13 PM
1,2-Dichloropropane	ND		1.0	µg/L	1	8/5/2016 06:13 PM
1,3,5-Trimethylbenzene	ND		1.0	µg/L	1	8/5/2016 06:13 PM
1,3-Dichlorobenzene	ND		1.0	µg/L	1	8/5/2016 06:13 PM
1,4-Dichlorobenzene	ND		1.0	µg/L	1	8/5/2016 06:13 PM
2-Butanone	ND		5.0	µg/L	1	8/5/2016 06:13 PM
2-Hexanone	ND		5.0	µg/L	1	8/5/2016 06:13 PM
2-Methylnaphthalene	ND		5.0	µg/L	1	8/5/2016 06:13 PM
4-Methyl-2-pentanone	ND		1.0	µg/L	1	8/5/2016 06:13 PM
Acetone	ND		10	µg/L	1	8/5/2016 06:13 PM
Acrylonitrile	ND		1.0	µg/L	1	8/5/2016 06:13 PM
Benzene	ND		1.0	µg/L	1	8/5/2016 06:13 PM
Bromochloromethane	ND		1.0	µg/L	1	8/5/2016 06:13 PM
Bromodichloromethane	ND		1.0	µg/L	1	8/5/2016 06:13 PM
Bromoform	ND		1.0	µg/L	1	8/5/2016 06:13 PM
Bromomethane	ND		1.0	µg/L	1	8/5/2016 06:13 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 10-Aug-16

Client: Merit Energy
Project: ECT (Hartland - 13582 Sheila Lane)
Sample ID: 13582 Sheila Lane
Collection Date: 8/3/2016 02:21 PM

Work Order: 1608285
Lab ID: 1608285-01
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		1.0	µg/L	1	8/5/2016 06:13 PM
Carbon tetrachloride	ND		1.0	µg/L	1	8/5/2016 06:13 PM
Chlorobenzene	ND		1.0	µg/L	1	8/5/2016 06:13 PM
Chloroethane	ND		1.0	µg/L	1	8/5/2016 06:13 PM
Chloroform	ND		1.0	µg/L	1	8/5/2016 06:13 PM
Chloromethane	ND		1.0	µg/L	1	8/5/2016 06:13 PM
cis-1,2-Dichloroethene	ND		1.0	µg/L	1	8/5/2016 06:13 PM
cis-1,3-Dichloropropene	ND		1.0	µg/L	1	8/5/2016 06:13 PM
Dibromochloromethane	ND		1.0	µg/L	1	8/5/2016 06:13 PM
Dibromomethane	ND		1.0	µg/L	1	8/5/2016 06:13 PM
Dichlorodifluoromethane	ND		1.0	µg/L	1	8/5/2016 06:13 PM
Diethyl ether	ND		1.0	µg/L	1	8/5/2016 06:13 PM
Ethylbenzene	ND		1.0	µg/L	1	8/5/2016 06:13 PM
Hexachloroethane	ND		1.0	µg/L	1	8/5/2016 06:13 PM
Isopropylbenzene	ND		1.0	µg/L	1	8/5/2016 06:13 PM
m,p-Xylene	ND		2.0	µg/L	1	8/5/2016 06:13 PM
Methyl iodide	ND		1.0	µg/L	1	8/5/2016 06:13 PM
Methyl tert-butyl ether	ND		1.0	µg/L	1	8/5/2016 06:13 PM
Methylene chloride	ND		5.0	µg/L	1	8/5/2016 06:13 PM
Naphthalene	ND		5.0	µg/L	1	8/5/2016 06:13 PM
n-Propylbenzene	ND		1.0	µg/L	1	8/5/2016 06:13 PM
o-Xylene	ND		1.0	µg/L	1	8/5/2016 06:13 PM
Styrene	ND		1.0	µg/L	1	8/5/2016 06:13 PM
Tetrachloroethene	ND		1.0	µg/L	1	8/5/2016 06:13 PM
Toluene	ND		1.0	µg/L	1	8/5/2016 06:13 PM
trans-1,2-Dichloroethene	ND		1.0	µg/L	1	8/5/2016 06:13 PM
trans-1,3-Dichloropropene	ND		1.0	µg/L	1	8/5/2016 06:13 PM
trans-1,4-Dichloro-2-butene	ND		2.0	µg/L	1	8/5/2016 06:13 PM
Trichloroethene	ND		1.0	µg/L	1	8/5/2016 06:13 PM
Trichlorofluoromethane	ND		1.0	µg/L	1	8/5/2016 06:13 PM
Vinyl acetate	ND		5.0	µg/L	1	8/5/2016 06:13 PM
Vinyl chloride	ND		1.0	µg/L	1	8/5/2016 06:13 PM
Xylenes, Total	ND		3.0	µg/L	1	8/5/2016 06:13 PM
Surr: 1,2-Dichloroethane-d4	85.8		75-120	%REC	1	8/5/2016 06:13 PM
Surr: 4-Bromofluorobenzene	99.0		80-110	%REC	1	8/5/2016 06:13 PM
Surr: Dibromofluoromethane	90.2		85-115	%REC	1	8/5/2016 06:13 PM
Surr: Toluene-d8	98.2		85-110	%REC	1	8/5/2016 06:13 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
Project: ECT (Hartland - 13582 Sheila Lane)
Work Order: 1608285

Case Narrative

Batch R193219A Sample VLCSW1-160805 The LCS recovery for Volatile compound Tetrachloroethene was above the upper control limit. All the sample results in the batch were non-detect. No qualification is necessary for this analyte.

Batch R193219A The MS/MSD data for Volatiles is no related to this projects sample. No data requires qualification.

Client: Merit Energy
 Work Order: 1608285
 Project: ECT (Hartland - 13582 Sheila Lane)

QC BATCH REPORT

Batch ID: **89682** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-89682-89682				Units: µg/L		Analysis Date: 8/8/2016 08:51 PM		
Client ID:		Run ID: SVMS8_160808A		SeqNo: 3968850		Prep Date: 8/5/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	ND	50								
Sulfolane	ND	10								
<i>Surr: 2,4,6-Tribromophenol</i>	32.35	0	50	0	64.7	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	36.53	0	50	0	73.1	32-100	0			
<i>Surr: 2-Fluorophenol</i>	19.03	0	50	0	38.1	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	45.48	0	50	0	91	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	36.58	0	50	0	73.2	31-93	0			
<i>Surr: Phenol-d6</i>	9.38	0	50	0	18.8	13-36	0			

LCS		Sample ID: SLCSW1-89682-89682				Units: µg/L		Analysis Date: 8/8/2016 09:12 PM		
Client ID:		Run ID: SVMS8_160808A		SeqNo: 3968851		Prep Date: 8/5/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	3.57	50	20	0	17.8	10-50	0			
Sulfolane	11.76	10	20	0	58.8	30-100	0			
<i>Surr: 2,4,6-Tribromophenol</i>	32.34	0	50	0	64.7	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	37.17	0	50	0	74.3	32-100	0			
<i>Surr: 2-Fluorophenol</i>	19.78	0	50	0	39.6	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	49.38	0	50	0	98.8	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	35.31	0	50	0	70.6	31-93	0			
<i>Surr: Phenol-d6</i>	11.13	0	50	0	22.3	13-36	0			

LCSD		Sample ID: SLCSDW1-89682-89682				Units: µg/L		Analysis Date: 8/8/2016 09:33 PM		
Client ID:		Run ID: SVMS8_160808A		SeqNo: 3968852		Prep Date: 8/5/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	3.35	50	20	0	16.8	10-50	3.57	0	50	
Sulfolane	12.03	10	20	0	60.2	30-100	11.76	2.27	50	
<i>Surr: 2,4,6-Tribromophenol</i>	32.73	0	50	0	65.5	38-115	32.34	1.2	40	
<i>Surr: 2-Fluorobiphenyl</i>	38.09	0	50	0	76.2	32-100	37.17	2.44	40	
<i>Surr: 2-Fluorophenol</i>	18.36	0	50	0	36.7	22-59	19.78	7.45	40	
<i>Surr: 4-Terphenyl-d14</i>	48.18	0	50	0	96.4	23-112	49.38	2.46	40	
<i>Surr: Nitrobenzene-d5</i>	36.74	0	50	0	73.5	31-93	35.31	3.97	40	
<i>Surr: Phenol-d6</i>	10.18	0	50	0	20.4	13-36	11.13	8.92	40	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608285
 Project: ECT (Hartland - 13582 Sheila Lane)

QC BATCH REPORT

Batch ID: **89682** Instrument ID **SVMS8** Method: **SW846 8270D**

MS		Sample ID: 1608284-01B MS				Units: µg/L		Analysis Date: 8/8/2016 11:24 PM		
Client ID:		Run ID: SVMS8_160808A		SeqNo: 3968855		Prep Date: 8/5/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	3.25	50	20	0	16.2	10-50		0		
Sulfolane	12.15	10	20	0	60.8	30-100		0		
<i>Surr: 2,4,6-Tribromophenol</i>	34.22	0	50	0	68.4	38-115		0		
<i>Surr: 2-Fluorobiphenyl</i>	38.42	0	50	0	76.8	32-100		0		
<i>Surr: 2-Fluorophenol</i>	17.81	0	50	0	35.6	22-59		0		
<i>Surr: 4-Terphenyl-d14</i>	42.35	0	50	0	84.7	23-112		0		
<i>Surr: Nitrobenzene-d5</i>	37.97	0	50	0	75.9	31-93		0		
<i>Surr: Phenol-d6</i>	9.23	0	50	0	18.5	13-36		0		

DUP		Sample ID: 1608285-01B DUP				Units: µg/L		Analysis Date: 8/9/2016 12:05 AM		
Client ID: 13582 Sheila Lane		Run ID: SVMS8_160808A		SeqNo: 3968857		Prep Date: 8/5/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	ND	50	0	0	0			0	0	50
Sulfolane	ND	10	0	0	0			0	0	50
<i>Surr: 2,4,6-Tribromophenol</i>	36.71	0	50	0	73.4	38-115	33.33	9.65	40	
<i>Surr: 2-Fluorobiphenyl</i>	42.42	0	50	0	84.8	32-100	36.64	14.6	40	
<i>Surr: 2-Fluorophenol</i>	20.27	0	50	0	40.5	22-59	20.78	2.48	40	
<i>Surr: 4-Terphenyl-d14</i>	46.4	0	50	0	92.8	23-112	45.62	1.7	40	
<i>Surr: Nitrobenzene-d5</i>	39.3	0	50	0	78.6	31-93	37.49	4.71	40	
<i>Surr: Phenol-d6</i>	10.33	0	50	0	20.7	13-36	10.9	5.37	40	

The following samples were analyzed in this batch:

1608285-01B

Client: Merit Energy
 Work Order: 1608285
 Project: ECT (Hartland - 13582 Sheila Lane)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

MBLK		Sample ID: VBLKW1-160805-R193219A				Units: µg/L		Analysis Date: 8/5/2016 04:16 PM		
Client ID:		Run ID: VMS7_160805A		SeqNo: 3965976		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
1,1,2-Trichlorotrifluoroethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2,3-Trichloropropane	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	1.0								
1,2-Dibromoethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,2-Dichloroethane	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
2-Butanone	ND	5.0								
2-Hexanone	ND	5.0								
2-Methylnaphthalene	ND	5.0								
4-Methyl-2-pentanone	ND	1.0								
Acetone	ND	10								
Acrylonitrile	ND	1.0								
Benzene	ND	1.0								
Bromochloromethane	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	1.0								
Carbon disulfide	ND	1.0								
Carbon tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	1.0								
Chloroform	ND	1.0								
Chloromethane	ND	1.0								
cis-1,2-Dichloroethene	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
Diethyl ether	ND	1.0								
Ethylbenzene	ND	1.0								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Work Order: 1608285
Project: ECT (Hartland - 13582 Sheila Lane)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7	Method: SW8260B						
Hexachloroethane	ND	1.0						
Isopropylbenzene	ND	1.0						
m,p-Xylene	ND	2.0						
Methyl iodide	ND	1.0						
Methyl tert-butyl ether	ND	1.0						
Methylene chloride	ND	5.0						
Naphthalene	ND	5.0						
n-Propylbenzene	ND	1.0						
o-Xylene	ND	1.0						
Styrene	ND	1.0						
Tetrachloroethene	ND	1.0						
Toluene	ND	1.0						
trans-1,2-Dichloroethene	ND	1.0						
trans-1,3-Dichloropropene	ND	1.0						
trans-1,4-Dichloro-2-butene	ND	2.0						
Trichloroethene	ND	1.0						
Trichlorofluoromethane	ND	1.0						
Vinyl acetate	ND	5.0						
Vinyl chloride	ND	1.0						
Xylenes, Total	ND	3.0						
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>16.65</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>83.2</i>	<i>75-120</i>	<i>0</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.46</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>97.3</i>	<i>80-110</i>	<i>0</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>17.64</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>88.2</i>	<i>85-115</i>	<i>0</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>19.85</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>99.2</i>	<i>85-110</i>	<i>0</i>	<i>0</i>

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608285
 Project: ECT (Hartland - 13582 Sheila Lane)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

LCS		Sample ID: VLCSW1-160805-R193219A				Units: µg/L		Analysis Date: 8/5/2016 03:05 PM		
Client ID:		Run ID: VMS7_160805A			SeqNo: 3965975		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.56	1.0	20	0	97.8	80-130	0			
1,1,1-Trichloroethane	19.1	1.0	20	0	95.5	75-130	0			
1,1,2,2-Tetrachloroethane	21.28	1.0	20	0	106	75-130	0			
1,1,2-Trichloroethane	21.61	1.0	20	0	108	75-125	0			
1,1-Dichloroethane	20.97	1.0	20	0	105	75-133	0			
1,1-Dichloroethene	23.78	1.0	20	0	119	70-145	0			
1,2,3-Trichloropropane	21.08	1.0	20	0	105	75-125	0			
1,2,4-Trichlorobenzene	20.33	1.0	20	0	102	70-135	0			
1,2,4-Trimethylbenzene	21.21	1.0	20	0	106	75-130	0			
1,2-Dibromo-3-chloropropane	18.89	1.0	20	0	94.4	60-130	0			
1,2-Dibromoethane	25.21	1.0	20	0	126	80-150	0			
1,2-Dichlorobenzene	21.24	1.0	20	0	106	70-130	0			
1,2-Dichloroethane	18.28	1.0	20	0	91.4	78-125	0			
1,2-Dichloropropane	21.36	1.0	20	0	107	75-125	0			
1,3,5-Trimethylbenzene	21.95	1.0	20	0	110	75-130	0			
1,3-Dichlorobenzene	21.41	1.0	20	0	107	75-130	0			
1,4-Dichlorobenzene	21.42	1.0	20	0	107	75-130	0			
2-Butanone	21.67	5.0	20	0	108	55-150	0			
2-Hexanone	21.04	5.0	20	0	105	60-135	0			
4-Methyl-2-pentanone	24.27	1.0	20	0	121	77-178	0			
Acetone	21.61	10	20	0	108	60-160	0			
Acrylonitrile	22.04	1.0	20	0	110	60-140	0			
Benzene	22.09	1.0	20	0	110	85-125	0			
Bromochloromethane	21.07	1.0	20	0	105	75-130	0			
Bromodichloromethane	18.63	1.0	20	0	93.2	75-125	0			
Bromoform	17.48	1.0	20	0	87.4	60-125	0			
Bromomethane	20.46	1.0	20	0	102	30-185	0			
Carbon disulfide	21.83	1.0	20	0	109	60-165	0			
Carbon tetrachloride	16.88	1.0	20	0	84.4	65-140	0			
Chlorobenzene	21.43	1.0	20	0	107	80-120	0			
Chloroethane	17.4	1.0	20	0	87	50-140	0			
Chloroform	18.37	1.0	20	0	91.8	80-130	0			
Chloromethane	17.48	1.0	20	0	87.4	50-130	0			
cis-1,2-Dichloroethene	19.7	1.0	20	0	98.5	75-134	0			
cis-1,3-Dichloropropene	20.55	1.0	20	0	103	70-130	0			
Dibromochloromethane	17.89	1.0	20	0	89.4	60-115	0			
Dibromomethane	20.41	1.0	20	0	102	85-125	0			
Dichlorodifluoromethane	11.7	1.0	20	0	58.5	20-120	0			
Ethylbenzene	21.34	1.0	20	0	107	85-125	0			
Hexachloroethane	13.53	1.0	20	0	67.6	50-124	0			
Isopropylbenzene	21.64	1.0	20	0	108	80-127	0			
m,p-Xylene	42.52	2.0	40	0	106	75-130	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Work Order: 1608285
Project: ECT (Hartland - 13582 Sheila Lane)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7		Method: SW8260B					
Methyl iodide	21.79	1.0	20	0	109	60-160	0	
Methyl tert-butyl ether	20.91	1.0	20	0	105	80-130	0	
Methylene chloride	20.55	5.0	20	0	103	75-140	0	
Naphthalene	21.8	5.0	20	0	109	55-160	0	
n-Propylbenzene	21.26	1.0	20	0	106	78-120	0	
o-Xylene	20.78	1.0	20	0	104	80-125	0	
Styrene	22.53	1.0	20	0	113	85-125	0	
Tetrachloroethene	28.15	1.0	20	0	141	77-138	0	S
Toluene	21.45	1.0	20	0	107	85-125	0	
trans-1,2-Dichloroethene	21.02	1.0	20	0	105	80-140	0	
trans-1,3-Dichloropropene	19	1.0	20	0	95	81-123	0	
trans-1,4-Dichloro-2-butene	16.54	2.0	20	0	82.7	46-118	0	
Trichloroethene	21.19	1.0	20	0	106	84-130	0	
Trichlorofluoromethane	15.48	1.0	20	0	77.4	60-140	0	
Vinyl chloride	17.28	1.0	20	0	86.4	50-136	0	
Xylenes, Total	63.3	3.0	60	0	106	80-126	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	17.26	0	20	0	86.3	75-120	0	
<i>Surr: 4-Bromofluorobenzene</i>	19.64	0	20	0	98.2	80-110	0	
<i>Surr: Dibromofluoromethane</i>	19	0	20	0	95	85-115	0	
<i>Surr: Toluene-d8</i>	19.74	0	20	0	98.7	85-110	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608285
 Project: ECT (Hartland - 13582 Sheila Lane)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

MS		Sample ID: 1608291-01A MS				Units: µg/L		Analysis Date: 8/5/2016 11:40 PM		
Client ID:		Run ID: VMS7_160805A			SeqNo: 3965989		Prep Date:		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	187.1	10	200	0	93.6	80-130		0		
1,1,1-Trichloroethane	194.5	10	200	0	97.2	75-130		0		
1,1,2,2-Tetrachloroethane	209.2	10	200	0	105	75-130		0		
1,1,2-Trichloroethane	221.6	10	200	0	111	75-125		0		
1,1-Dichloroethane	212.9	10	200	0	106	75-133		0		
1,1-Dichloroethene	266.4	10	200	0	133	70-145		0		
1,2,3-Trichloropropane	217.6	10	200	0	109	75-125		0		
1,2,4-Trichlorobenzene	200.5	10	200	0	100	70-135		0		
1,2,4-Trimethylbenzene	218.4	10	200	0	109	75-130		0		
1,2-Dibromo-3-chloropropane	157.8	10	200	0	78.9	60-130		0		
1,2-Dibromoethane	259.8	10	200	0	130	80-150		0		
1,2-Dichlorobenzene	219.2	10	200	0	110	70-130		0		
1,2-Dichloroethane	193.1	10	200	0	96.6	78-125		0		
1,2-Dichloropropane	223.3	10	200	0	112	75-125		0		
1,3,5-Trimethylbenzene	223.2	10	200	0	112	75-130		0		
1,3-Dichlorobenzene	223.6	10	200	0	112	75-130		0		
1,4-Dichlorobenzene	215.7	10	200	0	108	75-130		0		
2-Butanone	208.6	50	200	0	104	55-150		0		
2-Hexanone	205.6	50	200	0	103	60-135		0		
4-Methyl-2-pentanone	232.8	10	200	0	116	77-178		0		
Acetone	216	100	200	0	108	60-160		0		
Acrylonitrile	224.6	10	200	0	112	60-140		0		
Benzene	234.1	10	200	0	117	85-125		0		
Bromochloromethane	215.1	10	200	0	108	75-130		0		
Bromodichloromethane	184.5	10	200	0	92.2	75-125		0		
Bromoform	152.4	10	200	0	76.2	60-125		0		
Bromomethane	187.7	10	200	0	93.8	30-185		0		
Carbon disulfide	231.8	10	200	0	116	60-165		0		
Carbon tetrachloride	162.5	10	200	0	81.2	65-140		0		
Chlorobenzene	226.8	10	200	0	113	80-120		0		
Chloroethane	185.3	10	200	0	92.6	50-140		0		
Chloroform	191.8	10	200	0	95.9	80-130		0		
Chloromethane	179.5	10	200	0	89.8	50-130		0		
cis-1,2-Dichloroethene	199.8	10	200	0	99.9	75-134		0		
cis-1,3-Dichloropropene	195.6	10	200	0	97.8	70-130		0		
Dibromochloromethane	163.3	10	200	0	81.6	60-115		0		
Dibromomethane	207.6	10	200	0	104	85-125		0		
Dichlorodifluoromethane	149.1	10	200	0	74.6	20-120		0		
Ethylbenzene	225.8	10	200	0	113	85-125		0		
Hexachloroethane	108	10	200	0	54	50-124		0		
Isopropylbenzene	227.9	10	200	0	114	80-127		0		
m,p-Xylene	445.8	20	400	0	111	75-130		0		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Work Order: 1608285
Project: ECT (Hartland - 13582 Sheila Lane)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7		Method: SW8260B					
Methyl iodide	282	10	200	0	141	60-160	0	
Methyl tert-butyl ether	211	10	200	0	106	80-130	0	
Methylene chloride	218.8	50	200	0	109	75-140	0	
Naphthalene	216.1	50	200	0	108	55-160	0	
n-Propylbenzene	219.2	10	200	0	110	78-120	0	
o-Xylene	218.1	10	200	0	109	80-125	0	
Styrene	232.8	10	200	0	116	85-125	0	
Tetrachloroethene	318.4	10	200	0	159	77-138	0	S
Toluene	225	10	200	0	112	85-125	0	
trans-1,2-Dichloroethene	222.5	10	200	0	111	80-140	0	
trans-1,3-Dichloropropene	174.7	10	200	0	87.4	81-123	0	
trans-1,4-Dichloro-2-butene	136	20	200	0	68	46-118	0	
Trichloroethene	228.6	10	200	0	114	84-130	0	
Trichlorofluoromethane	161.4	10	200	0	80.7	60-140	0	
Vinyl chloride	177.6	10	200	0	88.8	50-136	0	
Xylenes, Total	663.9	30	600	0	111	80-126	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>166.8</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>83.4</i>	<i>75-120</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>195.6</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>97.8</i>	<i>80-110</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>187</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>93.5</i>	<i>85-115</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>197.9</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>99</i>	<i>85-110</i>	<i>0</i>	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608285
 Project: ECT (Hartland - 13582 Sheila Lane)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

MSD		Sample ID: 1608291-01A MSD				Units: µg/L		Analysis Date: 8/6/2016 12:03 PM		
Client ID:		Run ID: VMS7_160805A			SeqNo: 3965990		Prep Date:		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	172.3	10	200	0	86.2	80-130	187.1	8.24	30	
1,1,1-Trichloroethane	186.1	10	200	0	93	75-130	194.5	4.41	30	
1,1,2,2-Tetrachloroethane	195.1	10	200	0	97.6	75-130	209.2	6.98	30	
1,1,2-Trichloroethane	207.7	10	200	0	104	75-125	221.6	6.48	30	
1,1-Dichloroethane	202.7	10	200	0	101	75-133	212.9	4.91	30	
1,1-Dichloroethene	242.4	10	200	0	121	70-145	266.4	9.43	30	
1,2,3-Trichloropropane	197.1	10	200	0	98.6	75-125	217.6	9.89	30	
1,2,4-Trichlorobenzene	195.7	10	200	0	97.8	70-135	200.5	2.42	30	
1,2,4-Trimethylbenzene	204.2	10	200	0	102	75-130	218.4	6.72	30	
1,2-Dibromo-3-chloropropane	151.7	10	200	0	75.8	60-130	157.8	3.94	30	
1,2-Dibromoethane	239.5	10	200	0	120	80-150	259.8	8.13	30	
1,2-Dichlorobenzene	207.3	10	200	0	104	70-130	219.2	5.58	30	
1,2-Dichloroethane	179.2	10	200	0	89.6	78-125	193.1	7.47	30	
1,2-Dichloropropane	205.9	10	200	0	103	75-125	223.3	8.11	30	
1,3,5-Trimethylbenzene	212	10	200	0	106	75-130	223.2	5.15	30	
1,3-Dichlorobenzene	213.2	10	200	0	107	75-130	223.6	4.76	30	
1,4-Dichlorobenzene	207.7	10	200	0	104	75-130	215.7	3.78	30	
2-Butanone	194.4	50	200	0	97.2	55-150	208.6	7.05	30	
2-Hexanone	183.1	50	200	0	91.6	60-135	205.6	11.6	30	
4-Methyl-2-pentanone	211	10	200	0	106	77-178	232.8	9.82	30	
Acetone	201.4	100	200	0	101	60-160	216	7	30	
Acrylonitrile	205.6	10	200	0	103	60-140	224.6	8.83	30	
Benzene	219.9	10	200	0	110	85-125	234.1	6.26	30	
Bromochloromethane	204.4	10	200	0	102	75-130	215.1	5.1	30	
Bromodichloromethane	171.9	10	200	0	86	75-125	184.5	7.07	30	
Bromoform	145.2	10	200	0	72.6	60-125	152.4	4.84	30	
Bromomethane	164.2	10	200	0	82.1	30-185	187.7	13.4	30	
Carbon disulfide	216.9	10	200	0	108	60-165	231.8	6.64	30	
Carbon tetrachloride	154.6	10	200	0	77.3	65-140	162.5	4.98	30	
Chlorobenzene	212.3	10	200	0	106	80-120	226.8	6.6	30	
Chloroethane	164.2	10	200	0	82.1	50-140	185.3	12.1	30	
Chloroform	182.6	10	200	0	91.3	80-130	191.8	4.91	30	
Chloromethane	174.5	10	200	0	87.2	50-130	179.5	2.82	30	
cis-1,2-Dichloroethene	186.4	10	200	0	93.2	75-134	199.8	6.94	30	
cis-1,3-Dichloropropene	183.4	10	200	0	91.7	70-130	195.6	6.44	30	
Dibromochloromethane	154.8	10	200	0	77.4	60-115	163.3	5.34	30	
Dibromomethane	196.7	10	200	0	98.4	85-125	207.6	5.39	30	
Dichlorodifluoromethane	137.6	10	200	0	68.8	20-120	149.1	8.02	30	
Ethylbenzene	212	10	200	0	106	85-125	225.8	6.3	30	
Hexachloroethane	111.2	10	200	0	55.6	50-124	108	2.92	30	
Isopropylbenzene	215.6	10	200	0	108	80-127	227.9	5.55	30	
m,p-Xylene	428.1	20	400	0	107	75-130	445.8	4.05	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608285
 Project: ECT (Hartland - 13582 Sheila Lane)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7		Method: SW8260B							
Methyl iodide	247.4	10	200	0	124	60-160	282	13.1	30	
Methyl tert-butyl ether	199	10	200	0	99.5	80-130	211	5.85	30	
Methylene chloride	206	50	200	0	103	75-140	218.8	6.03	30	
Naphthalene	204.1	50	200	0	102	55-160	216.1	5.71	30	
n-Propylbenzene	206.4	10	200	0	103	78-120	219.2	6.02	30	
o-Xylene	203.4	10	200	0	102	80-125	218.1	6.98	30	
Styrene	219.8	10	200	0	110	85-125	232.8	5.74	30	
Tetrachloroethene	290.1	10	200	0	145	77-138	318.4	9.3	30	S
Toluene	210.6	10	200	0	105	85-125	225	6.61	30	
trans-1,2-Dichloroethene	208.6	10	200	0	104	80-140	222.5	6.45	30	
trans-1,3-Dichloropropene	162	10	200	0	81	81-123	174.7	7.54	30	
trans-1,4-Dichloro-2-butene	129.9	20	200	0	65	46-118	136	4.59	30	
Trichloroethene	215.2	10	200	0	108	84-130	228.6	6.04	30	
Trichlorofluoromethane	151.8	10	200	0	75.9	60-140	161.4	6.13	30	
Vinyl chloride	173.9	10	200	0	87	50-136	177.6	2.11	30	
Xylenes, Total	631.5	30	600	0	105	80-126	663.9	5	30	
<i>Surr: 1,2-Dichloroethane-d4</i>	167.5	0	200	0	83.8	75-120	166.8	0.419	30	
<i>Surr: 4-Bromofluorobenzene</i>	187.9	0	200	0	94	80-110	195.6	4.02	30	
<i>Surr: Dibromofluoromethane</i>	182.2	0	200	0	91.1	85-115	187	2.6	30	
<i>Surr: Toluene-d8</i>	196	0	200	0	98	85-110	197.9	0.965	30	

The following samples were analyzed in this batch:

1608285-01A

Client: Merit Energy
Project: ECT (Hartland - 13582 Sheila Lane)
WorkOrder: 1608285

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **05-Aug-16 09:30**

Work Order: **1608285**

Received by: **MEB**

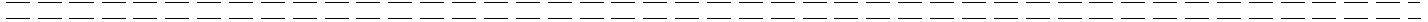
Checklist completed by Meghan Broadbent 05-Aug-16
eSignature Date

Reviewed by: Gary Byar 05-Aug-16
eSignature Date

Matrices: water
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>2.4/2.4</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>8/5/2016 10:26:37 AM</u>		
Water - VOA vials have zero headspace?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<u></u>		

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit -12811 Sleigh)**

Work Order: **1609694**

Dear Sean,

ALS Environmental received 1 sample on 14-Sep-2016 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit -12811 Sleigh)
Work Order: 1609694

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609694-01	12811 Sleigh	Water		9/13/2016 14:00	9/14/2016 09:30	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy
Project: ECT (Merit -12811 Sleigh)
Sample ID: 12811 Sleigh
Collection Date: 9/13/2016 02:00 PM

Work Order: 1609694
Lab ID: 1609694-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/15/16	Analyst: RM
Sulfolane	ND		11	µg/L	1	9/18/2016 05:11 PM
Surr: 2,4,6-Tribromophenol	57.0		38-115	%REC	1	9/18/2016 05:11 PM
Surr: 2-Fluorobiphenyl	59.0		32-100	%REC	1	9/18/2016 05:11 PM
Surr: 2-Fluorophenol	36.7		22-59	%REC	1	9/18/2016 05:11 PM
Surr: 4-Terphenyl-d14	65.7		23-112	%REC	1	9/18/2016 05:11 PM
Surr: Nitrobenzene-d5	53.3		31-93	%REC	1	9/18/2016 05:11 PM
Surr: Phenol-d6	20.0		13-36	%REC	1	9/18/2016 05:11 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
 Work Order: 1609694
 Project: ECT (Merit -12811 Sleigh)

QC BATCH REPORT

Batch ID: **91411** Instrument ID: **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:03 PM		
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038350		Prep Date: 9/15/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	ND	10								
Surr: 2,4,6-Tribromophenol	27.6	0	50	0	55.2	38-115	0			
Surr: 2-Fluorobiphenyl	25.19	0	50	0	50.4	32-100	0			
Surr: 2-Fluorophenol	15.86	0	50	0	31.7	22-59	0			
Surr: 4-Terphenyl-d14	32.97	0	50	0	65.9	23-112	0			
Surr: Nitrobenzene-d5	24.52	0	50	0	49	31-93	0			
Surr: Phenol-d6	9.85	0	50	0	19.7	13-36	0			

LCS		Sample ID: SLCSW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:23 PM		
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038351		Prep Date: 9/15/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	56.19	10	100	0	56.2	30-100	0			
Surr: 2,4,6-Tribromophenol	34.23	0	50	0	68.5	38-115	0			
Surr: 2-Fluorobiphenyl	32.05	0	50	0	64.1	32-100	0			
Surr: 2-Fluorophenol	19.67	0	50	0	39.3	22-59	0			
Surr: 4-Terphenyl-d14	38.75	0	50	0	77.5	23-112	0			
Surr: Nitrobenzene-d5	34.48	0	50	0	69	31-93	0			
Surr: Phenol-d6	11.72	0	50	0	23.4	13-36	0			

LCSD		Sample ID: SLCSDW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:43 PM		
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038352		Prep Date: 9/15/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	56.47	10	100	0	56.5	30-100	56.19	0.497	30	
Surr: 2,4,6-Tribromophenol	35.01	0	50	0	70	38-115	34.23	2.25	30	
Surr: 2-Fluorobiphenyl	34.71	0	50	0	69.4	32-100	32.05	7.97	30	
Surr: 2-Fluorophenol	18.78	0	50	0	37.6	22-59	19.67	4.63	30	
Surr: 4-Terphenyl-d14	44.18	0	50	0	88.4	23-112	38.75	13.1	30	
Surr: Nitrobenzene-d5	34.43	0	50	0	68.9	31-93	34.48	0.145	30	
Surr: Phenol-d6	10.96	0	50	0	21.9	13-36	11.72	6.7	30	

The following samples were analyzed in this batch: 1609694-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Project: ECT (Merit -12811 Sleigh)
WorkOrder: 1609694

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCS D	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **14-Sep-16 09:30**

Work Order: **1609694**

Received by: **KRW**

Checklist completed by KathW ieraga 14-Sep-16
eSignature Date

Reviewed by: GaryBya 14-Sep-16
eSignature Date

Matrices: Water

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>2.8/2.8 C</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>9/14/2016 1:06:03 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<u></u>		

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction



ALS Environmental
781 Industrial Cir, Ste 3
Traverse City, Michigan 49686
(Tel) 231.421.3204
(Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

Customer Information		Project Information					Parameter/Method Request for Analysis											
Purchase Order		Project Name	Hartland 36 Gas Plant			A	Sulfolane (1) Amber Liter											
Work Order		Project Number				B												
Company Name	ECT, Inc.	Bill To Company	MEC			C												
Send Report To	Jeremy Lawandowski	Invoice Attn.	Sean Craven			D												
Address	3399 Veterans Dr.	Address	1510 Thomas Rd			E												
						F												
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI			G												
Phone	231-946-8200	Phone	231-258-6369			H												
Fax	231-946-8208	Fax				I												
e-Mail Address	jlawandowski@ectinc.com					J												
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold	
	12811 SLEIGHT	9/13/16	1400	Water	8	1	X											
Sampler(s): Please Print & Sign <i>JAMES K... JID</i>		Shipment Method: UPS Ground		Required Turnaround Time: (Check Box) <input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				Results Due Date:										
Relinquished by: <i>James...</i>		Date: 9/13/16	Time: 1630	Received by: UPS		Date:	Time:	Notes: ALS Project: MERITENERGY - Misc										
Relinquished by: UPS		Date: 9/14/16	Time: 0930	Received by (Laboratory): <i>[Signature]</i>		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)								
Logged by (Laboratory): <i>KEW</i>		Date: 9/14/16	Time: 1300	Checked by (Laboratory): <i>[Signature]</i>					7.8	<input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data		<input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV						
										<input type="checkbox"/> Level IV: SW846 Methods/CLP like <input type="checkbox"/> Other:								
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C							Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.											



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 12530 Golden Oaks)**

Work Order: **1609700**

Dear Sean,

ALS Environmental received 1 sample on 14-Sep-2016 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 12530 Golden Oaks)
Work Order: 1609700

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609700-01	12530 Golden Oaks	Water		9/13/2016 09:20	9/14/2016 09:30	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy

Project: ECT (Merit - 12530 Golden Oaks)

Sample ID: 12530 Golden Oaks

Collection Date: 9/13/2016 09:20 AM

Work Order: 1609700

Lab ID: 1609700-01

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/15/16	Analyst: RM
Sulfolane	ND		11	µg/L	1	9/18/2016 06:50 PM
Surr: 2,4,6-Tribromophenol	52.9		38-115	%REC	1	9/18/2016 06:50 PM
Surr: 2-Fluorobiphenyl	54.7		32-100	%REC	1	9/18/2016 06:50 PM
Surr: 2-Fluorophenol	35.0		22-59	%REC	1	9/18/2016 06:50 PM
Surr: 4-Terphenyl-d14	62.3		23-112	%REC	1	9/18/2016 06:50 PM
Surr: Nitrobenzene-d5	53.8		31-93	%REC	1	9/18/2016 06:50 PM
Surr: Phenol-d6	18.7		13-36	%REC	1	9/18/2016 06:50 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
Work Order: 1609700
Project: ECT (Merit - 12530 Golden Oaks)

QC BATCH REPORT

Batch ID: **91411** Instrument ID: **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:03 PM		
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038350		Prep Date: 9/15/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	ND	10								
<i>Surr: 2,4,6-Tribromophenol</i>	27.6	0	50	0	55.2	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	25.19	0	50	0	50.4	32-100	0			
<i>Surr: 2-Fluorophenol</i>	15.86	0	50	0	31.7	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	32.97	0	50	0	65.9	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	24.52	0	50	0	49	31-93	0			
<i>Surr: Phenol-d6</i>	9.85	0	50	0	19.7	13-36	0			

LCS		Sample ID: SLCSW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:23 PM		
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038351		Prep Date: 9/15/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	56.19	10	100	0	56.2	30-100	0			
<i>Surr: 2,4,6-Tribromophenol</i>	34.23	0	50	0	68.5	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	32.05	0	50	0	64.1	32-100	0			
<i>Surr: 2-Fluorophenol</i>	19.67	0	50	0	39.3	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	38.75	0	50	0	77.5	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	34.48	0	50	0	69	31-93	0			
<i>Surr: Phenol-d6</i>	11.72	0	50	0	23.4	13-36	0			

LCSD		Sample ID: SLCSDW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:43 PM		
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038352		Prep Date: 9/15/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	56.47	10	100	0	56.5	30-100	56.19	0.497	30	
<i>Surr: 2,4,6-Tribromophenol</i>	35.01	0	50	0	70	38-115	34.23	2.25	30	
<i>Surr: 2-Fluorobiphenyl</i>	34.71	0	50	0	69.4	32-100	32.05	7.97	30	
<i>Surr: 2-Fluorophenol</i>	18.78	0	50	0	37.6	22-59	19.67	4.63	30	
<i>Surr: 4-Terphenyl-d14</i>	44.18	0	50	0	88.4	23-112	38.75	13.1	30	
<i>Surr: Nitrobenzene-d5</i>	34.43	0	50	0	68.9	31-93	34.48	0.145	30	
<i>Surr: Phenol-d6</i>	10.96	0	50	0	21.9	13-36	11.72	6.7	30	

The following samples were analyzed in this batch: 1609700-01A

Client: Merit Energy
Project: ECT (Merit - 12530 Golden Oaks)
WorkOrder: 1609700

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCS D	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **14-Sep-16 09:30**

Work Order: **1609700**

Received by: **KRW**

Checklist completed by KathW ieraga 14-Sep-16
eSignature Date

Reviewed by: GaryBya 14-Sep-16
eSignature Date

Matrices: Water

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>2.8/2.8 C</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>9/14/2016 1:25:33 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<u></u>		

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 343 Jeni Lane)**

Work Order: **1609722**

Dear Sean,

ALS Environmental received 1 sample on 14-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 343 Jeni Lane)
Work Order: 1609722

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609722-01	343 Jeni Lane	Water		9/13/2016 14:32	9/14/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy
Project: ECT (Merit - 343 Jeni Lane)
Sample ID: 343 Jeni Lane
Collection Date: 9/13/2016 02:32 PM

Work Order: 1609722
Lab ID: 1609722-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/15/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/18/2016 09:29 PM
Surr: 2,4,6-Tribromophenol	65.1		38-115	%REC	1	9/18/2016 09:29 PM
Surr: 2-Fluorobiphenyl	58.4		32-100	%REC	1	9/18/2016 09:29 PM
Surr: 2-Fluorophenol	36.7		22-59	%REC	1	9/18/2016 09:29 PM
Surr: 4-Terphenyl-d14	69.0		23-112	%REC	1	9/18/2016 09:29 PM
Surr: Nitrobenzene-d5	57.1		31-93	%REC	1	9/18/2016 09:29 PM
Surr: Phenol-d6	20.3		13-36	%REC	1	9/18/2016 09:29 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
 Work Order: 1609722
 Project: ECT (Merit - 343 Jeni Lane)

QC BATCH REPORT

Batch ID: **91411** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:03 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038350		Prep Date: 9/15/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
Surr: 2,4,6-Tribromophenol	27.6	0	50	0	55.2	38-115	0				
Surr: 2-Fluorobiphenyl	25.19	0	50	0	50.4	32-100	0				
Surr: 2-Fluorophenol	15.86	0	50	0	31.7	22-59	0				
Surr: 4-Terphenyl-d14	32.97	0	50	0	65.9	23-112	0				
Surr: Nitrobenzene-d5	24.52	0	50	0	49	31-93	0				
Surr: Phenol-d6	9.85	0	50	0	19.7	13-36	0				

LCS		Sample ID: SLCSW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:23 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038351		Prep Date: 9/15/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	56.19	10	100	0	56.2	30-100	0				
Surr: 2,4,6-Tribromophenol	34.23	0	50	0	68.5	38-115	0				
Surr: 2-Fluorobiphenyl	32.05	0	50	0	64.1	32-100	0				
Surr: 2-Fluorophenol	19.67	0	50	0	39.3	22-59	0				
Surr: 4-Terphenyl-d14	38.75	0	50	0	77.5	23-112	0				
Surr: Nitrobenzene-d5	34.48	0	50	0	69	31-93	0				
Surr: Phenol-d6	11.72	0	50	0	23.4	13-36	0				

LCSD		Sample ID: SLCSDW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:43 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038352		Prep Date: 9/15/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	56.47	10	100	0	56.5	30-100	56.19	0.497	30		
Surr: 2,4,6-Tribromophenol	35.01	0	50	0	70	38-115	34.23	2.25	30		
Surr: 2-Fluorobiphenyl	34.71	0	50	0	69.4	32-100	32.05	7.97	30		
Surr: 2-Fluorophenol	18.78	0	50	0	37.6	22-59	19.67	4.63	30		
Surr: 4-Terphenyl-d14	44.18	0	50	0	88.4	23-112	38.75	13.1	30		
Surr: Nitrobenzene-d5	34.43	0	50	0	68.9	31-93	34.48	0.145	30		
Surr: Phenol-d6	10.96	0	50	0	21.9	13-36	11.72	6.7	30		

The following samples were analyzed in this batch: 1609722-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Project: ECT (Merit - 343 Jeni Lane)
WorkOrder: 1609722

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter



ALS Environmental
781 Industrial Cir, Ste 3
Traverse City, Michigan 49686
(Tel) 231.421.3204
(Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

Customer Information				Project Information				Parameter/Method Request for Analysis									
Purchase Order		Project Name	Hartland 36 Gas Plant	A	Sulfolane (1) Amber Liter												
Work Order		Project Number		B													
Company Name	ECT, Inc.	Bill To Company	MEC	C													
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven	D													
Address	3399 Veterans Dr.	Address	1610 Thomas Rd	E													
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI	F													
Phone	231-946-8200	Phone	231-258-8369	G													
Fax	231-946-8208	Fax		H													
e-Mail Address	jl Lewandowski@ectinc.com			I													
				J													
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
	343 Jeni Lane	9/13/16	14:32	Water	8	1	X										
Sampler(s): Please Print & Sign		Shipment Method:		Required Turnaround Time: (Check Box)				Results Due Date:									
Anne Power		UPS Ground		<input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour													
Relinquished by:		Date:	Time:	Received by:		Date:	Time:	Notes:									
[Signature]		9/13/16	16:40	[Signature]				ALS Project: MERITENERGY - Misc									
Relinquished by:		Date:	Time:	Received by (Laboratory):		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)							
[Signature]		9/14/16	1000	[Signature]					50	<input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data <input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV: SW846 Methods/CLP like <input type="checkbox"/> Other:							
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):													
[Signature]		9/14/16	14:21	[Signature]													
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C												Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.					



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 12949 Sleigh)**

Work Order: **1609696**

Dear Sean,

ALS Environmental received 1 sample on 14-Sep-2016 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 12949 Sleigh)
Work Order: 1609696

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609696-01	12949 Sleigh	Water		9/13/2016 12:30	9/14/2016 09:30	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy
Project: ECT (Merit - 12949 Sleigh)
Sample ID: 12949 Sleigh
Collection Date: 9/13/2016 12:30 PM

Work Order: 1609696
Lab ID: 1609696-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/15/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/18/2016 05:50 PM
Surr: 2,4,6-Tribromophenol	63.4		38-115	%REC	1	9/18/2016 05:50 PM
Surr: 2-Fluorobiphenyl	60.1		32-100	%REC	1	9/18/2016 05:50 PM
Surr: 2-Fluorophenol	40.1		22-59	%REC	1	9/18/2016 05:50 PM
Surr: 4-Terphenyl-d14	70.9		23-112	%REC	1	9/18/2016 05:50 PM
Surr: Nitrobenzene-d5	61.4		31-93	%REC	1	9/18/2016 05:50 PM
Surr: Phenol-d6	21.9		13-36	%REC	1	9/18/2016 05:50 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
 Work Order: 1609696
 Project: ECT (Merit - 12949 Sleigh)

QC BATCH REPORT

Batch ID: **91411** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:03 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038350		Prep Date: 9/15/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
Surr: 2,4,6-Tribromophenol	27.6	0	50	0	55.2	38-115	0				
Surr: 2-Fluorobiphenyl	25.19	0	50	0	50.4	32-100	0				
Surr: 2-Fluorophenol	15.86	0	50	0	31.7	22-59	0				
Surr: 4-Terphenyl-d14	32.97	0	50	0	65.9	23-112	0				
Surr: Nitrobenzene-d5	24.52	0	50	0	49	31-93	0				
Surr: Phenol-d6	9.85	0	50	0	19.7	13-36	0				

LCS		Sample ID: SLCSW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:23 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038351		Prep Date: 9/15/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	56.19	10	100	0	56.2	30-100	0				
Surr: 2,4,6-Tribromophenol	34.23	0	50	0	68.5	38-115	0				
Surr: 2-Fluorobiphenyl	32.05	0	50	0	64.1	32-100	0				
Surr: 2-Fluorophenol	19.67	0	50	0	39.3	22-59	0				
Surr: 4-Terphenyl-d14	38.75	0	50	0	77.5	23-112	0				
Surr: Nitrobenzene-d5	34.48	0	50	0	69	31-93	0				
Surr: Phenol-d6	11.72	0	50	0	23.4	13-36	0				

LCSD		Sample ID: SLCSDW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:43 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038352		Prep Date: 9/15/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	56.47	10	100	0	56.5	30-100	56.19	0.497	30		
Surr: 2,4,6-Tribromophenol	35.01	0	50	0	70	38-115	34.23	2.25	30		
Surr: 2-Fluorobiphenyl	34.71	0	50	0	69.4	32-100	32.05	7.97	30		
Surr: 2-Fluorophenol	18.78	0	50	0	37.6	22-59	19.67	4.63	30		
Surr: 4-Terphenyl-d14	44.18	0	50	0	88.4	23-112	38.75	13.1	30		
Surr: Nitrobenzene-d5	34.43	0	50	0	68.9	31-93	34.48	0.145	30		
Surr: Phenol-d6	10.96	0	50	0	21.9	13-36	11.72	6.7	30		

The following samples were analyzed in this batch: 1609696-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Project: ECT (Merit - 12949 Sleigh)
WorkOrder: 1609696

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **14-Sep-16 09:30**

Work Order: **1609696**

Received by: **KRW**

Checklist completed by Keith Wierenga 14-Sep-16
eSignature Date

Reviewed by: Gary Byar 14-Sep-16
eSignature Date

Matrices: Water
Carrier name: UPS

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No
- Sample(s) received on ice? Yes No

Temperature(s)/Thermometer(s): 2.8/2.8 C SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 9/14/2016 1:10:23 PM

Water - VOA vials have zero headspace? Yes No No VOA vials submitted

Water - pH acceptable upon receipt? Yes No N/A

pH adjusted? Yes No N/A

pH adjusted by:

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 307 Jeni Lane)**

Work Order: **1609803**

Dear Sean,

ALS Environmental received 1 sample on 15-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

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RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 307 Jeni Lane)
Work Order: 1609803

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609803-01	307 Jeni Lane	Water		9/14/2016 09:35	9/15/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy
Project: ECT (Merit - 307 Jeni Lane)
Sample ID: 307 Jeni Lane
Collection Date: 9/14/2016 09:35 AM

Work Order: 1609803
Lab ID: 1609803-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/16/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/19/2016 04:14 AM
Surr: 2,4,6-Tribromophenol	56.5		38-115	%REC	1	9/19/2016 04:14 AM
Surr: 2-Fluorobiphenyl	55.7		32-100	%REC	1	9/19/2016 04:14 AM
Surr: 2-Fluorophenol	32.8		22-59	%REC	1	9/19/2016 04:14 AM
Surr: 4-Terphenyl-d14	71.9		23-112	%REC	1	9/19/2016 04:14 AM
Surr: Nitrobenzene-d5	53.4		31-93	%REC	1	9/19/2016 04:14 AM
Surr: Phenol-d6	17.9		13-36	%REC	1	9/19/2016 04:14 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
 Work Order: 1609803
 Project: ECT (Merit - 307 Jeni Lane)

QC BATCH REPORT

Batch ID: **91481** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:03 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038353		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
Surr: 2,4,6-Tribromophenol	30.02	0	50	0	60	38-115	0				
Surr: 2-Fluorobiphenyl	31.92	0	50	0	63.8	32-100	0				
Surr: 2-Fluorophenol	18.02	0	50	0	36	22-59	0				
Surr: 4-Terphenyl-d14	35.62	0	50	0	71.2	23-112	0				
Surr: Nitrobenzene-d5	32.13	0	50	0	64.3	31-93	0				
Surr: Phenol-d6	9.75	0	50	0	19.5	13-36	0				

LCS		Sample ID: SLCSW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:23 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038354		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	52.35	10	100	0	52.4	30-100	0				
Surr: 2,4,6-Tribromophenol	35.21	0	50	0	70.4	38-115	0				
Surr: 2-Fluorobiphenyl	31.44	0	50	0	62.9	32-100	0				
Surr: 2-Fluorophenol	17.86	0	50	0	35.7	22-59	0				
Surr: 4-Terphenyl-d14	37.56	0	50	0	75.1	23-112	0				
Surr: Nitrobenzene-d5	33.06	0	50	0	66.1	31-93	0				
Surr: Phenol-d6	10.51	0	50	0	21	13-36	0				

LCSD		Sample ID: SLCSDW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:43 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038355		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	59.44	10	100	0	59.4	30-100	52.35	12.7	30		
Surr: 2,4,6-Tribromophenol	32.69	0	50	0	65.4	38-115	35.21	7.42	30		
Surr: 2-Fluorobiphenyl	35.15	0	50	0	70.3	32-100	31.44	11.1	30		
Surr: 2-Fluorophenol	20.65	0	50	0	41.3	22-59	17.86	14.5	30		
Surr: 4-Terphenyl-d14	37.72	0	50	0	75.4	23-112	37.56	0.425	30		
Surr: Nitrobenzene-d5	31.01	0	50	0	62	31-93	33.06	6.4	30		
Surr: Phenol-d6	12.14	0	50	0	24.3	13-36	10.51	14.4	30		

The following samples were analyzed in this batch: 1609803-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Project: ECT (Merit - 307 Jeni Lane)
WorkOrder: 1609803

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **15-Sep-16 10:00**

Work Order: **1609803**

Received by: **MBB**

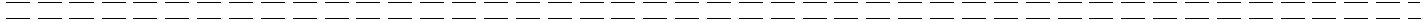
Checklist completed by Meghan Broadbent 15-Sep-16
eSignature Date

Reviewed by: Gary Byar 15-Sep-16
eSignature Date

Matrices: water
Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>2.6/2.6</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<input type="text"/>		
Date/Time sample(s) sent to storage:	<u>9/15/2016 12:19:00 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<input type="text"/>		

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



ALS Environmental
781 Industrial Cir, Ste 3
Traverse City, Michigan 49686
(Tel) 231.421.3204
(Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

ALS Project Manager: Gary Byar		ALS Work Order #: 1609803															
Customer Information		Project Information		Parameter/Method Request for Analysis													
Purchase Order		Project Name	Hartland 36 Gas Plant	A	Sulfolane (1) Amber Liter												
Work Order		Project Number		B													
Company Name	ECT, Inc.	Bill To Company	MEC	C													
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven	D													
Address	3399 Veterans Dr.	Address	1510 Thomas Rd	E													
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI	F													
Phone	231-946-8200	Phone	231-258-6369	G													
Fax	231-946-8208	Fax		H													
e-Mail Address	jl Lewandowski@ectinc.com			I													
				J													
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
	307 Jeni Lane	9/14/16	9:35	Water	8	1	X										
Sampler(s): Please Print & Sign <i>Ann Power</i>		Shipment Method: UPS Ground		Required Turnaround Time: (Check Box) <input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				Results Due Date:									
Relinquished by: <i>Ann Power</i>		Date: 9/14/16	Time: 16:30	Received by:		Date:	Time:	Notes: ALS Project: MERITENERGY - Misc									
Relinquished by:		Date: 9/15/16	Time: 1600	Received by (Laboratory): <i>MT Breard</i>		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)							
Logged by (Laboratory): <i>MB</i>		Date: 9/15/16	Time: 12:17	Checked by (Laboratory): <i>GRB</i>					26	<input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data		<input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV					
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C										Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.							



10-Aug-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Hartland - 12901 Sleigh Rd)**

Work Order: **1608295**

Dear Sean,

ALS Environmental received 1 sample on 05-Aug-2016 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 18.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Hartland - 12901 Sleigh Rd)
Work Order: 1608295

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1608295-01	12901 Sleigh Trail	Groundwater		8/3/2016 11:02	8/5/2016 09:30	<input type="checkbox"/>

ALS Group USA, Corp

Date: 10-Aug-16

Client: Merit Energy
Project: ECT (Hartland - 12901 Sleigh Rd)
Sample ID: 12901 Sleigh Trail
Collection Date: 8/3/2016 11:02 AM

Work Order: 1608295
Lab ID: 1608295-01
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 8/5/16	Analyst: RM
Diisopropanolamine	ND		53	µg/L	1	8/9/2016 03:50 AM
Sulfolane	ND		11	µg/L	1	8/9/2016 03:50 AM
Surr: 2,4,6-Tribromophenol	60.5		38-115	%REC	1	8/9/2016 03:50 AM
Surr: 2-Fluorobiphenyl	60.9		32-100	%REC	1	8/9/2016 03:50 AM
Surr: 2-Fluorophenol	33.2		22-59	%REC	1	8/9/2016 03:50 AM
Surr: 4-Terphenyl-d14	99.5		23-112	%REC	1	8/9/2016 03:50 AM
Surr: Nitrobenzene-d5	60.5		31-93	%REC	1	8/9/2016 03:50 AM
Surr: Phenol-d6	16.5		13-36	%REC	1	8/9/2016 03:50 AM
VOLATILE ORGANIC COMPOUNDS			SW8260B			Analyst: AK
1,1,1,2-Tetrachloroethane	ND		1.0	µg/L	1	8/5/2016 08:10 PM
1,1,1-Trichloroethane	ND		1.0	µg/L	1	8/5/2016 08:10 PM
1,1,2,2-Tetrachloroethane	ND		1.0	µg/L	1	8/5/2016 08:10 PM
1,1,2-Trichloroethane	ND		1.0	µg/L	1	8/5/2016 08:10 PM
1,1,2-Trichlorotrifluoroethane	ND		1.0	µg/L	1	8/5/2016 08:10 PM
1,1-Dichloroethane	ND		1.0	µg/L	1	8/5/2016 08:10 PM
1,1-Dichloroethene	ND		1.0	µg/L	1	8/5/2016 08:10 PM
1,2,3-Trichloropropane	ND		1.0	µg/L	1	8/5/2016 08:10 PM
1,2,4-Trichlorobenzene	ND		1.0	µg/L	1	8/5/2016 08:10 PM
1,2,4-Trimethylbenzene	ND		1.0	µg/L	1	8/5/2016 08:10 PM
1,2-Dibromo-3-chloropropane	ND		1.0	µg/L	1	8/5/2016 08:10 PM
1,2-Dibromoethane	ND		1.0	µg/L	1	8/5/2016 08:10 PM
1,2-Dichlorobenzene	ND		1.0	µg/L	1	8/5/2016 08:10 PM
1,2-Dichloroethane	ND		1.0	µg/L	1	8/5/2016 08:10 PM
1,2-Dichloropropane	ND		1.0	µg/L	1	8/5/2016 08:10 PM
1,3,5-Trimethylbenzene	ND		1.0	µg/L	1	8/5/2016 08:10 PM
1,3-Dichlorobenzene	ND		1.0	µg/L	1	8/5/2016 08:10 PM
1,4-Dichlorobenzene	ND		1.0	µg/L	1	8/5/2016 08:10 PM
2-Butanone	ND		5.0	µg/L	1	8/5/2016 08:10 PM
2-Hexanone	ND		5.0	µg/L	1	8/5/2016 08:10 PM
2-Methylnaphthalene	ND		5.0	µg/L	1	8/5/2016 08:10 PM
4-Methyl-2-pentanone	ND		1.0	µg/L	1	8/5/2016 08:10 PM
Acetone	ND		10	µg/L	1	8/5/2016 08:10 PM
Acrylonitrile	ND		1.0	µg/L	1	8/5/2016 08:10 PM
Benzene	ND		1.0	µg/L	1	8/5/2016 08:10 PM
Bromochloromethane	ND		1.0	µg/L	1	8/5/2016 08:10 PM
Bromodichloromethane	ND		1.0	µg/L	1	8/5/2016 08:10 PM
Bromoform	ND		1.0	µg/L	1	8/5/2016 08:10 PM
Bromomethane	ND		1.0	µg/L	1	8/5/2016 08:10 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 10-Aug-16

Client: Merit Energy
Project: ECT (Hartland - 12901 Sleigh Rd)
Sample ID: 12901 Sleigh Trail
Collection Date: 8/3/2016 11:02 AM

Work Order: 1608295
Lab ID: 1608295-01
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Carbon disulfide	ND		1.0	µg/L	1	8/5/2016 08:10 PM
Carbon tetrachloride	ND		1.0	µg/L	1	8/5/2016 08:10 PM
Chlorobenzene	ND		1.0	µg/L	1	8/5/2016 08:10 PM
Chloroethane	ND		1.0	µg/L	1	8/5/2016 08:10 PM
Chloroform	ND		1.0	µg/L	1	8/5/2016 08:10 PM
Chloromethane	ND		1.0	µg/L	1	8/5/2016 08:10 PM
cis-1,2-Dichloroethene	ND		1.0	µg/L	1	8/5/2016 08:10 PM
cis-1,3-Dichloropropene	ND		1.0	µg/L	1	8/5/2016 08:10 PM
Dibromochloromethane	ND		1.0	µg/L	1	8/5/2016 08:10 PM
Dibromomethane	ND		1.0	µg/L	1	8/5/2016 08:10 PM
Dichlorodifluoromethane	ND		1.0	µg/L	1	8/5/2016 08:10 PM
Diethyl ether	ND		1.0	µg/L	1	8/5/2016 08:10 PM
Ethylbenzene	ND		1.0	µg/L	1	8/5/2016 08:10 PM
Hexachloroethane	ND		1.0	µg/L	1	8/5/2016 08:10 PM
Isopropylbenzene	ND		1.0	µg/L	1	8/5/2016 08:10 PM
m,p-Xylene	ND		2.0	µg/L	1	8/5/2016 08:10 PM
Methyl iodide	ND		1.0	µg/L	1	8/5/2016 08:10 PM
Methyl tert-butyl ether	ND		1.0	µg/L	1	8/5/2016 08:10 PM
Methylene chloride	ND		5.0	µg/L	1	8/5/2016 08:10 PM
Naphthalene	ND		5.0	µg/L	1	8/5/2016 08:10 PM
n-Propylbenzene	ND		1.0	µg/L	1	8/5/2016 08:10 PM
o-Xylene	ND		1.0	µg/L	1	8/5/2016 08:10 PM
Styrene	ND		1.0	µg/L	1	8/5/2016 08:10 PM
Tetrachloroethene	ND		1.0	µg/L	1	8/5/2016 08:10 PM
Toluene	ND		1.0	µg/L	1	8/5/2016 08:10 PM
trans-1,2-Dichloroethene	ND		1.0	µg/L	1	8/5/2016 08:10 PM
trans-1,3-Dichloropropene	ND		1.0	µg/L	1	8/5/2016 08:10 PM
trans-1,4-Dichloro-2-butene	ND		2.0	µg/L	1	8/5/2016 08:10 PM
Trichloroethene	ND		1.0	µg/L	1	8/5/2016 08:10 PM
Trichlorofluoromethane	ND		1.0	µg/L	1	8/5/2016 08:10 PM
Vinyl acetate	ND		5.0	µg/L	1	8/5/2016 08:10 PM
Vinyl chloride	ND		1.0	µg/L	1	8/5/2016 08:10 PM
Xylenes, Total	ND		3.0	µg/L	1	8/5/2016 08:10 PM
Surr: 1,2-Dichloroethane-d4	84.7		75-120	%REC	1	8/5/2016 08:10 PM
Surr: 4-Bromofluorobenzene	95.8		80-110	%REC	1	8/5/2016 08:10 PM
Surr: Dibromofluoromethane	88.6		85-115	%REC	1	8/5/2016 08:10 PM
Surr: Toluene-d8	98.2		85-110	%REC	1	8/5/2016 08:10 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
Project: ECT (Hartland - 12901 Sleigh Rd)
Work Order: 1608295

Case Narrative

Batch R193219A Sample VLCSW1-160805 The LCS recovery for Volatile compound Tetrachloroethene was above the upper control limit. All the sample results in the batch were non-detect. No qualification is necessary for this analyte.

Batch R193219A The MS/MSD data for Volatiles is no related to this projects sample. No data requires qualification.

Client: Merit Energy
 Work Order: 1608295
 Project: ECT (Hartland - 12901 Sleigh Rd)

QC BATCH REPORT

Batch ID: **89682** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-89682-89682				Units: µg/L		Analysis Date: 8/8/2016 08:51 PM			
Client ID:		Run ID: SVMS8_160808A				SeqNo: 3968850		Prep Date: 8/5/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Diisopropanolamine	ND	50									
Sulfolane	ND	10									
<i>Surr: 2,4,6-Tribromophenol</i>	32.35	0	50	0	64.7	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	36.53	0	50	0	73.1	32-100	0				
<i>Surr: 2-Fluorophenol</i>	19.03	0	50	0	38.1	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	45.48	0	50	0	91	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	36.58	0	50	0	73.2	31-93	0				
<i>Surr: Phenol-d6</i>	9.38	0	50	0	18.8	13-36	0				

LCS		Sample ID: SLCSW1-89682-89682				Units: µg/L		Analysis Date: 8/8/2016 09:12 PM			
Client ID:		Run ID: SVMS8_160808A				SeqNo: 3968851		Prep Date: 8/5/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Diisopropanolamine	3.57	50	20	0	17.8	10-50	0				
Sulfolane	11.76	10	20	0	58.8	30-100	0				
<i>Surr: 2,4,6-Tribromophenol</i>	32.34	0	50	0	64.7	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	37.17	0	50	0	74.3	32-100	0				
<i>Surr: 2-Fluorophenol</i>	19.78	0	50	0	39.6	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	49.38	0	50	0	98.8	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	35.31	0	50	0	70.6	31-93	0				
<i>Surr: Phenol-d6</i>	11.13	0	50	0	22.3	13-36	0				

LCSD		Sample ID: SLCSDW1-89682-89682				Units: µg/L		Analysis Date: 8/8/2016 09:33 PM			
Client ID:		Run ID: SVMS8_160808A				SeqNo: 3968852		Prep Date: 8/5/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Diisopropanolamine	3.35	50	20	0	16.8	10-50	3.57	0	50		
Sulfolane	12.03	10	20	0	60.2	30-100	11.76	2.27	50		
<i>Surr: 2,4,6-Tribromophenol</i>	32.73	0	50	0	65.5	38-115	32.34	1.2	40		
<i>Surr: 2-Fluorobiphenyl</i>	38.09	0	50	0	76.2	32-100	37.17	2.44	40		
<i>Surr: 2-Fluorophenol</i>	18.36	0	50	0	36.7	22-59	19.78	7.45	40		
<i>Surr: 4-Terphenyl-d14</i>	48.18	0	50	0	96.4	23-112	49.38	2.46	40		
<i>Surr: Nitrobenzene-d5</i>	36.74	0	50	0	73.5	31-93	35.31	3.97	40		
<i>Surr: Phenol-d6</i>	10.18	0	50	0	20.4	13-36	11.13	8.92	40		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608295
 Project: ECT (Hartland - 12901 Sleigh Rd)

QC BATCH REPORT

Batch ID: **89682** Instrument ID **SVMS8** Method: **SW846 8270D**

MS		Sample ID: 1608284-01B MS				Units: µg/L		Analysis Date: 8/8/2016 11:24 PM		
Client ID:		Run ID: SVMS8_160808A		SeqNo: 3968855		Prep Date: 8/5/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	3.25	50	20	0	16.2	10-50		0		
Sulfolane	12.15	10	20	0	60.8	30-100		0		
<i>Surr: 2,4,6-Tribromophenol</i>	34.22	0	50	0	68.4	38-115		0		
<i>Surr: 2-Fluorobiphenyl</i>	38.42	0	50	0	76.8	32-100		0		
<i>Surr: 2-Fluorophenol</i>	17.81	0	50	0	35.6	22-59		0		
<i>Surr: 4-Terphenyl-d14</i>	42.35	0	50	0	84.7	23-112		0		
<i>Surr: Nitrobenzene-d5</i>	37.97	0	50	0	75.9	31-93		0		
<i>Surr: Phenol-d6</i>	9.23	0	50	0	18.5	13-36		0		

DUP		Sample ID: 1608285-01B DUP				Units: µg/L		Analysis Date: 8/9/2016 12:05 AM		
Client ID:		Run ID: SVMS8_160808A		SeqNo: 3968857		Prep Date: 8/5/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Diisopropanolamine	ND	50	0	0	0			0	0	50
Sulfolane	ND	10	0	0	0			0	0	50
<i>Surr: 2,4,6-Tribromophenol</i>	36.71	0	50	0	73.4	38-115	33.33	9.65	40	
<i>Surr: 2-Fluorobiphenyl</i>	42.42	0	50	0	84.8	32-100	36.64	14.6	40	
<i>Surr: 2-Fluorophenol</i>	20.27	0	50	0	40.5	22-59	20.78	2.48	40	
<i>Surr: 4-Terphenyl-d14</i>	46.4	0	50	0	92.8	23-112	45.62	1.7	40	
<i>Surr: Nitrobenzene-d5</i>	39.3	0	50	0	78.6	31-93	37.49	4.71	40	
<i>Surr: Phenol-d6</i>	10.33	0	50	0	20.7	13-36	10.9	5.37	40	

The following samples were analyzed in this batch:

1608295-01B

Client: Merit Energy
 Work Order: 1608295
 Project: ECT (Hartland - 12901 Sleigh Rd)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

MBLK		Sample ID: VBLKW1-160805-R193219A				Units: µg/L		Analysis Date: 8/5/2016 04:16 PM		
Client ID:		Run ID: VMS7_160805A		SeqNo: 3965976		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
1,1,2-Trichlorotrifluoroethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2,3-Trichloropropane	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	1.0								
1,2-Dibromoethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,2-Dichloroethane	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
2-Butanone	ND	5.0								
2-Hexanone	ND	5.0								
2-Methylnaphthalene	ND	5.0								
4-Methyl-2-pentanone	ND	1.0								
Acetone	ND	10								
Acrylonitrile	ND	1.0								
Benzene	ND	1.0								
Bromochloromethane	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	1.0								
Carbon disulfide	ND	1.0								
Carbon tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	1.0								
Chloroform	ND	1.0								
Chloromethane	ND	1.0								
cis-1,2-Dichloroethene	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
Diethyl ether	ND	1.0								
Ethylbenzene	ND	1.0								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Work Order: 1608295
Project: ECT (Hartland - 12901 Sleigh Rd)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7	Method: SW8260B						
Hexachloroethane	ND	1.0						
Isopropylbenzene	ND	1.0						
m,p-Xylene	ND	2.0						
Methyl iodide	ND	1.0						
Methyl tert-butyl ether	ND	1.0						
Methylene chloride	ND	5.0						
Naphthalene	ND	5.0						
n-Propylbenzene	ND	1.0						
o-Xylene	ND	1.0						
Styrene	ND	1.0						
Tetrachloroethene	ND	1.0						
Toluene	ND	1.0						
trans-1,2-Dichloroethene	ND	1.0						
trans-1,3-Dichloropropene	ND	1.0						
trans-1,4-Dichloro-2-butene	ND	2.0						
Trichloroethene	ND	1.0						
Trichlorofluoromethane	ND	1.0						
Vinyl acetate	ND	5.0						
Vinyl chloride	ND	1.0						
Xylenes, Total	ND	3.0						
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>16.65</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>83.2</i>	<i>75-120</i>	<i>0</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.46</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>97.3</i>	<i>80-110</i>	<i>0</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>17.64</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>88.2</i>	<i>85-115</i>	<i>0</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>19.85</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>99.2</i>	<i>85-110</i>	<i>0</i>	<i>0</i>

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608295
 Project: ECT (Hartland - 12901 Sleigh Rd)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

LCS		Sample ID: VLCSW1-160805-R193219A				Units: µg/L		Analysis Date: 8/5/2016 03:05 PM		
Client ID:		Run ID: VMS7_160805A			SeqNo: 3965975		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.56	1.0	20	0	97.8	80-130	0			
1,1,1-Trichloroethane	19.1	1.0	20	0	95.5	75-130	0			
1,1,2,2-Tetrachloroethane	21.28	1.0	20	0	106	75-130	0			
1,1,2-Trichloroethane	21.61	1.0	20	0	108	75-125	0			
1,1-Dichloroethane	20.97	1.0	20	0	105	75-133	0			
1,1-Dichloroethene	23.78	1.0	20	0	119	70-145	0			
1,2,3-Trichloropropane	21.08	1.0	20	0	105	75-125	0			
1,2,4-Trichlorobenzene	20.33	1.0	20	0	102	70-135	0			
1,2,4-Trimethylbenzene	21.21	1.0	20	0	106	75-130	0			
1,2-Dibromo-3-chloropropane	18.89	1.0	20	0	94.4	60-130	0			
1,2-Dibromoethane	25.21	1.0	20	0	126	80-150	0			
1,2-Dichlorobenzene	21.24	1.0	20	0	106	70-130	0			
1,2-Dichloroethane	18.28	1.0	20	0	91.4	78-125	0			
1,2-Dichloropropane	21.36	1.0	20	0	107	75-125	0			
1,3,5-Trimethylbenzene	21.95	1.0	20	0	110	75-130	0			
1,3-Dichlorobenzene	21.41	1.0	20	0	107	75-130	0			
1,4-Dichlorobenzene	21.42	1.0	20	0	107	75-130	0			
2-Butanone	21.67	5.0	20	0	108	55-150	0			
2-Hexanone	21.04	5.0	20	0	105	60-135	0			
4-Methyl-2-pentanone	24.27	1.0	20	0	121	77-178	0			
Acetone	21.61	10	20	0	108	60-160	0			
Acrylonitrile	22.04	1.0	20	0	110	60-140	0			
Benzene	22.09	1.0	20	0	110	85-125	0			
Bromochloromethane	21.07	1.0	20	0	105	75-130	0			
Bromodichloromethane	18.63	1.0	20	0	93.2	75-125	0			
Bromoform	17.48	1.0	20	0	87.4	60-125	0			
Bromomethane	20.46	1.0	20	0	102	30-185	0			
Carbon disulfide	21.83	1.0	20	0	109	60-165	0			
Carbon tetrachloride	16.88	1.0	20	0	84.4	65-140	0			
Chlorobenzene	21.43	1.0	20	0	107	80-120	0			
Chloroethane	17.4	1.0	20	0	87	50-140	0			
Chloroform	18.37	1.0	20	0	91.8	80-130	0			
Chloromethane	17.48	1.0	20	0	87.4	50-130	0			
cis-1,2-Dichloroethene	19.7	1.0	20	0	98.5	75-134	0			
cis-1,3-Dichloropropene	20.55	1.0	20	0	103	70-130	0			
Dibromochloromethane	17.89	1.0	20	0	89.4	60-115	0			
Dibromomethane	20.41	1.0	20	0	102	85-125	0			
Dichlorodifluoromethane	11.7	1.0	20	0	58.5	20-120	0			
Ethylbenzene	21.34	1.0	20	0	107	85-125	0			
Hexachloroethane	13.53	1.0	20	0	67.6	50-124	0			
Isopropylbenzene	21.64	1.0	20	0	108	80-127	0			
m,p-Xylene	42.52	2.0	40	0	106	75-130	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Work Order: 1608295
Project: ECT (Hartland - 12901 Sleigh Rd)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7		Method: SW8260B					
Methyl iodide	21.79	1.0	20	0	109	60-160	0	
Methyl tert-butyl ether	20.91	1.0	20	0	105	80-130	0	
Methylene chloride	20.55	5.0	20	0	103	75-140	0	
Naphthalene	21.8	5.0	20	0	109	55-160	0	
n-Propylbenzene	21.26	1.0	20	0	106	78-120	0	
o-Xylene	20.78	1.0	20	0	104	80-125	0	
Styrene	22.53	1.0	20	0	113	85-125	0	
Tetrachloroethene	28.15	1.0	20	0	141	77-138	0	S
Toluene	21.45	1.0	20	0	107	85-125	0	
trans-1,2-Dichloroethene	21.02	1.0	20	0	105	80-140	0	
trans-1,3-Dichloropropene	19	1.0	20	0	95	81-123	0	
trans-1,4-Dichloro-2-butene	16.54	2.0	20	0	82.7	46-118	0	
Trichloroethene	21.19	1.0	20	0	106	84-130	0	
Trichlorofluoromethane	15.48	1.0	20	0	77.4	60-140	0	
Vinyl chloride	17.28	1.0	20	0	86.4	50-136	0	
Xylenes, Total	63.3	3.0	60	0	106	80-126	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	17.26	0	20	0	86.3	75-120	0	
<i>Surr: 4-Bromofluorobenzene</i>	19.64	0	20	0	98.2	80-110	0	
<i>Surr: Dibromofluoromethane</i>	19	0	20	0	95	85-115	0	
<i>Surr: Toluene-d8</i>	19.74	0	20	0	98.7	85-110	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608295
 Project: ECT (Hartland - 12901 Sleigh Rd)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

MS		Sample ID: 1608291-01A MS				Units: µg/L		Analysis Date: 8/5/2016 11:40 PM		
Client ID:		Run ID: VMS7_160805A			SeqNo: 3965989		Prep Date:		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	187.1	10	200	0	93.6	80-130	0			
1,1,1-Trichloroethane	194.5	10	200	0	97.2	75-130	0			
1,1,2,2-Tetrachloroethane	209.2	10	200	0	105	75-130	0			
1,1,2-Trichloroethane	221.6	10	200	0	111	75-125	0			
1,1-Dichloroethane	212.9	10	200	0	106	75-133	0			
1,1-Dichloroethene	266.4	10	200	0	133	70-145	0			
1,2,3-Trichloropropane	217.6	10	200	0	109	75-125	0			
1,2,4-Trichlorobenzene	200.5	10	200	0	100	70-135	0			
1,2,4-Trimethylbenzene	218.4	10	200	0	109	75-130	0			
1,2-Dibromo-3-chloropropane	157.8	10	200	0	78.9	60-130	0			
1,2-Dibromoethane	259.8	10	200	0	130	80-150	0			
1,2-Dichlorobenzene	219.2	10	200	0	110	70-130	0			
1,2-Dichloroethane	193.1	10	200	0	96.6	78-125	0			
1,2-Dichloropropane	223.3	10	200	0	112	75-125	0			
1,3,5-Trimethylbenzene	223.2	10	200	0	112	75-130	0			
1,3-Dichlorobenzene	223.6	10	200	0	112	75-130	0			
1,4-Dichlorobenzene	215.7	10	200	0	108	75-130	0			
2-Butanone	208.6	50	200	0	104	55-150	0			
2-Hexanone	205.6	50	200	0	103	60-135	0			
4-Methyl-2-pentanone	232.8	10	200	0	116	77-178	0			
Acetone	216	100	200	0	108	60-160	0			
Acrylonitrile	224.6	10	200	0	112	60-140	0			
Benzene	234.1	10	200	0	117	85-125	0			
Bromochloromethane	215.1	10	200	0	108	75-130	0			
Bromodichloromethane	184.5	10	200	0	92.2	75-125	0			
Bromoform	152.4	10	200	0	76.2	60-125	0			
Bromomethane	187.7	10	200	0	93.8	30-185	0			
Carbon disulfide	231.8	10	200	0	116	60-165	0			
Carbon tetrachloride	162.5	10	200	0	81.2	65-140	0			
Chlorobenzene	226.8	10	200	0	113	80-120	0			
Chloroethane	185.3	10	200	0	92.6	50-140	0			
Chloroform	191.8	10	200	0	95.9	80-130	0			
Chloromethane	179.5	10	200	0	89.8	50-130	0			
cis-1,2-Dichloroethene	199.8	10	200	0	99.9	75-134	0			
cis-1,3-Dichloropropene	195.6	10	200	0	97.8	70-130	0			
Dibromochloromethane	163.3	10	200	0	81.6	60-115	0			
Dibromomethane	207.6	10	200	0	104	85-125	0			
Dichlorodifluoromethane	149.1	10	200	0	74.6	20-120	0			
Ethylbenzene	225.8	10	200	0	113	85-125	0			
Hexachloroethane	108	10	200	0	54	50-124	0			
Isopropylbenzene	227.9	10	200	0	114	80-127	0			
m,p-Xylene	445.8	20	400	0	111	75-130	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Work Order: 1608295
Project: ECT (Hartland - 12901 Sleigh Rd)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7		Method: SW8260B					
Methyl iodide	282	10	200	0	141	60-160	0	
Methyl tert-butyl ether	211	10	200	0	106	80-130	0	
Methylene chloride	218.8	50	200	0	109	75-140	0	
Naphthalene	216.1	50	200	0	108	55-160	0	
n-Propylbenzene	219.2	10	200	0	110	78-120	0	
o-Xylene	218.1	10	200	0	109	80-125	0	
Styrene	232.8	10	200	0	116	85-125	0	
Tetrachloroethene	318.4	10	200	0	159	77-138	0	
Toluene	225	10	200	0	112	85-125	0	
trans-1,2-Dichloroethene	222.5	10	200	0	111	80-140	0	
trans-1,3-Dichloropropene	174.7	10	200	0	87.4	81-123	0	
trans-1,4-Dichloro-2-butene	136	20	200	0	68	46-118	0	
Trichloroethene	228.6	10	200	0	114	84-130	0	
Trichlorofluoromethane	161.4	10	200	0	80.7	60-140	0	
Vinyl chloride	177.6	10	200	0	88.8	50-136	0	
Xylenes, Total	663.9	30	600	0	111	80-126	0	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>166.8</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>83.4</i>	<i>75-120</i>	<i>0</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>195.6</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>97.8</i>	<i>80-110</i>	<i>0</i>	
<i>Surr: Dibromofluoromethane</i>	<i>187</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>93.5</i>	<i>85-115</i>	<i>0</i>	
<i>Surr: Toluene-d8</i>	<i>197.9</i>	<i>0</i>	<i>200</i>	<i>0</i>	<i>99</i>	<i>85-110</i>	<i>0</i>	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608295
 Project: ECT (Hartland - 12901 Sleigh Rd)

QC BATCH REPORT

Batch ID: **R193219A** Instrument ID **VMS7** Method: **SW8260B**

MSD		Sample ID: 1608291-01A MSD				Units: µg/L		Analysis Date: 8/6/2016 12:03 PM		
Client ID:		Run ID: VMS7_160805A			SeqNo: 3965990		Prep Date:		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	172.3	10	200	0	86.2	80-130	187.1	8.24	30	
1,1,1-Trichloroethane	186.1	10	200	0	93	75-130	194.5	4.41	30	
1,1,2,2-Tetrachloroethane	195.1	10	200	0	97.6	75-130	209.2	6.98	30	
1,1,2-Trichloroethane	207.7	10	200	0	104	75-125	221.6	6.48	30	
1,1-Dichloroethane	202.7	10	200	0	101	75-133	212.9	4.91	30	
1,1-Dichloroethene	242.4	10	200	0	121	70-145	266.4	9.43	30	
1,2,3-Trichloropropane	197.1	10	200	0	98.6	75-125	217.6	9.89	30	
1,2,4-Trichlorobenzene	195.7	10	200	0	97.8	70-135	200.5	2.42	30	
1,2,4-Trimethylbenzene	204.2	10	200	0	102	75-130	218.4	6.72	30	
1,2-Dibromo-3-chloropropane	151.7	10	200	0	75.8	60-130	157.8	3.94	30	
1,2-Dibromoethane	239.5	10	200	0	120	80-150	259.8	8.13	30	
1,2-Dichlorobenzene	207.3	10	200	0	104	70-130	219.2	5.58	30	
1,2-Dichloroethane	179.2	10	200	0	89.6	78-125	193.1	7.47	30	
1,2-Dichloropropane	205.9	10	200	0	103	75-125	223.3	8.11	30	
1,3,5-Trimethylbenzene	212	10	200	0	106	75-130	223.2	5.15	30	
1,3-Dichlorobenzene	213.2	10	200	0	107	75-130	223.6	4.76	30	
1,4-Dichlorobenzene	207.7	10	200	0	104	75-130	215.7	3.78	30	
2-Butanone	194.4	50	200	0	97.2	55-150	208.6	7.05	30	
2-Hexanone	183.1	50	200	0	91.6	60-135	205.6	11.6	30	
4-Methyl-2-pentanone	211	10	200	0	106	77-178	232.8	9.82	30	
Acetone	201.4	100	200	0	101	60-160	216	7	30	
Acrylonitrile	205.6	10	200	0	103	60-140	224.6	8.83	30	
Benzene	219.9	10	200	0	110	85-125	234.1	6.26	30	
Bromochloromethane	204.4	10	200	0	102	75-130	215.1	5.1	30	
Bromodichloromethane	171.9	10	200	0	86	75-125	184.5	7.07	30	
Bromoform	145.2	10	200	0	72.6	60-125	152.4	4.84	30	
Bromomethane	164.2	10	200	0	82.1	30-185	187.7	13.4	30	
Carbon disulfide	216.9	10	200	0	108	60-165	231.8	6.64	30	
Carbon tetrachloride	154.6	10	200	0	77.3	65-140	162.5	4.98	30	
Chlorobenzene	212.3	10	200	0	106	80-120	226.8	6.6	30	
Chloroethane	164.2	10	200	0	82.1	50-140	185.3	12.1	30	
Chloroform	182.6	10	200	0	91.3	80-130	191.8	4.91	30	
Chloromethane	174.5	10	200	0	87.2	50-130	179.5	2.82	30	
cis-1,2-Dichloroethene	186.4	10	200	0	93.2	75-134	199.8	6.94	30	
cis-1,3-Dichloropropene	183.4	10	200	0	91.7	70-130	195.6	6.44	30	
Dibromochloromethane	154.8	10	200	0	77.4	60-115	163.3	5.34	30	
Dibromomethane	196.7	10	200	0	98.4	85-125	207.6	5.39	30	
Dichlorodifluoromethane	137.6	10	200	0	68.8	20-120	149.1	8.02	30	
Ethylbenzene	212	10	200	0	106	85-125	225.8	6.3	30	
Hexachloroethane	111.2	10	200	0	55.6	50-124	108	2.92	30	
Isopropylbenzene	215.6	10	200	0	108	80-127	227.9	5.55	30	
m,p-Xylene	428.1	20	400	0	107	75-130	445.8	4.05	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608295
 Project: ECT (Hartland - 12901 Sleigh Rd)

QC BATCH REPORT

Batch ID: R193219A	Instrument ID VMS7		Method: SW8260B							
Methyl iodide	247.4	10	200	0	124	60-160	282	13.1	30	
Methyl tert-butyl ether	199	10	200	0	99.5	80-130	211	5.85	30	
Methylene chloride	206	50	200	0	103	75-140	218.8	6.03	30	
Naphthalene	204.1	50	200	0	102	55-160	216.1	5.71	30	
n-Propylbenzene	206.4	10	200	0	103	78-120	219.2	6.02	30	
o-Xylene	203.4	10	200	0	102	80-125	218.1	6.98	30	
Styrene	219.8	10	200	0	110	85-125	232.8	5.74	30	
Tetrachloroethene	290.1	10	200	0	145	77-138	318.4	9.3	30 S	
Toluene	210.6	10	200	0	105	85-125	225	6.61	30	
trans-1,2-Dichloroethene	208.6	10	200	0	104	80-140	222.5	6.45	30	
trans-1,3-Dichloropropene	162	10	200	0	81	81-123	174.7	7.54	30	
trans-1,4-Dichloro-2-butene	129.9	20	200	0	65	46-118	136	4.59	30	
Trichloroethene	215.2	10	200	0	108	84-130	228.6	6.04	30	
Trichlorofluoromethane	151.8	10	200	0	75.9	60-140	161.4	6.13	30	
Vinyl chloride	173.9	10	200	0	87	50-136	177.6	2.11	30	
Xylenes, Total	631.5	30	600	0	105	80-126	663.9	5	30	
<i>Surr: 1,2-Dichloroethane-d4</i>	167.5	0	200	0	83.8	75-120	166.8	0.419	30	
<i>Surr: 4-Bromofluorobenzene</i>	187.9	0	200	0	94	80-110	195.6	4.02	30	
<i>Surr: Dibromofluoromethane</i>	182.2	0	200	0	91.1	85-115	187	2.6	30	
<i>Surr: Toluene-d8</i>	196	0	200	0	98	85-110	197.9	0.965	30	

The following samples were analyzed in this batch:

1608295-01A

Client: Merit Energy
Project: ECT (Hartland - 12901 Sleigh Rd)
WorkOrder: 1608295

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **05-Aug-16 09:30**

Work Order: **1608295**

Received by: **MEB**

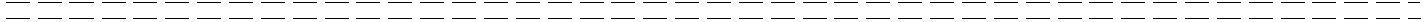
Checklist completed by Meghan Broadbent 05-Aug-16
eSignature Date

Reviewed by: Gary Byar 05-Aug-16
eSignature Date

Matrices: water
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.2/3.2</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<input type="text"/>		
Date/Time sample(s) sent to storage:	<u>8/5/2016 10:45:21 AM</u>		
Water - VOA vials have zero headspace?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<input type="text"/>		

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



RETURN SAMPLES TO:
 ALS Environmental
 781 Industrial Cir, Ste 3
 Traverse City, Michigan 49686
 (Tel) 231.421.3204
 (Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

ALS Environmental
 3352 128th Avenue
 Holland, Michigan 49424
 (Tel) 616.399.6070
 (Fax) 616.399.6185

Customer Information			Project Information				Parameter/Method Request for Analysis										
Purchase Order		Project Name	Hartland 36 Gas Plant		A	Full VOCs 8260					(2) 40 ml vials w HCL						
Work Order		Project Number			B	Sulfolane & DIPA 8270					(2) Amber Liters						
Company Name	ECT, Inc.	Billed To Company	MEC		C	RUSH											
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven		D												
Address	3399 Veterans Dr.	Address	1510 Thomas Rd		E												
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI		F												
Phone	231-946-8200	Phone	231-258-6369		G												
Fax	231-946-8208	Fax			H												
e-Mail Address	jlewandowski@ectinc.com				I												
					J												
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
	12901 SLEIGH TRAIL	8-3-16	1102	GW	1	4	X	X									
Sampler(s): Please Print & Sign <i>Jeremy Lewandowski</i>		Shipment Method:		Required Turnaround Time: (Check Box)				Other				Results Due Date:					
				<input type="checkbox"/> 10 Wk Days <input type="checkbox"/> 5-7 Wk Days <input checked="" type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour													
Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Notes: <i>8-4-16 12:15</i> <i>ACU 2852 8/16/12:15</i> ALS Project: MERITENERGY - Misc <i>Rec'd by lab: 8/15/16 9:30</i>											
<i>ECT SAMPLE STORAGE</i>	8-3-16	21:30	<i>ECT SAMPLE STORAGE</i>	8-3-16	21:30	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)									
	8-4-16	11:30		8-4-16	11:30		32°C	<input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data <input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV: SW846 Methods/CLP like <input type="checkbox"/> Other:									
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):														
<i>MAB</i>	8/5/16	10:44	<i>GRB</i>														
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C																	

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 12960 Sleigh)**

Work Order: **1609695**

Dear Sean,

ALS Environmental received 1 sample on 14-Sep-2016 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 12960 Sleigh)
Work Order: 1609695

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609695-01	12960 Sleigh	Water		9/13/2016 13:10	9/14/2016 09:30	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy
Project: ECT (Merit - 12960 Sleigh)
Sample ID: 12960 Sleigh
Collection Date: 9/13/2016 01:10 PM

Work Order: 1609695
Lab ID: 1609695-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/15/16	Analyst: RM
Sulfolane	ND		11	µg/L	1	9/18/2016 05:31 PM
Surr: 2,4,6-Tribromophenol	61.8		38-115	%REC	1	9/18/2016 05:31 PM
Surr: 2-Fluorobiphenyl	61.3		32-100	%REC	1	9/18/2016 05:31 PM
Surr: 2-Fluorophenol	36.5		22-59	%REC	1	9/18/2016 05:31 PM
Surr: 4-Terphenyl-d14	70.0		23-112	%REC	1	9/18/2016 05:31 PM
Surr: Nitrobenzene-d5	61.9		31-93	%REC	1	9/18/2016 05:31 PM
Surr: Phenol-d6	20.5		13-36	%REC	1	9/18/2016 05:31 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy

QC BATCH REPORT

Work Order: 1609695

Project: ECT (Merit - 12960 Sleigh)

Batch ID: 91411

Instrument ID: SVMS8

Method: SW846 8270D

MBLK		Sample ID: SBLKW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:03 PM		
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038350		Prep Date: 9/15/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	ND	10								
Surr: 2,4,6-Tribromophenol	27.6	0	50	0	55.2	38-115	0			
Surr: 2-Fluorobiphenyl	25.19	0	50	0	50.4	32-100	0			
Surr: 2-Fluorophenol	15.86	0	50	0	31.7	22-59	0			
Surr: 4-Terphenyl-d14	32.97	0	50	0	65.9	23-112	0			
Surr: Nitrobenzene-d5	24.52	0	50	0	49	31-93	0			
Surr: Phenol-d6	9.85	0	50	0	19.7	13-36	0			

LCS		Sample ID: SLCSW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:23 PM		
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038351		Prep Date: 9/15/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	56.19	10	100	0	56.2	30-100	0			
Surr: 2,4,6-Tribromophenol	34.23	0	50	0	68.5	38-115	0			
Surr: 2-Fluorobiphenyl	32.05	0	50	0	64.1	32-100	0			
Surr: 2-Fluorophenol	19.67	0	50	0	39.3	22-59	0			
Surr: 4-Terphenyl-d14	38.75	0	50	0	77.5	23-112	0			
Surr: Nitrobenzene-d5	34.48	0	50	0	69	31-93	0			
Surr: Phenol-d6	11.72	0	50	0	23.4	13-36	0			

LCSD		Sample ID: SLCSDW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:43 PM		
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038352		Prep Date: 9/15/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	56.47	10	100	0	56.5	30-100	56.19	0.497	30	
Surr: 2,4,6-Tribromophenol	35.01	0	50	0	70	38-115	34.23	2.25	30	
Surr: 2-Fluorobiphenyl	34.71	0	50	0	69.4	32-100	32.05	7.97	30	
Surr: 2-Fluorophenol	18.78	0	50	0	37.6	22-59	19.67	4.63	30	
Surr: 4-Terphenyl-d14	44.18	0	50	0	88.4	23-112	38.75	13.1	30	
Surr: Nitrobenzene-d5	34.43	0	50	0	68.9	31-93	34.48	0.145	30	
Surr: Phenol-d6	10.96	0	50	0	21.9	13-36	11.72	6.7	30	

The following samples were analyzed in this batch: 1609695-01A

Client: Merit Energy
Project: ECT (Merit - 12960 Sleigh)
WorkOrder: 1609695

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
$\mu\text{g/L}$	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **14-Sep-16 09:30**

Work Order: **1609695**

Received by: **KRW**

Checklist completed by KathW ieraga 14-Sep-16
eSignature Date

Reviewed by: GaryBya 14-Sep-16
eSignature Date

Matrices: Water

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>2.8/2.8 C</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>9/14/2016 1:08:15 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<u></u>		

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction



ALS Environmental
781 Industrial Cir, Ste 3
Traverse City, Michigan 49686
(Tel) 231.421.3204
(Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

Customer Information		Project Information					Parameter/Method Request for Analysis										
Purchase Order		Project Name	Hartland 36 Gas Plant		A	Sulfolane (1) Amber Liter											
Work Order		Project Number			B												
Company Name	ECT, Inc.	Bill To Company	MEC		C												
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven		D												
Address	3399 Veterans Dr.	Address	1510 Thomas Rd		E												
					F												
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI		G												
Phone	231-946-8200	Phone	231-258-6369		H												
Fax	231-946-8208	Fax			I												
e-Mail Address	jlewandowski@ectinc.com				J												
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
	12960 SLEIGH	9/13/16	1310	Water	8	1	X										
Sampler(s): Please Print & Sign		Shipment Method:		Required Turnaround Time: (Check Box)				Results Due Date:									
<i>James K... Sean Craven</i>		UPS Ground		<input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour													
Relinquished by:		Date:	Time:	Received by:		Date:	Time:	Notes:									
<i>James K...</i>		9/13/16	1630	UPS				ALS Project MERITENERGY - Misc									
Relinquished by:		Date:	Time:	Received by (Laboratory):		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)							
UPS		9/14/16	0930	<i>[Signature]</i>					2.800	<input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data <input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV: SW846 Methods/CLP like <input type="checkbox"/> Other:							
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):													
<i>KR</i>		9/14/16	1300	<i>[Signature]</i>													
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C																	
Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.																	



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 13725 Randy Lake)**

Work Order: **1609802**

Dear Sean,

ALS Environmental received 1 sample on 15-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 13725 Randy Lake)
Work Order: 1609802

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609802-01	13725 Randy Lake	Water		9/14/2016 08:44	9/15/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy
Project: ECT (Merit - 13725 Randy Lake)
Sample ID: 13725 Randy Lake
Collection Date: 9/14/2016 08:44 AM

Work Order: 1609802
Lab ID: 1609802-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/16/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/19/2016 03:54 AM
Surr: 2,4,6-Tribromophenol	39.0		38-115	%REC	1	9/19/2016 03:54 AM
Surr: 2-Fluorobiphenyl	37.4		32-100	%REC	1	9/19/2016 03:54 AM
Surr: 2-Fluorophenol	23.2		22-59	%REC	1	9/19/2016 03:54 AM
Surr: 4-Terphenyl-d14	61.7		23-112	%REC	1	9/19/2016 03:54 AM
Surr: Nitrobenzene-d5	36.1		31-93	%REC	1	9/19/2016 03:54 AM
Surr: Phenol-d6	13.9		13-36	%REC	1	9/19/2016 03:54 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
 Work Order: 1609802
 Project: ECT (Merit - 13725 Randy Lake)

QC BATCH REPORT

Batch ID: **91481** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:03 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038353		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
Surr: 2,4,6-Tribromophenol	30.02	0	50	0	60	38-115	0				
Surr: 2-Fluorobiphenyl	31.92	0	50	0	63.8	32-100	0				
Surr: 2-Fluorophenol	18.02	0	50	0	36	22-59	0				
Surr: 4-Terphenyl-d14	35.62	0	50	0	71.2	23-112	0				
Surr: Nitrobenzene-d5	32.13	0	50	0	64.3	31-93	0				
Surr: Phenol-d6	9.75	0	50	0	19.5	13-36	0				

LCS		Sample ID: SLCSW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:23 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038354		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	52.35	10	100	0	52.4	30-100	0				
Surr: 2,4,6-Tribromophenol	35.21	0	50	0	70.4	38-115	0				
Surr: 2-Fluorobiphenyl	31.44	0	50	0	62.9	32-100	0				
Surr: 2-Fluorophenol	17.86	0	50	0	35.7	22-59	0				
Surr: 4-Terphenyl-d14	37.56	0	50	0	75.1	23-112	0				
Surr: Nitrobenzene-d5	33.06	0	50	0	66.1	31-93	0				
Surr: Phenol-d6	10.51	0	50	0	21	13-36	0				

LCSD		Sample ID: SLCSDW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:43 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038355		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	59.44	10	100	0	59.4	30-100	52.35	12.7	30		
Surr: 2,4,6-Tribromophenol	32.69	0	50	0	65.4	38-115	35.21	7.42	30		
Surr: 2-Fluorobiphenyl	35.15	0	50	0	70.3	32-100	31.44	11.1	30		
Surr: 2-Fluorophenol	20.65	0	50	0	41.3	22-59	17.86	14.5	30		
Surr: 4-Terphenyl-d14	37.72	0	50	0	75.4	23-112	37.56	0.425	30		
Surr: Nitrobenzene-d5	31.01	0	50	0	62	31-93	33.06	6.4	30		
Surr: Phenol-d6	12.14	0	50	0	24.3	13-36	10.51	14.4	30		

The following samples were analyzed in this batch: 1609802-01A

Client: Merit Energy
Project: ECT (Merit - 13725 Randy Lake)
WorkOrder: 1609802

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **15-Sep-16 10:00**

Work Order: **1609802**

Received by: **MBB**

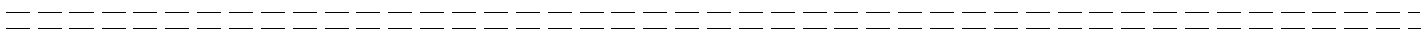
Checklist completed by Meghan Broadbent 15-Sep-16
eSignature Date

Reviewed by: Gary Byar 15-Sep-16
eSignature Date

Matrices: water
 Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>2.6/2.6</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<input type="text"/>		
Date/Time sample(s) sent to storage:	<u>9/15/2016 12:15:51 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<input type="text"/>		

Login Notes:



Client Contacted: _____ Date Contacted: _____ Person Contacted: _____

Contacted By: _____ Regarding: _____

Comments:

CorrectiveAction:



ALS Environmental
 781 Industrial Cir, Ste 3
 Traverse City, Michigan 49686
 (Tel) 231.421.3204
 (Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
 ALS Environmental
 3352 128th Avenue
 Holland, Michigan 49424
 (Tel) 616.399.6070
 (Fax) 616.399.6185

Customer Information			Project Information				Parameter/Method Request for Analysis										
Purchase Order	Project Name		Hartland 36 Gas Plant		A		Sulfolane (1) Amber Liter										
Work Order	Project Number				B												
Company Name	ECT, Inc.		Bill To Company		MEC		C										
Send Report To	Jeremy Lawandowski		Invoice Attn.		Sean Craven		D										
Address	3399 Veterans Dr.		Address		1510 Thomas Rd		E										
City/State/Zip	Traverse City, MI 49684		City/State/Zip		Kalkaska, MI		F										
Phone	231-946-8200		Phone		231-258-6369		G										
Fax	231-946-8208		Fax				H										
e-Mail Address	jlawandowski@ectinc.com						I										
							J										
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
	13725 Randy Lake	9/14/16	8:44	Water	8	1	X										
Sampler(s): Please Print & Sign			Shipment Method:		Required Turnaround Time: (Check Box)						Results Due Date:						
Anne Power			UPS Ground		<input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour												
Relinquished by:		Date:	Time:	Received by:		Date:	Time:	Notes:									
[Signature]		9/14/16	16:50	[Signature]				ALS Project: MERITENERGY - Misc									
Relinquished by:		Date:	Time:	Received by (Laboratory):		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)							
[Signature]		9/15/16	1000	[Signature]					26	<input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data <input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV: SW846 Methods/CLP like <input type="checkbox"/> Other:							
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):													
[Signature]		9/15/16	12:14	[Signature]													
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C																	

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 212 Wilderness Lake Ct)**

Work Order: **1609713**

Dear Sean,

ALS Environmental received 1 sample on 14-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 212 Wilderness Lake Ct)
Work Order: 1609713

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609713-01	212 Wilderness Lake Ct	Water		9/13/2016 08:40	9/14/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy
Project: ECT (Merit - 212 Wilderness Lake Ct)
Sample ID: 212 Wilderness Lake Ct
Collection Date: 9/13/2016 08:40 AM

Work Order: 1609713
Lab ID: 1609713-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/15/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/18/2016 07:30 PM
Surr: 2,4,6-Tribromophenol	48.2		38-115	%REC	1	9/18/2016 07:30 PM
Surr: 2-Fluorobiphenyl	42.1		32-100	%REC	1	9/18/2016 07:30 PM
Surr: 2-Fluorophenol	27.7		22-59	%REC	1	9/18/2016 07:30 PM
Surr: 4-Terphenyl-d14	62.4		23-112	%REC	1	9/18/2016 07:30 PM
Surr: Nitrobenzene-d5	43.4		31-93	%REC	1	9/18/2016 07:30 PM
Surr: Phenol-d6	14.2		13-36	%REC	1	9/18/2016 07:30 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
Work Order: 1609713
Project: ECT (Merit - 212 Wilderness Lake Ct)

QC BATCH REPORT

Batch ID: **91411** Instrument ID: **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:03 PM		
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038350		Prep Date: 9/15/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	ND	10								
<i>Surr: 2,4,6-Tribromophenol</i>	27.6	0	50	0	55.2	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	25.19	0	50	0	50.4	32-100	0			
<i>Surr: 2-Fluorophenol</i>	15.86	0	50	0	31.7	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	32.97	0	50	0	65.9	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	24.52	0	50	0	49	31-93	0			
<i>Surr: Phenol-d6</i>	9.85	0	50	0	19.7	13-36	0			

LCS		Sample ID: SLCSW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:23 PM		
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038351		Prep Date: 9/15/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	56.19	10	100	0	56.2	30-100	0			
<i>Surr: 2,4,6-Tribromophenol</i>	34.23	0	50	0	68.5	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	32.05	0	50	0	64.1	32-100	0			
<i>Surr: 2-Fluorophenol</i>	19.67	0	50	0	39.3	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	38.75	0	50	0	77.5	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	34.48	0	50	0	69	31-93	0			
<i>Surr: Phenol-d6</i>	11.72	0	50	0	23.4	13-36	0			

LCSD		Sample ID: SLCSDW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:43 PM		
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038352		Prep Date: 9/15/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	56.47	10	100	0	56.5	30-100	56.19	0.497	30	
<i>Surr: 2,4,6-Tribromophenol</i>	35.01	0	50	0	70	38-115	34.23	2.25	30	
<i>Surr: 2-Fluorobiphenyl</i>	34.71	0	50	0	69.4	32-100	32.05	7.97	30	
<i>Surr: 2-Fluorophenol</i>	18.78	0	50	0	37.6	22-59	19.67	4.63	30	
<i>Surr: 4-Terphenyl-d14</i>	44.18	0	50	0	88.4	23-112	38.75	13.1	30	
<i>Surr: Nitrobenzene-d5</i>	34.43	0	50	0	68.9	31-93	34.48	0.145	30	
<i>Surr: Phenol-d6</i>	10.96	0	50	0	21.9	13-36	11.72	6.7	30	

The following samples were analyzed in this batch: 1609713-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Project: ECT (Merit - 212 Wilderness Lake Ct)
WorkOrder: 1609713

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCS D	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **14-Sep-16 10:00**

Work Order: **1609713**

Received by: **MBB**

Checklist completed by Megan Broadbent 14-Sep-16
eSignature Date

Reviewed by: Gary Byar 14-Sep-16
eSignature Date

Matrices: water

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.8/3.8</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>9/14/2016 2:03:19 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<u></u>		

Login Notes:

Client Contacted: _____ Date Contacted: _____ Person Contacted: _____

Contacted By: _____ Regarding: _____

Comments:

CorrectiveAction



ALS Environmental
781 Industrial Cir, Ste 3
Traverse City, Michigan 49686
(Tel) 231.421.3204
(Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

Customer Information		Project Information					Parameter/Method Request for Analysis										
Purchase Order		Project Name	Hartland 36 Gas Plant			A	Sulfolane (1) Amber Liter										
Work Order		Project Number				B											
Company Name	ECT, Inc.	Bill To Company	MEC			C											
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven			D											
Address	3399 Veterans Dr.	Address	1510 Thomas Rd			E											
						F											
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI			G											
Phone	231-946-8200	Phone	231-258-6369			H											
Fax	231-946-8208	Fax				I											
e-Mail Address	jlewandowski@ectinc.com					J											
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
	212 Wilderness Lake Ct	9/13/16	8:40	Water	8	1	X										
Sampler(s): Please Print & Sign <i>Anne Power</i>		Shipment Method: UPS Ground		Required Turnaround Time: (Check Box) <input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				Other		Results Due Date:							
Relinquished by: <i>[Signature]</i>	Date: 9/13/16	Time: 16:40	Received by:		Date:	Time:	Notes: ALS Project: MERITENERGY - Misc										
Relinquished by: <i>[Signature]</i>	Date: 9/14/16	Time: 1000	Received by (Laboratory): <i>[Signature]</i>		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)								
Logged by (Laboratory): <i>APB</i>	Date: 9/14/16	Time: 1400	Checked by (Laboratory): <i>GRB</i>					38	<input checked="" type="checkbox"/> Level II: Standard QC		<input type="checkbox"/> Level III: Raw Data						
									<input type="checkbox"/> TRRP LRC		<input type="checkbox"/> TRRP Level IV						
									<input type="checkbox"/> Level IV: SW846 Methods/CLP like								
									<input type="checkbox"/> Other:								
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C										Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.							



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 116 Wilderness Lake Ct)**

Work Order: **1609718**

Dear Sean,

ALS Environmental received 1 sample on 14-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

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RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 116 Wilderness Lake Ct)
Work Order: 1609718

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609718-01	116 Wilderness Lake Ct	Water		9/13/2016 11:22	9/14/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy

Project: ECT (Merit - 116 Wilderness Lake Ct)

Work Order: 1609718

Sample ID: 116 Wilderness Lake Ct

Lab ID: 1609718-01

Collection Date: 9/13/2016 11:22 AM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/15/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/18/2016 08:29 PM
Surr: 2,4,6-Tribromophenol	58.6		38-115	%REC	1	9/18/2016 08:29 PM
Surr: 2-Fluorobiphenyl	66.7		32-100	%REC	1	9/18/2016 08:29 PM
Surr: 2-Fluorophenol	38.7		22-59	%REC	1	9/18/2016 08:29 PM
Surr: 4-Terphenyl-d14	71.0		23-112	%REC	1	9/18/2016 08:29 PM
Surr: Nitrobenzene-d5	66.5		31-93	%REC	1	9/18/2016 08:29 PM
Surr: Phenol-d6	22.5		13-36	%REC	1	9/18/2016 08:29 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
Work Order: 1609718
Project: ECT (Merit - 116 Wilderness Lake Ct)

QC BATCH REPORT

Batch ID: **91411** Instrument ID: **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:03 PM		
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038350		Prep Date: 9/15/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	ND	10								
Surr: 2,4,6-Tribromophenol	27.6	0	50	0	55.2	38-115	0			
Surr: 2-Fluorobiphenyl	25.19	0	50	0	50.4	32-100	0			
Surr: 2-Fluorophenol	15.86	0	50	0	31.7	22-59	0			
Surr: 4-Terphenyl-d14	32.97	0	50	0	65.9	23-112	0			
Surr: Nitrobenzene-d5	24.52	0	50	0	49	31-93	0			
Surr: Phenol-d6	9.85	0	50	0	19.7	13-36	0			

LCS		Sample ID: SLCSW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:23 PM		
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038351		Prep Date: 9/15/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	56.19	10	100	0	56.2	30-100	0			
Surr: 2,4,6-Tribromophenol	34.23	0	50	0	68.5	38-115	0			
Surr: 2-Fluorobiphenyl	32.05	0	50	0	64.1	32-100	0			
Surr: 2-Fluorophenol	19.67	0	50	0	39.3	22-59	0			
Surr: 4-Terphenyl-d14	38.75	0	50	0	77.5	23-112	0			
Surr: Nitrobenzene-d5	34.48	0	50	0	69	31-93	0			
Surr: Phenol-d6	11.72	0	50	0	23.4	13-36	0			

LCSD		Sample ID: SLCSDW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:43 PM		
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038352		Prep Date: 9/15/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	56.47	10	100	0	56.5	30-100	56.19	0.497	30	
Surr: 2,4,6-Tribromophenol	35.01	0	50	0	70	38-115	34.23	2.25	30	
Surr: 2-Fluorobiphenyl	34.71	0	50	0	69.4	32-100	32.05	7.97	30	
Surr: 2-Fluorophenol	18.78	0	50	0	37.6	22-59	19.67	4.63	30	
Surr: 4-Terphenyl-d14	44.18	0	50	0	88.4	23-112	38.75	13.1	30	
Surr: Nitrobenzene-d5	34.43	0	50	0	68.9	31-93	34.48	0.145	30	
Surr: Phenol-d6	10.96	0	50	0	21.9	13-36	11.72	6.7	30	

The following samples were analyzed in this batch: 1609718-01A

Client: Merit Energy
Project: ECT (Merit - 116 Wilderness Lake Ct)
WorkOrder: 1609718

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCS D	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **14-Sep-16 10:00**

Work Order: **1609718**

Received by: **MBB**

Checklist completed by Megan Broadbent 14-Sep-16
eSignature Date

Reviewed by: Gary Byar 14-Sep-16
eSignature Date

Matrices: water
 Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.8/3.8</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>9/14/2016 2:15:17 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<u></u>		

Login Notes:

Client Contacted: _____ Date Contacted: _____ Person Contacted: _____
 Contacted By: _____ Regarding: _____

Comments:

CorrectiveAction:



ALS Environmental
781 Industrial Cir, Ste 3
Traverse City, Michigan 49686
(Tel) 231.421.3204
(Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

Customer Information		Project Information					Parameter/Method Request for Analysis										
Purchase Order		Project Name	Hartland 36 Gas Plant			A	Sulfolane (1) Amber Liter										
Work Order		Project Number				B											
Company Name	ECT, Inc.	Bill To Company	MEC			C											
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven			D											
Address	3399 Veterans Dr.	Address	1510 Thomas Rd			E											
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI			F											
Phone	231-946-8200	Phone	231-258-6369			G											
Fax	231-946-8208	Fax				H											
e-Mail Address	jlewandowski@ectinc.com					I											
						J											
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
	116 Wilderness Lake Ct	9/13/16	11:22	Water	8	1	X										
Sampler(s): Please Print & Sign <i>Ann Power</i>		Shipment Method: UPS Ground		Required Turnaround Time: (Check Box) <input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				Other: _____		Results Due Date: _____							
Relinquished by: <i>[Signature]</i>		Date: 9/13/16	Time: 16:40	Received by:		Date:	Time:	Notes: ALS Project: MERITENERGY - Misc									
Relinquished by:		Date: 9/14/16	Time: 1000	Received by (Laboratory): <i>[Signature]</i>		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below) <input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data <input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV: SW846 Methods/CLP like <input type="checkbox"/> Other: _____							
Logged by (Laboratory): <i>[Signature]</i>		Date: 9/14/16	Time: 1411	Checked by (Laboratory): <i>[Signature]</i>					38								
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C											Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.						



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 13711 Commerce Rd)**

Work Order: **1609811**

Dear Sean,

ALS Environmental received 1 sample on 15-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 13711 Commerce Rd)
Work Order: 1609811

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609811-01	13711 Commerce Rd	Water		9/14/2016 14:46	9/15/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy
Project: ECT (Merit - 13711 Commerce Rd)
Sample ID: 13711 Commerce Rd
Collection Date: 9/14/2016 02:46 PM

Work Order: 1609811
Lab ID: 1609811-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/16/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/19/2016 06:13 AM
Surr: 2,4,6-Tribromophenol	54.0		38-115	%REC	1	9/19/2016 06:13 AM
Surr: 2-Fluorobiphenyl	48.8		32-100	%REC	1	9/19/2016 06:13 AM
Surr: 2-Fluorophenol	34.2		22-59	%REC	1	9/19/2016 06:13 AM
Surr: 4-Terphenyl-d14	65.0		23-112	%REC	1	9/19/2016 06:13 AM
Surr: Nitrobenzene-d5	49.2		31-93	%REC	1	9/19/2016 06:13 AM
Surr: Phenol-d6	19.9		13-36	%REC	1	9/19/2016 06:13 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
 Work Order: 1609811
 Project: ECT (Merit - 13711 Commerce Rd)

QC BATCH REPORT

Batch ID: **91481** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:03 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038353		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
<i>Surr: 2,4,6-Tribromophenol</i>	30.02	0	50	0	60	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	31.92	0	50	0	63.8	32-100	0				
<i>Surr: 2-Fluorophenol</i>	18.02	0	50	0	36	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	35.62	0	50	0	71.2	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	32.13	0	50	0	64.3	31-93	0				
<i>Surr: Phenol-d6</i>	9.75	0	50	0	19.5	13-36	0				

LCS		Sample ID: SLCSW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:23 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038354		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	52.35	10	100	0	52.4	30-100	0				
<i>Surr: 2,4,6-Tribromophenol</i>	35.21	0	50	0	70.4	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	31.44	0	50	0	62.9	32-100	0				
<i>Surr: 2-Fluorophenol</i>	17.86	0	50	0	35.7	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	37.56	0	50	0	75.1	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	33.06	0	50	0	66.1	31-93	0				
<i>Surr: Phenol-d6</i>	10.51	0	50	0	21	13-36	0				

LCSD		Sample ID: SLCSDW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:43 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038355		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	59.44	10	100	0	59.4	30-100	52.35	12.7	30		
<i>Surr: 2,4,6-Tribromophenol</i>	32.69	0	50	0	65.4	38-115	35.21	7.42	30		
<i>Surr: 2-Fluorobiphenyl</i>	35.15	0	50	0	70.3	32-100	31.44	11.1	30		
<i>Surr: 2-Fluorophenol</i>	20.65	0	50	0	41.3	22-59	17.86	14.5	30		
<i>Surr: 4-Terphenyl-d14</i>	37.72	0	50	0	75.4	23-112	37.56	0.425	30		
<i>Surr: Nitrobenzene-d5</i>	31.01	0	50	0	62	31-93	33.06	6.4	30		
<i>Surr: Phenol-d6</i>	12.14	0	50	0	24.3	13-36	10.51	14.4	30		

The following samples were analyzed in this batch: 1609811-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Project: ECT (Merit - 13711 Commerce Rd)
WorkOrder: 1609811

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **15-Sep-16 10:00**

Work Order: **1609811**

Received by: **MBB**

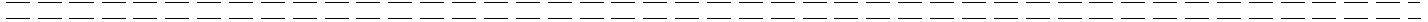
Checklist completed by Meghan Broadbent 15-Sep-16
eSignature Date

Reviewed by: Gary Byar 15-Sep-16
eSignature Date

Matrices: water
Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>2.6/2.6</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<input type="text"/>		
Date/Time sample(s) sent to storage:	<u>9/15/2016 12:34:00 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<input type="text"/>		

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



ALS Environmental
781 Industrial Cir, Ste 3
Traverse City, Michigan 49886
(Tel) 231.421.3204
(Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

ALS Project Manager: Gary Byar		ALS Work Order #: 1609811																
Customer Information		Project Information		Parameter/Method Request for Analysis														
Purchase Order		Project Name	Hartland 36 Gas Plant	A	Sulfolane (1) Amber Liter													
Work Order		Project Number		B														
Company Name	ECT, Inc.	Bill To Company	MEC	C														
Send Report To	Jeremy Lewandowski	Invoice Attn	Sean Craven	D														
Address	3399 Veterans Dr.	Address	1510 Thomas Rd	E														
				F														
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI	G														
Phone	231-946-8200	Phone	231-258-6369	H														
Fax	231-946-8208	Fax		I														
e-Mail Address	jl Lewandowski@ectinc.com			J														
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold	
	13711 Commerce Rd	9/14/16	14:46	Water	8	1	X											
Sampler(s): Please Print & Sign <i>Anne Power</i>		Shipment Method: UPS Ground		Required Turnaround Time: (Check Box) <input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				Results Due Date:										
Relinquished by: <i>[Signature]</i>		Date: 9/14/16	Time: 16:30	Received by:		Date:	Time:	Notes: ALS Project: MERITENERGY - Misc										
Relinquished by:		Date: 9/15/16	Time: 1000	Received by (Laboratory): <i>[Signature]</i>		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)								
Logged by (Laboratory): <i>[Signature]</i>		Date: 9/15/16	Time: 1231	Checked by (Laboratory): <i>[Signature]</i>					26	<input checked="" type="checkbox"/> Level II: Standard QC		<input type="checkbox"/> Level III: Raw Data						
										<input type="checkbox"/> TRRP LRC		<input type="checkbox"/> TRRP Level IV						
										<input type="checkbox"/> Level IV: SW846 Methods/CLP like								
										<input type="checkbox"/> Other:								
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C							Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.											



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 90 Jeni Lane)**

Work Order: **1609807**

Dear Sean,

ALS Environmental received 1 sample on 15-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 90 Jeni Lane)
Work Order: 1609807

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609807-01	90 Jeni Lane	Water		9/14/2016 11:39	9/15/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy
Project: ECT (Merit - 90 Jeni Lane)
Sample ID: 90 Jeni Lane
Collection Date: 9/14/2016 11:39 AM

Work Order: 1609807
Lab ID: 1609807-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/16/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/19/2016 04:54 AM
Surr: 2,4,6-Tribromophenol	50.4		38-115	%REC	1	9/19/2016 04:54 AM
Surr: 2-Fluorobiphenyl	47.6		32-100	%REC	1	9/19/2016 04:54 AM
Surr: 2-Fluorophenol	31.2		22-59	%REC	1	9/19/2016 04:54 AM
Surr: 4-Terphenyl-d14	67.0		23-112	%REC	1	9/19/2016 04:54 AM
Surr: Nitrobenzene-d5	47.6		31-93	%REC	1	9/19/2016 04:54 AM
Surr: Phenol-d6	19.8		13-36	%REC	1	9/19/2016 04:54 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
 Work Order: 1609807
 Project: ECT (Merit - 90 Jeni Lane)

QC BATCH REPORT

Batch ID: **91481** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:03 PM			
Client ID:		Run ID: SVMS8_160918A				SeqNo: 4038353		Prep Date: 9/16/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
<i>Surr: 2,4,6-Tribromophenol</i>	30.02	0	50	0	60	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	31.92	0	50	0	63.8	32-100	0				
<i>Surr: 2-Fluorophenol</i>	18.02	0	50	0	36	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	35.62	0	50	0	71.2	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	32.13	0	50	0	64.3	31-93	0				
<i>Surr: Phenol-d6</i>	9.75	0	50	0	19.5	13-36	0				

LCS		Sample ID: SLCSW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:23 PM			
Client ID:		Run ID: SVMS8_160918A				SeqNo: 4038354		Prep Date: 9/16/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	52.35	10	100	0	52.4	30-100	0				
<i>Surr: 2,4,6-Tribromophenol</i>	35.21	0	50	0	70.4	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	31.44	0	50	0	62.9	32-100	0				
<i>Surr: 2-Fluorophenol</i>	17.86	0	50	0	35.7	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	37.56	0	50	0	75.1	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	33.06	0	50	0	66.1	31-93	0				
<i>Surr: Phenol-d6</i>	10.51	0	50	0	21	13-36	0				

LCSD		Sample ID: SLCSDW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:43 PM			
Client ID:		Run ID: SVMS8_160918A				SeqNo: 4038355		Prep Date: 9/16/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	59.44	10	100	0	59.4	30-100	52.35	12.7	30		
<i>Surr: 2,4,6-Tribromophenol</i>	32.69	0	50	0	65.4	38-115	35.21	7.42	30		
<i>Surr: 2-Fluorobiphenyl</i>	35.15	0	50	0	70.3	32-100	31.44	11.1	30		
<i>Surr: 2-Fluorophenol</i>	20.65	0	50	0	41.3	22-59	17.86	14.5	30		
<i>Surr: 4-Terphenyl-d14</i>	37.72	0	50	0	75.4	23-112	37.56	0.425	30		
<i>Surr: Nitrobenzene-d5</i>	31.01	0	50	0	62	31-93	33.06	6.4	30		
<i>Surr: Phenol-d6</i>	12.14	0	50	0	24.3	13-36	10.51	14.4	30		

The following samples were analyzed in this batch: 1609807-01A

Client: Merit Energy
Project: ECT (Merit - 90 Jeni Lane)
WorkOrder: 1609807

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **15-Sep-16 10:00**

Work Order: **1609807**

Received by: **MBB**

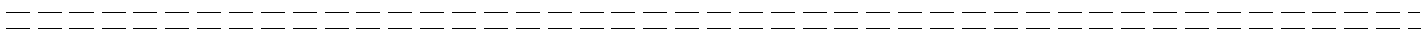
Checklist completed by Meghan Broadbent 15-Sep-16
eSignature Date

Reviewed by: Gary Byar 15-Sep-16
eSignature Date

Matrices: water
Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>2.6/2.6</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<input type="text"/>		
Date/Time sample(s) sent to storage:	<u>9/15/2016 12:25:19 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<input type="text"/>		

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



ALS Environmental
781 Industrial Cir, Ste 3
Traverse City, Michigan 49686
(Tel) 231.421.3204
(Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

Customer Information			Project Information				Parameter/Method Request for Analysis												
Purchase Order		Project Name	Hartland 36 Gas Plant		A	Sulfolane (1) Amber Liter													
Work Order		Project Number			B														
Company Name	ECT, Inc.	Bill To Company	MEC		C														
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven		D														
Address	3399 Veterans Dr.	Address	1510 Thomas Rd		E														
					F														
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI		G														
Phone	231-946-8200	Phone	231-258-6369		H														
Fax	231-946-8208	Fax			I														
e-Mail Address	jlewandowski@ectinc.com				J														
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold		
	90 Jeri Lane	9/14/16	11:39	Water	8	1	X												
Sampler(s): Please Print & Sign		Shipment Method:		Required Turnaround Time: (Check Box)				Other				Results Due Date:							
Anne Power		UPS Ground		<input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour															
Relinquished by:	Date:	Time:	Received by:		Date:	Time:	Notes:												
<i>[Signature]</i>	9/14/16	16:30					ALS Project: MERITENERGY - Misc												
Relinquished by:	Date:	Time:	Received by (Laboratory):		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)										
<i>[Signature]</i>	9/15/16	1000	<i>[Signature]</i>					26	<input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data <input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV: SW846 Methods/CLP like <input type="checkbox"/> Other:										
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):																
<i>[Signature]</i>	9/15/16	1224	<i>[Signature]</i>																
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C																			
Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.																			



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 99 N. Pleasant Valley Rd.)**

Work Order: **1609812**

Dear Sean,

ALS Environmental received 1 sample on 15-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 8.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 99 N. Pleasant Valley Rd.)
Work Order: 1609812

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609812-01	99 N. Pleasant Valley Rd.	Water		9/14/2016 15:40	9/15/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy
Project: ECT (Merit - 99 N. Pleasant Valley Rd.)
Sample ID: 99 N. Pleasant Valley Rd.
Collection Date: 9/14/2016 03:40 PM

Work Order: 1609812
Lab ID: 1609812-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/16/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/19/2016 06:33 AM
Surr: 2,4,6-Tribromophenol	52.1		38-115	%REC	1	9/19/2016 06:33 AM
Surr: 2-Fluorobiphenyl	50.6		32-100	%REC	1	9/19/2016 06:33 AM
Surr: 2-Fluorophenol	31.3		22-59	%REC	1	9/19/2016 06:33 AM
Surr: 4-Terphenyl-d14	67.3		23-112	%REC	1	9/19/2016 06:33 AM
Surr: Nitrobenzene-d5	50.9		31-93	%REC	1	9/19/2016 06:33 AM
Surr: Phenol-d6	18.7		13-36	%REC	1	9/19/2016 06:33 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
 Work Order: 1609812
 Project: ECT (Merit - 99 N. Pleasant Valley Rd.)

QC BATCH REPORT

Batch ID: **91481** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:03 PM			
Client ID:		Run ID: SVMS8_160918A				SeqNo: 4038353		Prep Date: 9/16/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
<i>Surr: 2,4,6-Tribromophenol</i>	30.02	0	50	0	60	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	31.92	0	50	0	63.8	32-100	0				
<i>Surr: 2-Fluorophenol</i>	18.02	0	50	0	36	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	35.62	0	50	0	71.2	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	32.13	0	50	0	64.3	31-93	0				
<i>Surr: Phenol-d6</i>	9.75	0	50	0	19.5	13-36	0				

LCS		Sample ID: SLCSW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:23 PM			
Client ID:		Run ID: SVMS8_160918A				SeqNo: 4038354		Prep Date: 9/16/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	52.35	10	100	0	52.4	30-100	0				
<i>Surr: 2,4,6-Tribromophenol</i>	35.21	0	50	0	70.4	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	31.44	0	50	0	62.9	32-100	0				
<i>Surr: 2-Fluorophenol</i>	17.86	0	50	0	35.7	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	37.56	0	50	0	75.1	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	33.06	0	50	0	66.1	31-93	0				
<i>Surr: Phenol-d6</i>	10.51	0	50	0	21	13-36	0				

LCSD		Sample ID: SLCSDW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:43 PM			
Client ID:		Run ID: SVMS8_160918A				SeqNo: 4038355		Prep Date: 9/16/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	59.44	10	100	0	59.4	30-100	52.35	12.7	30		
<i>Surr: 2,4,6-Tribromophenol</i>	32.69	0	50	0	65.4	38-115	35.21	7.42	30		
<i>Surr: 2-Fluorobiphenyl</i>	35.15	0	50	0	70.3	32-100	31.44	11.1	30		
<i>Surr: 2-Fluorophenol</i>	20.65	0	50	0	41.3	22-59	17.86	14.5	30		
<i>Surr: 4-Terphenyl-d14</i>	37.72	0	50	0	75.4	23-112	37.56	0.425	30		
<i>Surr: Nitrobenzene-d5</i>	31.01	0	50	0	62	31-93	33.06	6.4	30		
<i>Surr: Phenol-d6</i>	12.14	0	50	0	24.3	13-36	10.51	14.4	30		

The following samples were analyzed in this batch: 1609812-01A

Client: Merit Energy
Project: ECT (Merit - 99 N. Pleasant Valley Rd.)
WorkOrder: 1609812

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **15-Sep-16 10:00**

Work Order: **1609812**

Received by: **MBB**

Checklist completed by Meghan Broadbent 15-Sep-16
eSignature Date

Reviewed by: Gary Byar 15-Sep-16
eSignature Date

Matrices: water
Carrier name: UPS

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No
- Sample(s) received on ice? Yes No

Temperature(s)/Thermometer(s): 2.6/2.6 SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 9/15/2016 12:36:29 PM

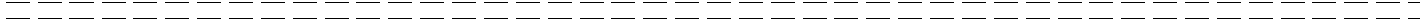
Water - VOA vials have zero headspace? Yes No No VOA vials submitted

Water - pH acceptable upon receipt? Yes No N/A

pH adjusted? Yes No N/A

pH adjusted by:

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



ALS Environmental
781 Industrial Cir, Ste 3
Traverse City, Michigan 49686
(Tel) 231.421.3204
(Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

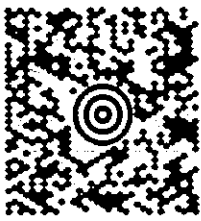
RETURN SAMPLES TO:
ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

ALS Project Manager: Gary Byar		ALS Work Order #: 1009812															
Customer Information		Project Information		Parameter/Method Request for Analysis													
Purchase Order		Project Name	Hartland 36 Gas Plant	A	Sulfolane (1) Amber Liter												
Work Order		Project Number		B													
Company Name	ECT, Inc.	Bill To Company	MEC	C													
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven	D													
Address	3399 Veterans Dr.	Address	1510 Thomas Rd	E													
				F													
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI	G													
Phone	231-946-8200	Phone	231-258-6369	H													
Fax	231-946-8208	Fax		I													
e-Mail Address	jl Lewandowski@ectinc.com			J													
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
	99 N Pleasant Valley Rd	9/14/16	15:40	Water	8	1	X										
Sampler(s): Please Print & Sign		Shipment Method:		Required Turnaround Time: (Check Box)								Results Due Date:					
Anne Power		UPS Ground		<input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour													
Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Notes:											
<i>[Signature]</i>	9/14/16	16:30				ALS Project: MERITENERGY - Misc											
Relinquished by:	Date:	Time:	Received by (Laboratory):	Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)									
<i>[Signature]</i>	9/15/16	1000	<i>[Signature]</i>				26	<input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data <input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV: SW846 Methods/CLP like <input type="checkbox"/> Other:									
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):														
MB	9/15/16	1935	<i>[Signature]</i>														
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C														Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.			

40 LBS 1 OF 1

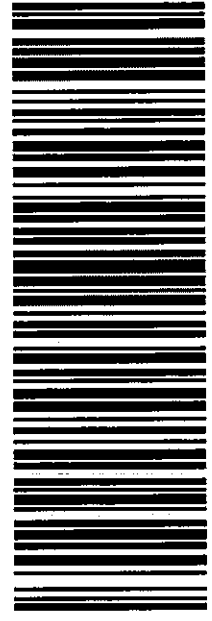
FROM:
LISA ZUBER
(517) 272-9200
ECT, INC.
3125 SOVEREIGN DRIVE
LANSING MI 48911-4240

MI 495 9-04



SHIP TO:
SAMPLE RECEIVING
(616) 399-6070
ALS ENVIRONMENTAL
3352 128TH AVENUE
HOLLAND MI 49424-9263

UPS NEXT DAY AIR 1
TRACKING #: 1Z V54 9W4 01 5117 2909



REF 1:130685, 2001

BILLING: 3RD PARTY

WS 19.0.24 Xerox WorkCentre 76 DA 07/2016

Fold here and place in label pouch



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 13599 Commerce Rd)**

Work Order: **1609808**

Dear Sean,

ALS Environmental received 1 sample on 15-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

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RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 13599 Commerce Rd)
Work Order: 1609808

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609808-01	13599 Commerce Rd	Water		9/14/2016 12:35	9/15/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy
Project: ECT (Merit - 13599 Commerce Rd)
Sample ID: 13599 Commerce Rd
Collection Date: 9/14/2016 12:35 PM

Work Order: 1609808
Lab ID: 1609808-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/16/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/19/2016 05:13 AM
Surr: 2,4,6-Tribromophenol	55.7		38-115	%REC	1	9/19/2016 05:13 AM
Surr: 2-Fluorobiphenyl	49.7		32-100	%REC	1	9/19/2016 05:13 AM
Surr: 2-Fluorophenol	30.4		22-59	%REC	1	9/19/2016 05:13 AM
Surr: 4-Terphenyl-d14	62.2		23-112	%REC	1	9/19/2016 05:13 AM
Surr: Nitrobenzene-d5	46.3		31-93	%REC	1	9/19/2016 05:13 AM
Surr: Phenol-d6	18.0		13-36	%REC	1	9/19/2016 05:13 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
 Work Order: 1609808
 Project: ECT (Merit - 13599 Commerce Rd)

QC BATCH REPORT

Batch ID: **91481** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:03 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038353		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
<i>Surr: 2,4,6-Tribromophenol</i>	30.02	0	50	0	60	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	31.92	0	50	0	63.8	32-100	0				
<i>Surr: 2-Fluorophenol</i>	18.02	0	50	0	36	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	35.62	0	50	0	71.2	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	32.13	0	50	0	64.3	31-93	0				
<i>Surr: Phenol-d6</i>	9.75	0	50	0	19.5	13-36	0				

LCS		Sample ID: SLCSW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:23 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038354		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	52.35	10	100	0	52.4	30-100	0				
<i>Surr: 2,4,6-Tribromophenol</i>	35.21	0	50	0	70.4	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	31.44	0	50	0	62.9	32-100	0				
<i>Surr: 2-Fluorophenol</i>	17.86	0	50	0	35.7	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	37.56	0	50	0	75.1	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	33.06	0	50	0	66.1	31-93	0				
<i>Surr: Phenol-d6</i>	10.51	0	50	0	21	13-36	0				

LCSD		Sample ID: SLCSDW1-91481-91481				Units: µg/L		Analysis Date: 9/18/2016 03:43 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038355		Prep Date: 9/16/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	59.44	10	100	0	59.4	30-100	52.35	12.7	30		
<i>Surr: 2,4,6-Tribromophenol</i>	32.69	0	50	0	65.4	38-115	35.21	7.42	30		
<i>Surr: 2-Fluorobiphenyl</i>	35.15	0	50	0	70.3	32-100	31.44	11.1	30		
<i>Surr: 2-Fluorophenol</i>	20.65	0	50	0	41.3	22-59	17.86	14.5	30		
<i>Surr: 4-Terphenyl-d14</i>	37.72	0	50	0	75.4	23-112	37.56	0.425	30		
<i>Surr: Nitrobenzene-d5</i>	31.01	0	50	0	62	31-93	33.06	6.4	30		
<i>Surr: Phenol-d6</i>	12.14	0	50	0	24.3	13-36	10.51	14.4	30		

The following samples were analyzed in this batch: 1609808-01A

Client: Merit Energy
Project: ECT (Merit - 13599 Commerce Rd)
WorkOrder: 1609808

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **15-Sep-16 10:00**

Work Order: **1609808**

Received by: **MBB**

Checklist completed by Meghan Broadbent 15-Sep-16
eSignature Date

Reviewed by: Gary Byar 15-Sep-16
eSignature Date

Matrices: water

Carrier name: UPS

Shipping container/cooler in good condition? Yes No Not Present

Custody seals intact on shipping container/cooler? Yes No Not Present

Custody seals intact on sample bottles? Yes No Not Present

Chain of custody present? Yes No

Chain of custody signed when relinquished and received? Yes No

Chain of custody agrees with sample labels? Yes No

Samples in proper container/bottle? Yes No

Sample containers intact? Yes No

Sufficient sample volume for indicated test? Yes No

All samples received within holding time? Yes No

Container/Temp Blank temperature in compliance? Yes No

Sample(s) received on ice? Yes No

Temperature(s)/Thermometer(s): 2.6/2.6 SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 9/15/2016 12:27:42 PM

Water - VOA vials have zero headspace? Yes No No VOA vials submitted

Water - pH acceptable upon receipt? Yes No N/A

pH adjusted? Yes No N/A

pH adjusted by:

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



ALS Environmental
781 Industrial Cir, Ste 3
Traverse City, Michigan 49686
(Tel) 231.421.3204
(Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

Customer Information		Project Information					Parameter/Method Request for Analysis										
Purchase Order		Project Name	Hartland 36 Gas Plant			A	Sulfolane (1) Amber Liter										
Work Order		Project Number				B											
Company Name	ECT, Inc.	Bill To Company	MEC			C											
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven			D											
Address	3399 Veterans Dr.	Address	1510 Thomas Rd			E											
						F											
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI			G											
Phone	231-946-8200	Phone	231-258-6369			H											
Fax	231-946-8208	Fax				I											
e-Mail Address	jlewandowski@ectinc.com					J											
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
	13599 Commerce Rd	9/14/16	12:35	Water	8	1	X										
Sampler(s): Please Print & Sign		Shipment Method:			Required Turnaround Time: (Check Box)					Results Due Date:							
Anne Power		UPS Ground			<input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour												
Relinquished by:		Date:	Time:	Received by:		Date:	Time:	Notes:									
[Signature]		9/14/16	16:30	[Signature]				ALS Project: MERITENERGY - Misc									
Relinquished by:		Date:	Time:	Received by (Laboratory):		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)							
[Signature]		9/15/16	1000	[Signature]					26	<input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data <input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV: SW846 Methods/CLP like <input type="checkbox"/> Other:							
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):													
[Signature]		9/15/16	1226	[Signature]													

Preservative Key: 1-HCl 2-HNO₃ 3-H₂SO₄ 4-NaOH 5-Na₂S₂O₃ 6-NaHSO₄ 7-Other 8-4°C

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 38 Wilderness Lake Ct)**

Work Order: **1609714**

Dear Sean,

ALS Environmental received 1 sample on 14-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 38 Wilderness Lake Ct)
Work Order: 1609714

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609714-01	38 Wilderness Lake Ct	Water		9/13/2016 09:38	9/14/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy
Project: ECT (Merit - 38 Wilderness Lake Ct)
Sample ID: 38 Wilderness Lake Ct
Collection Date: 9/13/2016 09:38 AM

Work Order: 1609714
Lab ID: 1609714-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/15/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/18/2016 07:50 PM
Surr: 2,4,6-Tribromophenol	42.2		38-115	%REC	1	9/18/2016 07:50 PM
Surr: 2-Fluorobiphenyl	42.8		32-100	%REC	1	9/18/2016 07:50 PM
Surr: 2-Fluorophenol	25.6		22-59	%REC	1	9/18/2016 07:50 PM
Surr: 4-Terphenyl-d14	69.0		23-112	%REC	1	9/18/2016 07:50 PM
Surr: Nitrobenzene-d5	42.9		31-93	%REC	1	9/18/2016 07:50 PM
Surr: Phenol-d6	14.5		13-36	%REC	1	9/18/2016 07:50 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
Work Order: 1609714
Project: ECT (Merit - 38 Wilderness Lake Ct)

QC BATCH REPORT

Batch ID: **91411** Instrument ID: **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:03 PM		
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038350		Prep Date: 9/15/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	ND	10								
<i>Surr: 2,4,6-Tribromophenol</i>	27.6	0	50	0	55.2	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	25.19	0	50	0	50.4	32-100	0			
<i>Surr: 2-Fluorophenol</i>	15.86	0	50	0	31.7	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	32.97	0	50	0	65.9	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	24.52	0	50	0	49	31-93	0			
<i>Surr: Phenol-d6</i>	9.85	0	50	0	19.7	13-36	0			

LCS		Sample ID: SLCSW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:23 PM		
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038351		Prep Date: 9/15/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	56.19	10	100	0	56.2	30-100	0			
<i>Surr: 2,4,6-Tribromophenol</i>	34.23	0	50	0	68.5	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	32.05	0	50	0	64.1	32-100	0			
<i>Surr: 2-Fluorophenol</i>	19.67	0	50	0	39.3	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	38.75	0	50	0	77.5	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	34.48	0	50	0	69	31-93	0			
<i>Surr: Phenol-d6</i>	11.72	0	50	0	23.4	13-36	0			

LCSD		Sample ID: SLCSDW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:43 PM		
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038352		Prep Date: 9/15/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	56.47	10	100	0	56.5	30-100	56.19	0.497	30	
<i>Surr: 2,4,6-Tribromophenol</i>	35.01	0	50	0	70	38-115	34.23	2.25	30	
<i>Surr: 2-Fluorobiphenyl</i>	34.71	0	50	0	69.4	32-100	32.05	7.97	30	
<i>Surr: 2-Fluorophenol</i>	18.78	0	50	0	37.6	22-59	19.67	4.63	30	
<i>Surr: 4-Terphenyl-d14</i>	44.18	0	50	0	88.4	23-112	38.75	13.1	30	
<i>Surr: Nitrobenzene-d5</i>	34.43	0	50	0	68.9	31-93	34.48	0.145	30	
<i>Surr: Phenol-d6</i>	10.96	0	50	0	21.9	13-36	11.72	6.7	30	

The following samples were analyzed in this batch: 1609714-01A

Client: Merit Energy
Project: ECT (Merit - 38 Wilderness Lake Ct)
WorkOrder: 1609714

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCS D	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **14-Sep-16 10:00**

Work Order: **1609714**

Received by: **MBB**

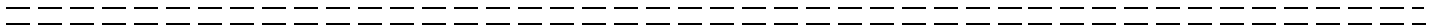
Checklist completed by Megan Broadbent 14-Sep-16
eSignature Date

Reviewed by: Gary Byar 14-Sep-16
eSignature Date

Matrices: water
 Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.8/3.8</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>9/14/2016 2:06:20 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<u></u>		

Login Notes:



Client Contacted: _____ Date Contacted: _____ Person Contacted: _____
 Contacted By: _____ Regarding: _____

Comments:

CorrectiveAction:



ALS Environmental
781 Industrial Cir, Ste 3
Traverse City, Michigan 49686
(Tel) 231.421.3204
(Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

Customer Information		Project Information					Parameter/Method Request for Analysis										
Purchase Order		Project Name	Hartland 36 Gas Plant			A	Sulfolane (1) Amber Liter										
Work Order		Project Number				B											
Company Name	ECT, Inc.	Bill To Company	MEC			C											
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven			D											
Address	3399 Veterans Dr.	Address	1510 Thomas Rd			E											
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI			F											
Phone	231-946-8200	Phone	231-258-6369			G											
Fax	231-946-8208	Fax				H											
e-Mail Address	jlewandowski@ectinc.com					I											
						J											
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
	38 Wilderness Lake Ct	9/13/16	9:38	Water	8	1	X										
Sampler(s): Please Print & Sign <i>Anne Power</i>		Shipment Method: UPS Ground		Required Turnaround Time: (Check Box) <input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				Other: _____		Results Due Date: _____							
Relinquished by: <i>[Signature]</i>	Date: 9/13/16	Time: 16:40	Received by:		Date:	Time:	Notes: ALS Project: MERITENERGY - Misc										
Relinquished by: <i>[Signature]</i>	Date: 9/14/16	Time: 1000	Received by (Laboratory): <i>[Signature]</i>		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)								
Logged by (Laboratory): <i>[Signature]</i>	Date: 9/14/16	Time: 1400	Checked by (Laboratory): <i>[Signature]</i>					38	<input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data		<input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV						
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other							8-4°C		Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.								



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 28 Wilderness Lake Ct)**

Work Order: **1609715**

Dear Sean,

ALS Environmental received 1 sample on 14-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 28 Wilderness Lake Ct)
Work Order: 1609715

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609715-01	28 Wilderness Lake Ct	Water		9/13/2016 10:31	9/14/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy
Project: ECT (Merit - 28 Wilderness Lake Ct)
Sample ID: 28 Wilderness Lake Ct
Collection Date: 9/13/2016 10:31 AM

Work Order: 1609715
Lab ID: 1609715-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/15/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/18/2016 08:09 PM
Surr: 2,4,6-Tribromophenol	56.1		38-115	%REC	1	9/18/2016 08:09 PM
Surr: 2-Fluorobiphenyl	52.0		32-100	%REC	1	9/18/2016 08:09 PM
Surr: 2-Fluorophenol	33.6		22-59	%REC	1	9/18/2016 08:09 PM
Surr: 4-Terphenyl-d14	65.8		23-112	%REC	1	9/18/2016 08:09 PM
Surr: Nitrobenzene-d5	50.2		31-93	%REC	1	9/18/2016 08:09 PM
Surr: Phenol-d6	18.2		13-36	%REC	1	9/18/2016 08:09 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
 Work Order: 1609715
 Project: ECT (Merit - 28 Wilderness Lake Ct)

QC BATCH REPORT

Batch ID: **91411** Instrument ID: **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:03 PM		
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038350		Prep Date: 9/15/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	ND	10								
Surr: 2,4,6-Tribromophenol	27.6	0	50	0	55.2	38-115	0			
Surr: 2-Fluorobiphenyl	25.19	0	50	0	50.4	32-100	0			
Surr: 2-Fluorophenol	15.86	0	50	0	31.7	22-59	0			
Surr: 4-Terphenyl-d14	32.97	0	50	0	65.9	23-112	0			
Surr: Nitrobenzene-d5	24.52	0	50	0	49	31-93	0			
Surr: Phenol-d6	9.85	0	50	0	19.7	13-36	0			

LCS		Sample ID: SLCSW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:23 PM		
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038351		Prep Date: 9/15/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	56.19	10	100	0	56.2	30-100	0			
Surr: 2,4,6-Tribromophenol	34.23	0	50	0	68.5	38-115	0			
Surr: 2-Fluorobiphenyl	32.05	0	50	0	64.1	32-100	0			
Surr: 2-Fluorophenol	19.67	0	50	0	39.3	22-59	0			
Surr: 4-Terphenyl-d14	38.75	0	50	0	77.5	23-112	0			
Surr: Nitrobenzene-d5	34.48	0	50	0	69	31-93	0			
Surr: Phenol-d6	11.72	0	50	0	23.4	13-36	0			

LCSD		Sample ID: SLCSDW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:43 PM		
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038352		Prep Date: 9/15/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	56.47	10	100	0	56.5	30-100	56.19	0.497	30	
Surr: 2,4,6-Tribromophenol	35.01	0	50	0	70	38-115	34.23	2.25	30	
Surr: 2-Fluorobiphenyl	34.71	0	50	0	69.4	32-100	32.05	7.97	30	
Surr: 2-Fluorophenol	18.78	0	50	0	37.6	22-59	19.67	4.63	30	
Surr: 4-Terphenyl-d14	44.18	0	50	0	88.4	23-112	38.75	13.1	30	
Surr: Nitrobenzene-d5	34.43	0	50	0	68.9	31-93	34.48	0.145	30	
Surr: Phenol-d6	10.96	0	50	0	21.9	13-36	11.72	6.7	30	

The following samples were analyzed in this batch: 1609715-01A

Client: Merit Energy
Project: ECT (Merit - 28 Wilderness Lake Ct)
WorkOrder: 1609715

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
$\mu\text{g/L}$	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **14-Sep-16 10:00**

Work Order: **1609715**

Received by: **MBB**

Checklist completed by Megan Broadbent 14-Sep-16
eSignature Date

Reviewed by: Gary Byar 14-Sep-16
eSignature Date

Matrices: water

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.8/3.8</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>9/14/2016 2:10:27 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<u></u>		

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 12915 Commerce Rd)**

Work Order: **1609720**

Dear Sean,

ALS Environmental received 1 sample on 14-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 12915 Commerce Rd)
Work Order: 1609720

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609720-01	12915 Commerce Rd	Water		9/13/2016 12:41	9/14/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy
Project: ECT (Merit - 12915 Commerce Rd)
Sample ID: 12915 Commerce Rd
Collection Date: 9/13/2016 12:41 PM

Work Order: 1609720
Lab ID: 1609720-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/15/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/18/2016 08:49 PM
Surr: 2,4,6-Tribromophenol	60.3		38-115	%REC	1	9/18/2016 08:49 PM
Surr: 2-Fluorobiphenyl	68.8		32-100	%REC	1	9/18/2016 08:49 PM
Surr: 2-Fluorophenol	41.5		22-59	%REC	1	9/18/2016 08:49 PM
Surr: 4-Terphenyl-d14	72.3		23-112	%REC	1	9/18/2016 08:49 PM
Surr: Nitrobenzene-d5	65.4		31-93	%REC	1	9/18/2016 08:49 PM
Surr: Phenol-d6	22.9		13-36	%REC	1	9/18/2016 08:49 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
Work Order: 1609720
Project: ECT (Merit - 12915 Commerce Rd)

QC BATCH REPORT

Batch ID: **91411** Instrument ID: **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:03 PM		
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038350		Prep Date: 9/15/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	ND	10								
<i>Surr: 2,4,6-Tribromophenol</i>	27.6	0	50	0	55.2	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	25.19	0	50	0	50.4	32-100	0			
<i>Surr: 2-Fluorophenol</i>	15.86	0	50	0	31.7	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	32.97	0	50	0	65.9	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	24.52	0	50	0	49	31-93	0			
<i>Surr: Phenol-d6</i>	9.85	0	50	0	19.7	13-36	0			

LCS		Sample ID: SLCSW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:23 PM		
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038351		Prep Date: 9/15/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	56.19	10	100	0	56.2	30-100	0			
<i>Surr: 2,4,6-Tribromophenol</i>	34.23	0	50	0	68.5	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	32.05	0	50	0	64.1	32-100	0			
<i>Surr: 2-Fluorophenol</i>	19.67	0	50	0	39.3	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	38.75	0	50	0	77.5	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	34.48	0	50	0	69	31-93	0			
<i>Surr: Phenol-d6</i>	11.72	0	50	0	23.4	13-36	0			

LCSD		Sample ID: SLCSDW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:43 PM		
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038352		Prep Date: 9/15/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	56.47	10	100	0	56.5	30-100	56.19	0.497	30	
<i>Surr: 2,4,6-Tribromophenol</i>	35.01	0	50	0	70	38-115	34.23	2.25	30	
<i>Surr: 2-Fluorobiphenyl</i>	34.71	0	50	0	69.4	32-100	32.05	7.97	30	
<i>Surr: 2-Fluorophenol</i>	18.78	0	50	0	37.6	22-59	19.67	4.63	30	
<i>Surr: 4-Terphenyl-d14</i>	44.18	0	50	0	88.4	23-112	38.75	13.1	30	
<i>Surr: Nitrobenzene-d5</i>	34.43	0	50	0	68.9	31-93	34.48	0.145	30	
<i>Surr: Phenol-d6</i>	10.96	0	50	0	21.9	13-36	11.72	6.7	30	

The following samples were analyzed in this batch: 1609720-01A

Client: Merit Energy
Project: ECT (Merit - 12915 Commerce Rd)
WorkOrder: 1609720

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCS D	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **14-Sep-16 10:00**

Work Order: **1609720**

Received by: **MBB**

Checklist completed by Megan Broadbent 14-Sep-16
eSignature Date

Reviewed by: Gary Byar 14-Sep-16
eSignature Date

Matrices: water

Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.0/3.0</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>9/14/2016 2:18:17 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<u></u>		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



ALS Environmental
781 Industrial Cir, Ste 3
Traverse City, Michigan 49686
(Tel) 231.421.3204
(Call) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

ALS Project Manager: Gary Byar		ALS Work Order #: 1609720															
Customer Information		Project Information		Parameter/Method Request for Analysis													
Purchase Order		Project Name	Hartland 36 Gas Plant	A	Sulfolane										(1) Amber Liter		
Work Order		Project Number		B													
Company Name	ECT, Inc.	Bill To Company	MEC	C													
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven	D													
Address	3399 Veterans Dr.	Address	1510 Thomas Rd	E													
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI	F													
Phone	231-946-8200	Phone	231-258-6369	G													
Fax	231-946-8208	Fax		H													
e-Mail Address	jlewandowski@ectinc.com			I													
				J													
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
	12915 Commerce Rd	9/13/16	12:41	Water	8	1	X										
Sampler(s): Please Print & Sign		Shipment Method:		Required Turnaround Time: (Check Box)								Results Due Date:					
Anne Power		UPS Ground		<input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour													
Relinquished by:		Date:	Time:	Received by:		Date:	Time:	Notes:									
<i>[Signature]</i>		9/13/16	16:40	<i>[Signature]</i>				ALS Project: MERITENERGY - Misc									
Relinquished by:		Date:	Time:	Received by (Laboratory):		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)							
<i>[Signature]</i>		9/14/16	1000	<i>[Signature]</i>					3.0	<input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data <input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV: SW846 Methods/CLP like <input type="checkbox"/> Other:							
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):													
MPB		9/14/16	1416	<i>[Signature]</i>													
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C																	
Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.																	



22-Sep-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Merit - 12883 Commerce Rd)**

Work Order: **1609721**

Dear Sean,

ALS Environmental received 1 sample on 14-Sep-2016 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 7.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Merit - 12883 Commerce Rd)
Work Order: 1609721

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1609721-01	12883 Commerce Rd	Water		9/13/2016 13:32	9/14/2016 10:00	<input type="checkbox"/>

ALS Group USA, Corp

Date: 22-Sep-16

Client: Merit Energy**Project:** ECT (Merit - 12883 Commerce Rd)**Work Order:** 1609721**Sample ID:** 12883 Commerce Rd**Lab ID:** 1609721-01**Collection Date:** 9/13/2016 01:32 PM**Matrix:** WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 9/15/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/18/2016 09:09 PM
Surr: 2,4,6-Tribromophenol	69.9		38-115	%REC	1	9/18/2016 09:09 PM
Surr: 2-Fluorobiphenyl	56.5		32-100	%REC	1	9/18/2016 09:09 PM
Surr: 2-Fluorophenol	38.0		22-59	%REC	1	9/18/2016 09:09 PM
Surr: 4-Terphenyl-d14	70.0		23-112	%REC	1	9/18/2016 09:09 PM
Surr: Nitrobenzene-d5	55.0		31-93	%REC	1	9/18/2016 09:09 PM
Surr: Phenol-d6	21.6		13-36	%REC	1	9/18/2016 09:09 PM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy
 Work Order: 1609721
 Project: ECT (Merit - 12883 Commerce Rd)

QC BATCH REPORT

Batch ID: **91411** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:03 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038350		Prep Date: 9/15/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
Surr: 2,4,6-Tribromophenol	27.6	0	50	0	55.2	38-115	0				
Surr: 2-Fluorobiphenyl	25.19	0	50	0	50.4	32-100	0				
Surr: 2-Fluorophenol	15.86	0	50	0	31.7	22-59	0				
Surr: 4-Terphenyl-d14	32.97	0	50	0	65.9	23-112	0				
Surr: Nitrobenzene-d5	24.52	0	50	0	49	31-93	0				
Surr: Phenol-d6	9.85	0	50	0	19.7	13-36	0				

LCS		Sample ID: SLCSW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:23 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038351		Prep Date: 9/15/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	56.19	10	100	0	56.2	30-100	0				
Surr: 2,4,6-Tribromophenol	34.23	0	50	0	68.5	38-115	0				
Surr: 2-Fluorobiphenyl	32.05	0	50	0	64.1	32-100	0				
Surr: 2-Fluorophenol	19.67	0	50	0	39.3	22-59	0				
Surr: 4-Terphenyl-d14	38.75	0	50	0	77.5	23-112	0				
Surr: Nitrobenzene-d5	34.48	0	50	0	69	31-93	0				
Surr: Phenol-d6	11.72	0	50	0	23.4	13-36	0				

LCSD		Sample ID: SLCSDW1-91411-91411				Units: µg/L		Analysis Date: 9/18/2016 02:43 PM			
Client ID:		Run ID: SVMS8_160918A		SeqNo: 4038352		Prep Date: 9/15/2016		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	56.47	10	100	0	56.5	30-100	56.19	0.497	30		
Surr: 2,4,6-Tribromophenol	35.01	0	50	0	70	38-115	34.23	2.25	30		
Surr: 2-Fluorobiphenyl	34.71	0	50	0	69.4	32-100	32.05	7.97	30		
Surr: 2-Fluorophenol	18.78	0	50	0	37.6	22-59	19.67	4.63	30		
Surr: 4-Terphenyl-d14	44.18	0	50	0	88.4	23-112	38.75	13.1	30		
Surr: Nitrobenzene-d5	34.43	0	50	0	68.9	31-93	34.48	0.145	30		
Surr: Phenol-d6	10.96	0	50	0	21.9	13-36	11.72	6.7	30		

The following samples were analyzed in this batch: 1609721-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Project: ECT (Merit - 12883 Commerce Rd)
WorkOrder: 1609721

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **14-Sep-16 10:00**

Work Order: **1609721**

Received by: **MBB**

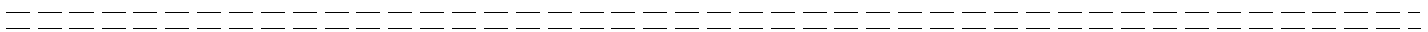
Checklist completed by Meghan Broadbent 14-Sep-16
eSignature Date

Reviewed by: Gary Byar 14-Sep-16
eSignature Date

Matrices: water
Carrier name: UPS

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.0/3.0</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>9/14/2016 2:20:38 PM</u>		
Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<u></u>		

Login Notes:



Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:



ALS Environmental
781 Industrial Cir, Ste 3
Traverse City, Michigan 49686
(Tel) 231.421.3204
(Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

RETURN SAMPLES TO:
ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

Customer Information		Project Information				Parameter/Method Request for Analysis											
Purchase Order		Project Name	Hartland 36 Gas Plant			A	Sulfolane (1) Amber Liter										
Work Order		Project Number				B											
Company Name	ECT, Inc.	Bill To Company	MEC			C											
Sand Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven			D											
Address	3399 Veterans Dr.	Address	1510 Thomas Rd			E											
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI			F											
Phone	231-946-8200	Phone	231-258-6369			G											
Fax	231-946-8208	Fax				H											
e-Mail Address	jl Lewandowski@ectinc.com					I											
						J											
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
	12803 Commerce Rd	9/13/16	13:32	Water	8	1	X										
Sampler(s): Please Print & Sign <i>Anne Power</i>		Shipment Method: UPS Ground		Required Turnaround Time: (Check Box) <input type="checkbox"/> 10 Wk Days <input checked="" type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				Other				Results Due Date:					
Relinquished by: <i>[Signature]</i>		Date: 9/13/16	Time: 16:40	Received by: <i>[Signature]</i>		Date: 9/14/16	Time: 1000	Notes: ALS Project: MERITENERGY - Misc									
Relinquished by:		Date:	Time:	Received by (Laboratory):		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)							
Logged by (Laboratory): <i>MBS</i>		Date: 9/14/16	Time: 1418	Checked by (Laboratory): <i>[Signature]</i>					3.0	<input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data							
										<input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV							
										<input type="checkbox"/> Level IV: SW846 Methods/CLP like							
										<input type="checkbox"/> Other:							
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C							Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.										



10-Aug-2016

Sean Craven
Merit Energy
1510 Thomas Rd
PO Box 910
Kalkaska, MI 49646

Re: **ECT (Hartland - Sand & Gravel SW Pond)**

Work Order: **1608292**

Dear Sean,

ALS Environmental received 1 sample on 05-Aug-2016 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 10.

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

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Merit Energy
Project: ECT (Hartland - Sand & Gravel SW Pond)
Work Order: 1608292

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
1608292-01	Hartland Sand + Gravel SW Pond	Surface Water		8/3/2016 15:57	8/5/2016 09:30	<input type="checkbox"/>

ALS Group USA, Corp

Date: 10-Aug-16

Client: Merit Energy
Project: ECT (Hartland - Sand & Gravel SW Pond)
Sample ID: Hartland Sand + Gravel SW Pond
Collection Date: 8/3/2016 03:57 PM

Work Order: 1608292
Lab ID: 1608292-01
Matrix: SURFACE WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 8/5/16	Analyst: RM
Sulfolane	ND		10	µg/L	1	8/9/2016 03:09 AM
Surr: 2,4,6-Tribromophenol	72.2		38-115	%REC	1	8/9/2016 03:09 AM
Surr: 2-Fluorobiphenyl	74.7		32-100	%REC	1	8/9/2016 03:09 AM
Surr: 2-Fluorophenol	43.6		22-59	%REC	1	8/9/2016 03:09 AM
Surr: 4-Terphenyl-d14	90.1		23-112	%REC	1	8/9/2016 03:09 AM
Surr: Nitrobenzene-d5	74.0		31-93	%REC	1	8/9/2016 03:09 AM
Surr: Phenol-d6	23.1		13-36	%REC	1	8/9/2016 03:09 AM

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Merit Energy

QC BATCH REPORT

Work Order: 1608292

Project: ECT (Hartland - Sand & Gravel SW Pond)

Batch ID: **89682**

Instrument ID **SVMS8**

Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-89682-89682				Units: µg/L		Analysis Date: 8/8/2016 08:51 PM			
Client ID:		Run ID: SVMS8_160808A				SeqNo: 3968850		Prep Date: 8/5/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	ND	10									
<i>Surr: 2,4,6-Tribromophenol</i>	32.35	0	50	0	64.7	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	36.53	0	50	0	73.1	32-100	0				
<i>Surr: 2-Fluorophenol</i>	19.03	0	50	0	38.1	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	45.48	0	50	0	91	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	36.58	0	50	0	73.2	31-93	0				
<i>Surr: Phenol-d6</i>	9.38	0	50	0	18.8	13-36	0				

LCS		Sample ID: SLCSW1-89682-89682				Units: µg/L		Analysis Date: 8/8/2016 09:12 PM			
Client ID:		Run ID: SVMS8_160808A				SeqNo: 3968851		Prep Date: 8/5/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	11.76	10	20	0	58.8	30-100	0				
<i>Surr: 2,4,6-Tribromophenol</i>	32.34	0	50	0	64.7	38-115	0				
<i>Surr: 2-Fluorobiphenyl</i>	37.17	0	50	0	74.3	32-100	0				
<i>Surr: 2-Fluorophenol</i>	19.78	0	50	0	39.6	22-59	0				
<i>Surr: 4-Terphenyl-d14</i>	49.38	0	50	0	98.8	23-112	0				
<i>Surr: Nitrobenzene-d5</i>	35.31	0	50	0	70.6	31-93	0				
<i>Surr: Phenol-d6</i>	11.13	0	50	0	22.3	13-36	0				

LCSD		Sample ID: SLCSDW1-89682-89682				Units: µg/L		Analysis Date: 8/8/2016 09:33 PM			
Client ID:		Run ID: SVMS8_160808A				SeqNo: 3968852		Prep Date: 8/5/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	12.03	10	20	0	60.2	30-100	11.76	2.27	50		
<i>Surr: 2,4,6-Tribromophenol</i>	32.73	0	50	0	65.5	38-115	32.34	1.2	40		
<i>Surr: 2-Fluorobiphenyl</i>	38.09	0	50	0	76.2	32-100	37.17	2.44	40		
<i>Surr: 2-Fluorophenol</i>	18.36	0	50	0	36.7	22-59	19.78	7.45	40		
<i>Surr: 4-Terphenyl-d14</i>	48.18	0	50	0	96.4	23-112	49.38	2.46	40		
<i>Surr: Nitrobenzene-d5</i>	36.74	0	50	0	73.5	31-93	35.31	3.97	40		
<i>Surr: Phenol-d6</i>	10.18	0	50	0	20.4	13-36	11.13	8.92	40		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
 Work Order: 1608292
 Project: ECT (Hartland - Sand & Gravel SW Pond)

QC BATCH REPORT

Batch ID: **89682** Instrument ID **SVMS8** Method: **SW846 8270D**

MS		Sample ID: 1608284-01B MS				Units: µg/L		Analysis Date: 8/8/2016 11:24 PM		
Client ID:		Run ID: SVMS8_160808A		SeqNo: 3968855		Prep Date: 8/5/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	12.15	10	20	0	60.8	30-100	0			
<i>Surr: 2,4,6-Tribromophenol</i>	34.22	0	50	0	68.4	38-115	0			
<i>Surr: 2-Fluorobiphenyl</i>	38.42	0	50	0	76.8	32-100	0			
<i>Surr: 2-Fluorophenol</i>	17.81	0	50	0	35.6	22-59	0			
<i>Surr: 4-Terphenyl-d14</i>	42.35	0	50	0	84.7	23-112	0			
<i>Surr: Nitrobenzene-d5</i>	37.97	0	50	0	75.9	31-93	0			
<i>Surr: Phenol-d6</i>	9.23	0	50	0	18.5	13-36	0			

DUP		Sample ID: 1608285-01B DUP				Units: µg/L		Analysis Date: 8/9/2016 12:05 AM		
Client ID:		Run ID: SVMS8_160808A		SeqNo: 3968857		Prep Date: 8/5/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	ND	10	0	0	0		0	0	50	
<i>Surr: 2,4,6-Tribromophenol</i>	36.71	0	50	0	73.4	38-115	33.33	9.65	40	
<i>Surr: 2-Fluorobiphenyl</i>	42.42	0	50	0	84.8	32-100	36.64	14.6	40	
<i>Surr: 2-Fluorophenol</i>	20.27	0	50	0	40.5	22-59	20.78	2.48	40	
<i>Surr: 4-Terphenyl-d14</i>	46.4	0	50	0	92.8	23-112	45.62	1.7	40	
<i>Surr: Nitrobenzene-d5</i>	39.3	0	50	0	78.6	31-93	37.49	4.71	40	
<i>Surr: Phenol-d6</i>	10.33	0	50	0	20.7	13-36	10.9	5.37	40	

The following samples were analyzed in this batch: | 1608292-01A |

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Merit Energy
Project: ECT (Hartland - Sand & Gravel SW Pond)
WorkOrder: 1608292

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **05-Aug-16 09:30**

Work Order: **1608292**

Received by: **MEB**

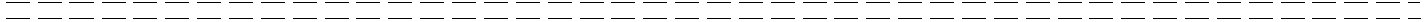
Checklist completed by Meghan Broadbent 05-Aug-16
eSignature Date

Reviewed by: Gary Byar 05-Aug-16
eSignature Date

Matrices: water
Carrier name: FedEx

- Shipping container/cooler in good condition? Yes No Not Present
- Custody seals intact on shipping container/cooler? Yes No Not Present
- Custody seals intact on sample bottles? Yes No Not Present
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- Sufficient sample volume for indicated test? Yes No
- All samples received within holding time? Yes No
- Container/Temp Blank temperature in compliance? Yes No
- Sample(s) received on ice? Yes No
- Temperature(s)/Thermometer(s): 3.0/3.0 SR2
- Cooler(s)/Kit(s):
- Date/Time sample(s) sent to storage: 8/5/2016 10:38:20 AM
- Water - VOA vials have zero headspace? Yes No No VOA vials submitted
- Water - pH acceptable upon receipt? Yes No N/A
- pH adjusted? Yes No N/A
- pH adjusted by:

Login Notes:



Client Contacted: Date Contacted: Person Contacted:
Contacted By: Regarding:

Comments:

CorrectiveAction:



RETURN SAMPLES TO:
 ALS Environmental
 781 Industrial Cir, Ste 3
 Traverse City, Michigan 49686
 (Tel) 231.421.3204
 (Cell) 231.944.3459

Chain of Custody Form

Page 1 of 1

ALS Environmental
 3352 128th Avenue
 Holland, Michigan 49424
 (Tel) 616.399.6070
 (Fax) 616.399.6185

Customer Information		Project Information					Parameter/Method Request for Analysis										
Purchase Order		Project Name	Hartland 36 Gas Plant			A	Full VOCs 8200		(2) 48 ml vials w HCL								
Work Order		Project Number				B	Sulfolane & DIPA 8270		(2) Amber Liters								
Company Name	ECT, Inc.	Bill To Company	MEC			C	Sulfolane										
Send Report To	Jeremy Lewandowski	Invoice Attn.	Sean Craven			D											
Address	3399 Veterans Dr.	Address	1510 Thomas Rd			E			RUSH								
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI			F											
Phone	231-946-8200	Phone	231-258-6369			G											
Fax	231-946-8208	Fax				H											
e-Mail Address	jlewandowski@ectinc.com					I											
						J											
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
	Hartland Sand + Gravel SW Pond	8/3/16	15:57	SW	8	2			X								
Sampler(s): Please Print & Sign Jeremy Lewandowski		Shipment Method:		Required Turnaround Time: (Check Box)				Results Due Date:									
				<input type="checkbox"/> 10 Wk Days <input type="checkbox"/> 5-7 Wk Days <input checked="" type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour													
Relinquished by ECT SAMPLE STORAGE	Date: 8-3-16 8-4-16	Time: 2130 1130	Received by: ECT SAMPLE STORAGE	Date: 8-3-16 8-4-16	Time: 2130 1130	Notes: Rec'd by Lab: MJB ALS Project: MERITENERGY - Misc											
Relinquished by Jeremy Craven	Date: 8-4-16 1630	Time: 1215	Received by (Laboratory):	Date: 8/4/16	Time: 12:15	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)									
Logged by (Laboratory): MJB	Date: 8/5/16	Time: 1030	Checked by (Laboratory): GRB	<input checked="" type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Raw Data <input type="checkbox"/> TRRP LRC <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV: SW846 Methods/CLP like <input type="checkbox"/> Other:													
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C												Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.					

8/4/2016

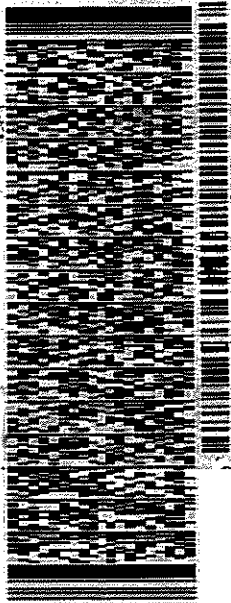
FedEx Ship Manager - Print Your Label(s)

ORIGIN D:TVCA (231) 421-3294
GARY BYAR
ALS ENVIRONMENTAL
781 INDUSTRIAL CIRCLE
UNIT #3
TRAVERSE CITY, MI 49606
UNITED STATES US

SHIP DATE: 04AUG16
ACT WT: 43.00 LB
CAD: 22684000013790
DIMS: 14X25X15 IN
BILL SENDER

TO **SAMPLE RECEIVING**
ALS LABORATORY GROUP
3352 128TH AVENUE

HOLLAND MI 49424
(616) 399-6070
MI
DEPT: A.S.-TC

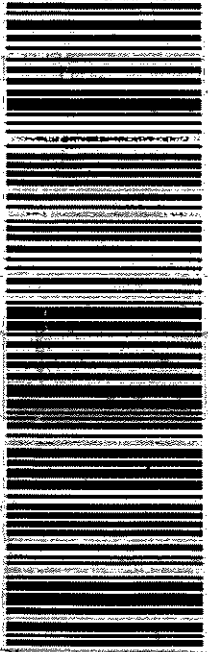


MP# 7769 2326 3076
MSU# 7769 2326 3606

FRI: 05 AUG 3:00P
STANDARD OVERNIGHT

68 HLMA

49424
GRR
MI-US



RT 828
ST 13
5 16:00
3076
08:05
B



ALS Environmental
3352 128th Avenue
Holland, Michigan 49424
Tel. +1 616 899 6070
Fax. +1 616 399 6185

CUSTODY SEAL

Date: 8-4-16 Time: 1630	
Name: I GHAR	
Company: ALS-TC	
Sent Broken By:	Date:



ALS Environmental

8352 128th Avenue
Holland, Michigan 49424
Tel. +1 616 399 6070
Fax. +1 616 399 6185

CUSTODY SEAL

Date: 8-4-16 Time: 1630
Name: J. B. [unclear]
Company: ALS-TC

Seal Broken By:

Date:

50.80 00.91 5 828
ST 13 RT
9263 16:00 E

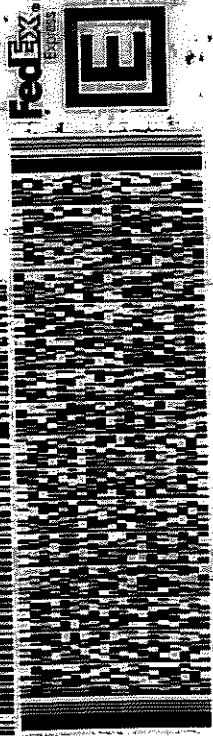
SHIP DATE: 04AUG16
ACT WT: 52.20 LB.
C.O.D. 2208440 NET 3780
DIMS: 14.25x17 N
BILL SENDER

ORIGIN ID: VCA (231) 421-3284
GARY B. FAR
ALS ENVIRONMENTAL
78 INDUSTRIAL CIRCLE
UNIT #3
TRAVERSE CITY, MI 49686
UNITED STATES US

TO **SAMPLE RECEIVING**
ALS LABORATORY GROUP
3352 128TH AVENUE

HOLLAND MI 49424
REF: ALS-TC
DEPT.

(019) 399-6070
MI
PO



FRI - 05 AUG 3:00P
STANDARD OVERNIGHT

6816
MFR# 7769 2826 3926
Mstr# 7769 2826 3606

49424
GRR
MI-US

68 HLMA

