

QUARTERLY PROJECT UPDATE REPORT 1ST QUARTER 2018

**HARLTAND 36 GAS PLANT
SW/NE/NW SECTION 36, T03N-R06E, HARTLAND TWP
LIVINGSTON COUNY, MICHIGAN**

**MERIT ENERGY COMPANY
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April 24, 2018

ECT No. 130685-2000

DOCUMENT REVIEW

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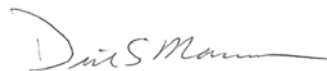
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Date

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1.0 INTRODUCTION

This Quarterly Project Update Report was compiled by Environmental Consulting & Technology, Inc. (ECT), on behalf of Merit Energy Company (MEC), and details remediation system operations and performance monitoring through the 1st Quarter 2018 for the Hartland 36 Gas Plant location, herein referenced as the “Site”.

2.0 PROJECT LOCATION

The Site is a former natural gas processing plant which operated from 1999 to 2015. The property is located in the SE/NE/NW of Section 36, T03N-R06E, on the south side of Lone Tree Road between North Pleasant Valley Road and South Tipsico Lake Road in Hartland Township, Livingston County, Michigan. A Site Location Map and Site and Surrounding Properties Map are included as Figure 1 and Figure 2, respectively, in Appendix A.

3.0 PROJECT SUBMITTALS

The following presents a chronological summary of previous documents submitted to the Michigan Department of Environmental Quality-Oil, Gas, and Minerals Division (MDEQ-OGMD) by ECT on behalf of MEC for the Site:

- Soil Closure Report dated February 15, 2016
- Groundwater Characterization Work Plan dated February 23, 2016
- Groundwater Characterization Work Plan 2 dated July 8, 2016
- Project Update Report dated September 26, 2016
- Groundwater Characterization Work Plan 3 dated October 14, 2016
- Additional Groundwater Characterization Work Plan dated December 29, 2016
- Groundwater Characterization Work Plan 5 dated March 2, 2017
- Biosparging Pilot Study Work Plan dated April 5, 2017
- Groundwater Characterization Report dated July 3, 2017
- Technical Memorandum – Biosparging Pilot Study dated July 28, 2017
- Remediation System Design Plan dated August 11, 2018

Due to unique Site features, most notably the contour of the lower clay confining layer and its effect on the migration of sulfolane within groundwater, activities completed at the Site were often modified in the field compared to the scope of work presented in the referenced work plans.

4.0 PROJECT OVERVIEW

MEC operated the plant from 2006 through August 2015, when facility decommissioning commenced. In general, operations at the Site included crude oil and brine separation and storage, natural gas compression, dehydration, sweetening (hydrogen sulfide [H₂S] removal), carbon dioxide (CO₂) removal (amine process), and refrigeration for natural gas liquid (NGL) extraction and storage.

Contaminated soil was discovered in September 2015 during facility decommissioning activities at the former sweetening plant/refrigeration building; sulfolane impacts are from the gas treatment chemical Sulfinol®). Remediation activities (excavation and off-Site disposal) completed from September 2015 through December 2016 resulted in disposal of 13,481.4 tons of soil at the Venice Park Landfill in Lennon, Michigan. Verification of soil remediation (VSR) samples collected from the excavations confirmed remediation of impacted soils. Refer to the Soil Closure Report dated February 15, 2016 for a detailed summary of soil remediation and sampling activities.

Groundwater investigation activities commenced on October 29, 2015 and were completed on March 7, 2017. Seven soil borings, 13 temporary monitor wells, including two vertical aquifer profile (VAP) locations, and 35 permanent monitor wells, including 20 shallow screened monitor wells and 15 deep screened monitor wells, have been installed at the Site. The lateral and vertical extents of groundwater impacted with sulfolane have been delineated to non-detectable concentrations (laboratory reporting limit of 10 micrograms per liter, µg/L). The maximum sulfolane concentration reported from the most recent groundwater sampling event (June 19-21, 2017) at the Site was 11,000 µg/L at MW-20D. Refer to the Groundwater Characterization Report dated July 3, 2017 for a detailed summary of groundwater characterization and assessment activities.

A biosparging pilot study was conducted at the Site from May 1, 2017 through June 16, 2017. The pilot study included three tests to evaluate the effectiveness of biosparging to enhance bioremediation of sulfolane dissolved in groundwater at the Site. Data obtained from the pilot study indicates biosparging is an effective remedial alternative for the Site. Concentrations of sulfolane were reduced by 100% within five feet of the biosparge point and 97% to 99% at a distance of 20 feet from the biosparge point. Dissolved oxygen (DO) influence of 4.2-10 milligrams per liter (mg/L) was observed at monitoring locations situated 40 feet from the biosparge point. Refer to the Technical Memorandum – Biosparging Pilot Study dated July 28, 2017 for a detailed summary of pilot study activities and results.

5.0 REMEDIATION SYSTEM INSTALLATION

Remediation system installation activities commenced at the Site on August 21, 2017 and concluded with startup of the remediation system on November 16, 2017. Personnel from ECT oversaw the advancement/installation of 41 biosparge points (BSPs) from August 21-24, 2018. The BSPs were installed by personnel from Shepler Well Drilling (Shepler) of Manton, Michigan. In order to verify the depth of the lower clay confining layer, continuous soil sampling was completed at the following BSP locations from 20-30 feet below ground surface (bgs) to the boring completion depth utilizing a GeoProbe® 3230DT:

- BSP-1 through BSP-16
- BSP-25 through BSP-27
- BSP-31 through BSP-33
- BSP-35 through BSP-42

Due to the presence of silty/clayey soils, BSP-7 was not installed and BSP-1 and BSP-9 were relocated.

The BSPs were installed in boreholes advanced utilizing 4¼-inch ID hollow stem augers (HSAs). BSPs are constructed of one-inch diameter Schedule 80 PVC casing and two-foot long, 10-slot stainless steel screens set above the lower clay confining layer. BSP boreholes were completed with K&E WP #1 silica sand filter pack to approximately two feet above the top of the screened interval, neat cement grout to approximately 10 feet bgs, and unsaturated auger cuttings to grade. BSP locations are depicted on the attached Figure 3, Site Plan in Appendix A. A typical BSP Construction Log is included on Figure 4 in Appendix A.

Remediation system construction activities were completed at the Site in October 2017 and the final electrical inspection was approved in November 2017. Remediation system equipment and components were consistent with details and specifications provided in the Remediation System Design Plan.

Personnel from ECT oversaw the installation of monitor wells MW-15DD and MW-19DD by Shepler at the Site on August 28, 2017. The monitor wells were completed as detailed in the Remediation System Design Plan to monitor groundwater conditions below the lower clay confining layer. MW-15DD has a screened interval of approximately 50-55 feet bgs and MW-19DD has a screened interval of approximately 57-62 feet bgs. Monitor well construction logs are included in Appendix C.

6.0 REMEDIATION SYSTEM OPERATION AND MAINTENANCE

Remediation system startup was implemented by personnel from ECT on November 16, 2017. Personnel from ECT completed weekly operation and maintenance (O&M) Site visits through the 1st quarter 2018. Weekly Site visits are completed to assure optimal operating conditions and to monitor remediation system equipment and perform regularly scheduled maintenance. Site visits generally include the following:

- Equipment readings – temperature, flow rate, pressure, operation hours, etc.
- Flow rate adjustments
- BSP array changes
- Scheduled equipment maintenance
- Alarm condition assessment (as necessary)

The above information is logged on field forms to assess operating conditions as well as for completing system adjustments with respect to performance monitoring data. The primary performance monitoring parameters utilized to assess remediation system performance are as follows:

- BSP pressure and flow rate
- Sulfolane and sulfate concentrations
- DO levels

Remediation system O&M data obtained from site visits is included on Table 1 in Appendix B. Groundwater sampling data is summarized on Table 2 in Appendix B and is further discussed in Section 7.0.

In general, remediation system operations commenced with alternating a northern BSP array and a southern BSP array on a weekly basis with target flow rates of 15 standard cubic feet per minute (scfm). Upon reviewing monthly performance monitoring data, operating BSP arrays were adjusted to target locations/areas that proved more difficult to remediate (i.e. higher sulfolane concentrations, lower DO levels, higher BSP pressures, lower BSP flow rates). The first adjustment to BSP operating arrays was made following the receipt of data from the December 18-19, 2017 performance monitoring event. The adjustments included a revised BSP operating array. The next adjustment to BSP operating arrays was made following the receipt of data from the January 25, 2018 performance monitoring event. The adjustments included a revised BSP operating array with a target BSP flow rate of 20 scfm. Target flow rates are impacted by soil types present at BSP screen intervals and the valves for BSPs situated at locations/areas that prove more difficult to remediation are adjusted to maximize injected air flow rates in consideration of overall system air flow. Based on performance monitoring data from MW-14D, MW-20D, and MW-18, it is apparent that BSPs with limited flow rates (near/less than 10 scfm) in the vicinity of the aforementioned monitor wells correspond to slower remediation rates. Refer to Table 1 in Appendix B for BSP operating array configurations, pressures, and flowrates.

Remediation system operational performance (i.e. percent runtime) was excellent through the 1st quarter 2018. The system was down upon ECT personnel arriving at the Site on January 11, 2018 and January 23, 2018. The alarm condition noting the reason for system shutdown was “Air Sparge Fault”. Trouble shooting with an electrical contractor has not identified a cause of the alarm condition. A review of weather history following the shutdown suggests high winds potentially impacting the power source to the remediation system as the most likely cause of system shutdown. Nonetheless, based on hour meter readings and not accounting for system downtime associated with performance monitoring activities (i.e. system shutdown for performance monitoring activities), the remediation system operated at 99.3% efficiency (i.e. runtime).

7.0 PERFORMANCE MONITORING SUMMARY

The following sections detail performance monitoring activities completed at the Site through the 1st quarter 2018.

7.1 PERFORMANCE MONITORING EVENTS

Personnel from ECT completed the following performance monitoring events at the Site through the 1st quarter 2018:

- September 11-13, 2017 – Background (pre-remediation system startup) sampling event of all 37 monitor wells
- September 21, 2018 – MW-15DD sampled to validate results from September 11-13, 2017
- December 19-20, 2017 – Quarterly sampling event of all 37 monitor wells
- January 25, 2018 – Monthly sampling event of the following nine monitor wells:
 - MW-13D, MW-14S, MW-14D, MW-17S, MW-17D, MW-18, MW-19D, MW-20S, and MW-20D
- February 27, 2018 – Monthly sampling event of the following ten monitor wells:

- MW-7D, MW-13D, MW-14S, MW-14D, MW-17S, MW-17D, MW-18, MW-19D, MW-20S, and MW-20D
- March 28-29, 2018 – Quarterly sampling event of all 37 monitor wells

7.2 LABORATORY ANALYSIS

Groundwater samples were collected via low-stress sampling methods in general accordance with USEPA Region 1 Low-Stress (low flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells, Revision Date September 19, 2017. Groundwater samples, including QA/QC samples, were collected and analyzed in general accordance with currently applicable MDEQ-RRD guidance. The samples were collected into laboratory supplied containers, placed on ice, and shipped under chain-of-custody protocols to the ALS Environmental laboratory facility located in Holland, Michigan for analysis of the following:

- Sulfolane by USEPA Method 8270D
- Sulfate by method A4500-SO4 E-11

7.3 CLEANUP GOALS

The following cleanup goal for sulfolane dissolved in groundwater at the Site was established in previous project submittals:

- MDEQ-OGMD Interim Drinking Water Criteria – 90 µg/L

The following cleanup goal for sulfate resulting from the biodegradation of sulfolane at the Site was established in previous project submittals:

- MDEQ Part 201 Residential GCCSL for Drinking Water – 250 mg/L

7.4 GROUNDWATER ANALYTICAL SUMMARY & CLEANUP CRITERIA COMPARISON

The following presents a summary and comparison of groundwater analytical results to the cleanup goal for sulfolane through the quarterly groundwater sampling event completed on March 28-29, 2018:

Monitor wells located west beyond the extent of the lower clay confining layer

- Monitor well clusters MW-6/6D and MW-12S/12D reported sulfolane non-detect from all associated sampling events

Monitor wells screened below the lower clay confining layer

- Monitor wells MW-19DD and MW-21D reported sulfolane non-detect from all associated sampling events
- Concentrations of sulfolane were reported below applicable cleanup criteria from MW-15DD from the pre-remediation system startup sampling event (September 11-13, 2017) and a confirmation sampling event (September 21, 2018). The concentration of sulfolane detected in

MW-15DD is suspected to be the result of drilling activities completed on August 28, 2017. Sulfolane was reported non-detect from MW-15DD from subsequent sampling events completed on December 19-20, 2017 and March 28-29, 2018.

Monitor wells screened within the limits of the clay confining layer (area of sulfolane impact)

- The following monitor wells reported sulfolane non-detect from all associated sampling events:
 - MW-1, MW-2, MW-2D, MW-3, MW-3D, MW-4, MW-5, MW-8, MW-9, MW-10, MW-11, MW-15, MW-16, MW-16D, MW-22D, and MW-23D
- The following monitor wells previously reported sulfolane below the cleanup goal at the pre-remediation system startup event and currently report sulfolane non-detect:
 - MW-19S and MW-20S
- The following monitor wells previously reported sulfolane above the cleanup goal at the pre-remediation system startup event and currently report sulfolane non-detect:
 - MW-7 and MW-13
- The following presents percent reductions to the concentration of sulfolane from the March 28-29, 2018 sampling event relative to the highest concentration reported from/after the pre-remediation system startup sampling event:
 - MW-13D, MW-14S, MW-15D, MW-17D: 100%
 - MW-17S: 98.3% (3,100 to 52 µg/L)
 - MW-19D: 95.1% (5,900 to 290 µg/L; reported non-detect from the January 25, 2018 and February 27, 2018 sampling events)
 - MW-7D: 80.0% (4,100 to 820 µg/L)
 - MW-18: 57.4% (2,300 to 980 µg/L)
 - MW-14D: 33.8% (7,700 to 5,100 µg/L)
 - MW-20D: 16.7% (12,000 to 10,000 µg/L)

Please refer to Table 2 and Table 3 in Appendix B for a summary of sulfolane concentrations reported in groundwater at the Site. Monitor well locations are illustrated on Figure 3 in Appendix A.

8.0 CONCLUSIONS AND RECOMMENDATIONS

It is apparent from the discussion in Section 7.0 that the remediation system has been effective at reducing concentrations of sulfolane after approximately 4.5 months of operation. However, remediation progress is slower in the vicinity of MW-14D, MW-18, and MW-20D. The following recommendation is presented to mitigate residual sulfolane concentrations in the vicinity of MW-14D, MW-18, and MW-20D:

- Installation of five BSPs – two in the vicinity of MW-14D; two in the vicinity of MW-20D; one in the vicinity of MW-18. Soils will be characterized prior to BSP installation to evaluate soils near BSP screen intervals and to verify the depth to the top of the lower clay confining layer. The BSPs will be constructed consistent with existing BSPs except for the screens, which will be six feet long to provide flexibility with injecting air across a broader interval.

9.0 SCHEDULE

The following schedule of activities is proposed/anticipated for the 2nd quarter 2018:

- Installation of the five BSPs is scheduled for May 1, 2018.
- The next performance monitoring event is proposed to be completed the week of May 14, 2018 and will include collecting groundwater samples from the following ten monitor wells:
 - MW-7D, MW-13D, MW-14S, MW-14D, MS-17S, MW-17D, MW-18, MW-19S, MW-19D, and MW-20D.
- The next quarterly groundwater sampling event will be completed in June 2018 and will include all 37 monitoring wells at the Site.
- Remediation system operations will continue with weekly Site visits and adjustments to operating BSP arrays to focus on locations with residual concentrations of sulfolane.
- A quarterly project update report will be submitted subsequent to receipt of analytical data from the June 2018 sampling event.

APPENDIX A

FIGURES

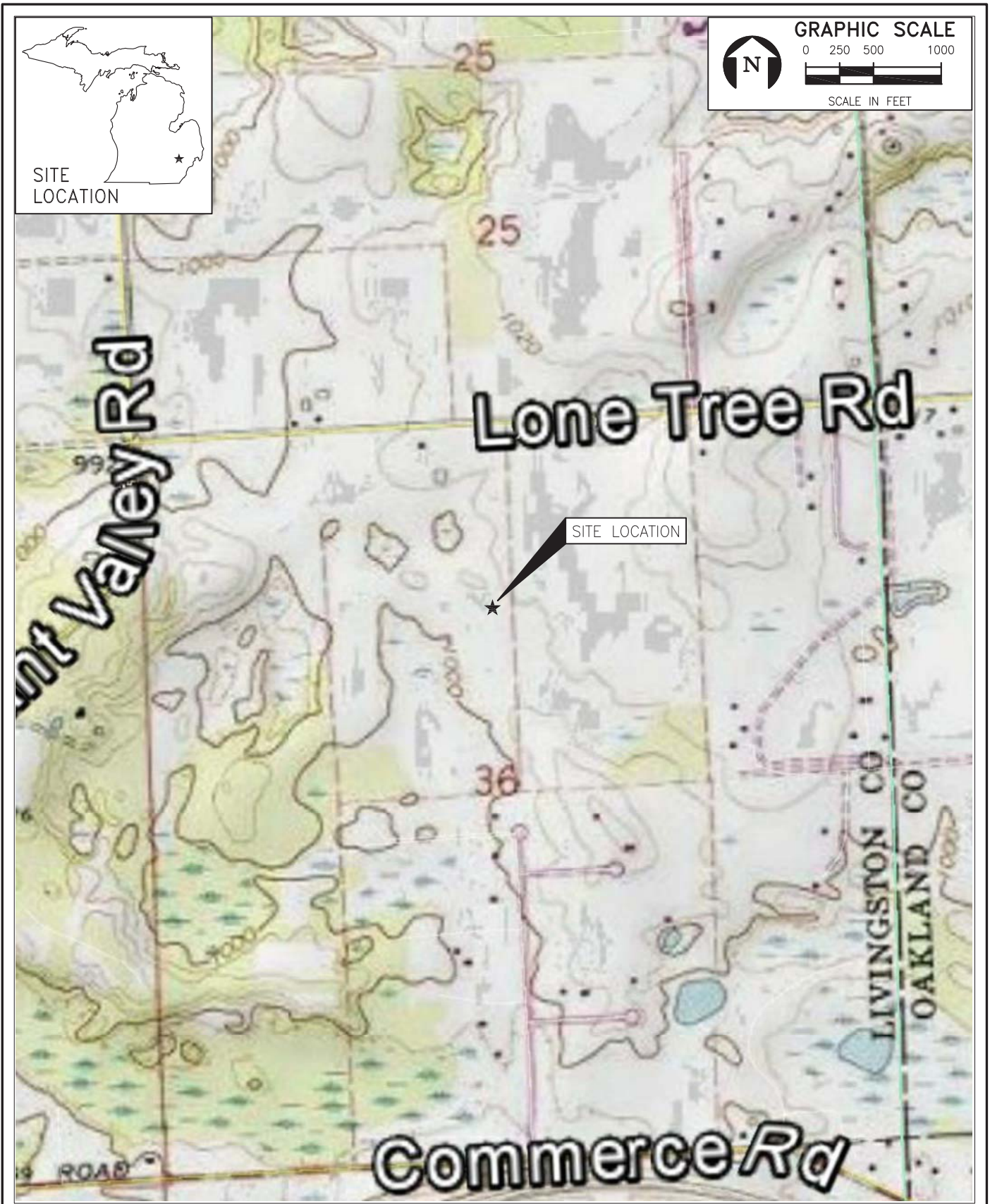


FIGURE 1.
SITE LOCATION MAP

Sources: USGS Quad: Kent Lake, 2015; West Highland, 2015; ECT, 2016.

ECT Environmental
Consulting &
Technology, Inc.



FIGURE 2.
SITE AND SURROUNDING PROPERTIES MAP

Source: Google Earth, 2016.

ECT Environmental
Consulting &
Technology, Inc.



Legend

- Monitor Well
- Temporary Monitor Well
- Soil Boring
- Excavation Boundary
- Fenceline (former)
- BSP Location
- Proposed BSP Location

FIGURE ADAPTED FROM SURVEY PERFORMED BY:



- NOTES:**
- 1) DRAWING BASED UPON FIELD OBSERVATIONS TAKEN 11/18/15 (FOR MW DESIGNATED WELLS), 06/06/16 (FOR TMW DESIGNATED WELLS/BORINGS) AND 08/02/16 (FOR MONITORING WELLS 8-13 & 15-16, MW-14 NOT INSTALLED).
 - 2) ADDITIONAL FIELD OBSERVATIONS TAKEN 11/01/16 FOR LOCATIONS AND ELEVATIONS OF MW-13D, MW-14S & D, MW-17S & D, MW-18, AND MW-19S & D. NEW ELEVATIONS WERE ESTABLISHED FOR MW-9, MW-10, MW-11, MW-13, MW-15 AND MW-16. SOIL BORINGS SB-1 & SB-2 WERE ALSO LOCATED ON 11/01/16



MERIT ENERGY COMPANY HARTLAND 36 NATURAL GAS PLANT

130685 - 2000
ECT PROJECT NUMBER

DESIGNED BY _____ CHECKED BY _____

BJB DRAWN BY _____ JSL APPROVED BY _____

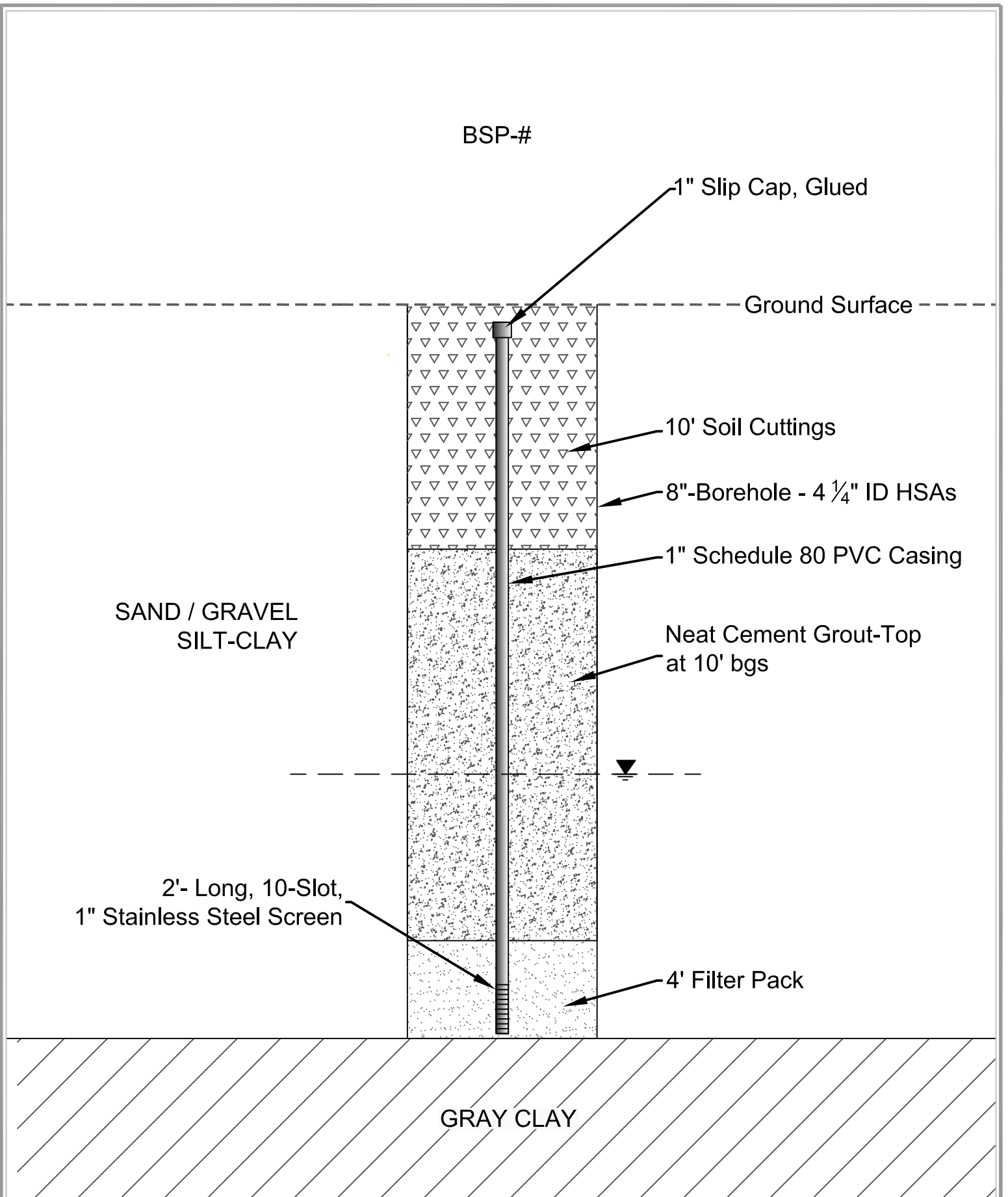
SHEET TITLE

SITE PLAN

SCALE: 1" = 50' @ 11x17

NORTH

FIGURE
3



APPENDIX B

TABLES

**TABLE 1
REMEDIATION SYSTEM O&M DATA**
Hartland 36 Gas Plant
SE/NE/NW Section 36, T03N-R06E, Hartland Township, Livingston County, Michigan
ECT Project #13-0685-2000

BSP #	11/21/2017				11/28/2017				12/7/2017				12/20/2017				12/28/2017			
	Arrival		Departure		Arrival		Departure		Arrival		Departure		Arrival		Departure		Arrival		Departure	
	Pressure (psi)	Flow Rate (scfm)	Pressure (psi)	Flow Rate (scfm)	Pressure (psi)	Flow Rate (scfm)	Pressure (psi)	Flow Rate (scfm)	Pressure (psi)	Flow Rate (scfm)	Pressure (psi)	Flow Rate (scfm)	Pressure (psi)	Flow Rate (scfm)	Pressure (psi)	Flow Rate (scfm)	Pressure (psi)	Flow Rate (scfm)	Pressure (psi)	Flow Rate (scfm)
1			18.75	9.5	10	15			0	0	14.5	11			9	0	0	0	16.5	12
2			15	13	6.75	18.5			0	0	14	6			0	0	0	0	12.5	14.5
3			18	9.5	11	19			1.5	0	15	10			4.5	0	2	0	17.5	14
4			19	9	10.5	15.5			2	0	15	10			18	0	0	0	15	10
5			18	12	9.5	19.5			0	0	14	9			4.5	0	0	0	14.5	13
6			17.75	14.5	8.25	24			0.5	0	16	13			2	0	0	0	14.5	11.5
8			16.75	14	7	16.5			0	0	13	16			0.5	0	0	0	12	12
9			17.5	0	9.75	6.5			2	0	15.5	3			9.5	0	0	0	15	10
10			20	13.5	11	9.5			4.5	0	14.5	6			2.5	0	3	0	16.5	13
11			13.75	7	6.75	5-10			0	0	15	3			1.5	0	0	0	11.5	7
12				15		11				0		25				0		0		10.5
13			18.5	13	11	16			3	0	14	4			6.5	0	5.5	0	17.5	10
14			17.5	7	10	5			1.5	0	13.5	3			3	0	0	0	17	8
15			13.75	12	6	11.5			3	0	14.5	25			5	0	4.5	0	10.5	12.5
16			16.5	12	8.75	8.5			1	0	15.5	23			0	0	0	0	10.5	8.5
17			19.75	8.5	11	14.5			1.5	0	14	5			7	0	5.5	0	17.5	9.5
18			11.5	17	5	16.5			1.5	0	14	7			3.5	0	0	0	11	12
19			9.5	15	5.25	11			0	0	14	20			6	0	0	0	10	9.5
20	7.25	11							4.5	0	14	13			3.5	0	2	0	11	15
21			19	13.5	10.5	9.5			0	0	15	4			5.5	0	4	0	17.5	9
22	11.25	11							13	14.5	8.5	0			18.5	11.5	13.5	23	4.5	0
23	14	5							14	12.5	9	0			15.5	5	14.5	10.5	4.5	0
24	4	8							6.5	9	4	0			6	10	5.5	9.5	2.5	0
25	12	11							16.25	17.5	11.5	0			13	5.5	11.5	4.5	6.5	0
26	8	8.5							10	11	5.5	0			11	6	8	5.5	4	0
27	15.5	3							14	3	9.5	0			19.5	0	14.5	24	6.5	0
28	15	13.5							11	11	4	0			17	12	12	10.5	0	0
29	7	10							7.5	14	5	0			10.5	11	6.5	9	1	0
30	3.5	7.5							4	8.5	3	0			0	0			0	0
31	15	7.5							14.5	6	11.5	0			19.5	9	15	9.5	7	0
32	15	8							13.25	10.5	8	0			18.5	15	14	7.5	1.5	0
33	16	17							13.25	12	10	0			19.5	9	13	11.5	7	0
34	15	14							14	9	9	0			17.5	8	14	16	4	0
35	10.5	13							12.25	23	5	0			11	3			2	0
36	13	8.5							14	8.5	10	0			20	10	15	14	5.5	0
37	13.75	8.5							12	6	11.5	0			19	7	13.5	10.5	8	0
38	14	12							13	5.5	11	0			17	7.5	13	7.5	5	0
39	11.75	10							12	11	3	0			13.5	10	11	8	7	0
40	11.5	7							12.25	9	8.5	0			16	9	11.5	8	7	0
41	11	8							11.5	9.5	8.5	0			16	8	10.5	7.5	7	0
42	15.5	8							13.5	3	11	0			11.5	0			7	0
Elapsed Time, hrs	42137.36		42139.00		42304.22		42305.14		42519.49		42520.33		42710.70		42711.11		42895.81		42896.90	
Blower Temp., °F	248		287.5		225		285		216		240		200		290		240		285	
Blower Pressure, psi	16		19.5		12		19		14		19		18.5		21		15		20	
Manifold Pressure, psi	16		20		12		19		13		19		19		21		20		19	
Heat Exr Temp., °F	69		84		75		77		48		48		44		45		50		82	
Comments					Departure readings not recorded.								System shut down on 12/15/17 for groundwater sampling on 12/19-20/17							

Shaded cells indicated BSP's with closed valves.

**TABLE 1
REMEDIATION SYSTEM O&M DATA**

Hartland 36 Gas Plant
SE/NE/NW Section 36, T03N-R06E, Hartland Township, Livingston County, Michigan
ECT Project #13-0685-2000

BSP #	1/4/2018				1/11/2018				1/18/2018				1/23/2018				1/25/2018			
	Arrival		Departure		Arrival		Departure		Arrival		Departure		Arrival		Departure		Arrival		Departure	
	Pressure (psi)	Flow Rate (scfm)	Pressure (psi)	Flow Rate (scfm)	Pressure (psi)	Flow Rate (scfm)	Pressure (psi)	Flow Rate (scfm)	Pressure (psi)	Flow Rate (scfm)	Pressure (psi)	Flow Rate (scfm)	Pressure (psi)	Flow Rate (scfm)	Pressure (psi)	Flow Rate (scfm)	Pressure (psi)	Flow Rate (scfm)	Pressure (psi)	Flow Rate (scfm)
1	12	13	7	0			13	10	9	7	11	14							15	14
2	14	23	3	0			7.5	10	5.5	16	5	14							13	11
3	12	23	3.5	0																
4	12.5	12	9	0			12	14	9	9	11	14							14.5	14
5	11	15	6	0			11	14	9	14	9	14							12	14
6	8	16	3	0																
8	7	14	2.5	0			11	20	8	22	5	14							5	13
9	14.5	10	9	0			11	4	9	3	11	7							15	15
10	15.5	13	8	0			12	10	9.5	9	12	11							19	11.5
11	14.5	8	5	0																
12	4.5	9	0	0																
13	14	18	5	0			12	6	9	11	11	14							17	9
14	16.5	7	7	0			12	4	9	3	11.5	5							18	6
15	8.5	13	7	0			10	20	9	19	7	14							9	12.5
16	13.5	7	12	0			9	7	6.5	3	9.5	10							12.5	13
17	13	15	3	0			13	5	10	8	11.5	9							17	4
18	14	15	3	0			11	12	9	25	4	14							14	13
19	5	10	1.5	0			12	17	8	23	5.5	14							10	11
20	10	17	4	0			8	9	7	16	6	14							14.5	10
21	14	9	5	0			12	4	10	4	11	4							16	5
22	7	0	21.5	15			10	12	10	5.5	11	8							16	10
23	8.5	0	23	5			11	6	10	7	12	7							16	10
24	5	0	15	19			10	20	2.5	23	5	14							9	14
25	8	0	22	8			12	6	12	10	13	12							18	11
26	5	0	16	19			11	17	10	16.5	9	14							15	12
27	3	0	22	5			12	4	11	3	11.5	3							16	0
28	0	0	20	5			10	4	8	4	9	5							14	5
29	4	0	18	17			7.5	20	7	19	5	14							11.5	12
30	2	0	8	19																
31	4	0	23	8																
32	2	0	22	8																
33	4	0	22	10																
34	6	0	22.5	8																
35	2	0	20	11																
36	8	0	22	9																
37	0	0	20	5																
38	2	0	22	6																
39	3.5	0	20	16																
40	8.5	0	20	17															8	2
41	2	0	20	15																
42	3	0	22	5																
Elapsed Time, hrs	43064.10		43065.30		43218.78		43219.76		43381.12		43381.65		43502.08		43502.08		43502.13		43502.43	
Blower Temp., °F	202		245		235		250		220		230									
Blower Pressure, psi	16.5		23		18		14		11		13									
Manifold Pressure, psi	15		23		17		14		11		13									
Heat Exr Temp., °F	46		50		75		75		48		48									
Comments					System down on arrival (estimated 1/10/18). Restarted 1/11/18.								System down on arrival (estimated morning of 1/23/18). System left down for groundwater sampling on 1/25/18.							

Shaded cells indicated BSP's with closed valves.

**TABLE 1
REMEDIATION SYSTEM O&M DATA**
Hartland 36 Gas Plant
SE/NE/NW Section 36, T03N-R06E, Hartland Township, Livingston County, Michigan
ECT Project #13-0685-2000

BSP #	2/1/2018				2/8/2018				2/15/2018				2/27/2018				3/1/2018			
	Arrival		Departure		Arrival		Departure		Arrival		Departure		Arrival		Departure		Arrival		Departure	
	Pressure (psi)	Flow Rate (scfm)	Pressure (psi)	Flow Rate (scfm)	Pressure (psi)	Flow Rate (scfm)	Pressure (psi)	Flow Rate (scfm)	Pressure (psi)	Flow Rate (scfm)	Pressure (psi)	Flow Rate (scfm)	Pressure (psi)	Flow Rate (scfm)	Pressure (psi)	Flow Rate (scfm)	Pressure (psi)	Flow Rate (scfm)	Pressure (psi)	Flow Rate (scfm)
1	10	11	10	13	11	15														
2	4	14	3	14	5	14														
3																				
4	9	11	9	14	10	15														
5	8	11	9	14	9	14														
6																				
8	4	10	4	10	10	10														
9	10	7	10	7	11	6														
10	11	11	11	12	12	12	15	15	13	14	12	13			23	17	15.5	18	14	17
11							13.5	7	10	11	7.5	8			15	12.5	11	10	9	10
12							---	---	0	13	1	19			0	15	0	13	2	19
13	11	17	11	14	10	14														
14	11	5	11	6	11	6	18.5	15	15	16	13	13			22	13	17	15	14	11
15	6	10	6	10	6	10	8	20	7	17	7	17			11	15	8	13	9	19
16	7.5	7	7	7	8	6	10.5	20	8	16	9	17			12.5	16	9.5	12	11	17
17	11	10	11	10	11	12	17	19	12	24	11	20			23	11	16	20	13	16
18	6	16	5	14	6	15	7	19	6	17	7	20			14	16	7	17	9	20
19	5	11	6	14	6	15														
20	6	16	4	14	6	14	3	10	3	9	9	16			16	15	9	20	9	20
21	11	4	11	4	11	4	18	10	15	11	12	9			24	8	16	8	13	8
22	10	13	10	13	11	13	11	15	9	12	11	15			18	15	12	17	12	18
23	11	7	11	7	11	8	18	15	14	15	11.5	10			22	7	10	16	13	8
24	5.5	17	6	14	5	14	5	15	4	14	6	20			8.5	15	6	14	9	20
25	12	15	11	14	12	13														
26	9	13	9	14	9	14	10	15	9	12	11	17			14	13	9.5	12.5	10	15
27	11	4	11	4	11	3	17.5	7	14.5	6	12	6			23	8	16	5	13	5
28	8.5	7	8.5	7	9	7	10	15	10	11	10	11			20.5	8	14	12	11	10
29	5	13	5	14	6	14														
30																				
31																				
32																				
33																				
34							16.5	8	13	21	11	19			22	12	15	15	12	13
35																				
36																				
37																				
38																				
39																				
40	7	0																		
41																				
42																				
Elapsed Time, hrs	43663.71		43664.86		43839.71		--		44000.23		44001.04		44169.10		44169.60		44211.35		44212.38	
Blower Temp., °F	240		240		230		275		260		235		70		300		275		255	
Blower Pressure, psi	12		11		13		20		17		14		0		25		18		15	
Manifold Pressure, psi	12		12		12		20		16		14		2		25		17		14	
Heat Exr Temp., °F	55		60		50		55		70		65		62		88		62		60	
Comments	System shut down on 2/22/18 for groundwater sampling on 2/27/18.																			

Shaded cells indicated BSP's with closed valves.

**TABLE 1
REMEDATION SYSTEM O&M DATA**
Hartland 36 Gas Plant
SE/NE/NW Section 36, T03N-R06E, Hartland Township, Livingston County, Michigan
ECT Project #13-0685-2000

BSP #	3/8/2018				3/15/2018				3/22/2018				3/29/2018			
	Arrival		Departure		Arrival		Departure		Arrival		Departure		Arrival		Departure	
	Pressure (psi)	Flow Rate (scfm)	Pressure (psi)	Flow Rate (scfm)	Pressure (psi)	Flow Rate (scfm)	Pressure (psi)	Flow Rate (scfm)	Pressure (psi)	Flow Rate (scfm)	Pressure (psi)	Flow Rate (scfm)	Pressure (psi)	Flow Rate (scfm)	Pressure (psi)	Flow Rate (scfm)
1																
2																
3																
4																
5																
6																
8																
9																
10	14	16	14.5	16	16	16	16	16	13.5	16					23.5	15
11	10	11	10	11	13	11	13	11	8	11					17.2	13.5
12	1	19	2	20	2	20	2.5	20	1	19					1.5	20
13																
14	13.5	9	13.5	9	15	8	15	9	12.5	9					21.5	7
15	8.5	20	8.5	20	9	20	9.5	20	8	19					12.5	18
16	11	20	11	20	13.5	19	13.5	20	10	19					14	17
17	12.5	19	12.5	19	13	20	13	20	12	23					21.5	6
18	8	23	7	20	8	19	8	19	6	18					20	18.5
19																
20	9	19	9.5	20	11	21	10	19	6.5	20					18	13
21	13	6	13	6	13	6	13	6	12	6					21.5	6
22	12.5	18.5	12.5	19	13	17	13.5	18	11	17					19.5	15
23	13	9	13.5	10	14	10	14	10	12	10					20	6
24	8	21	7.5	20	7.5	20	7.5	20	6	19					12.5	21.5
25																
26	10.5	15.5	12	20	13	22	11	20	11	20					20.5	19
27	13	3	13	3	14	3	14	3	12	3					20.5	4
28	3.5	8	4	9	3	8	3	9	0	8					8.5	8.5
29																
30																
31																
32																
33																
34	12.5	12	12.5	12	13.5	12	14	12	11	14					19.5	8
35																
36																
37																
38																
39																
40																
41																
42																
Elapsed Time, hrs	44380.18		44380.61		44548.05		44548.43		44719.22		44719.55				44719.65	
Blower Temp., °F	240		240		225		230		245						250	
Blower Pressure, psi	14		15		15		15		14						24	
Manifold Pressure, psi	14		14		14		14		13						23	
Heat Exr Temp., °F	51		51		55		58		65						66	
Comments									System shut down on 3/22/18 for groundwater sampling on 3/28-29/18.							

Shaded cells indicated BSP's with closed valves.

TABLE 2
GROUNDWATER ANALYTICAL SUMMARY & CLEANUP CRITERIA COMPARISON
Hartland 36 Gas Plant
SE/NE/NW Section 36, T03N-R06E, Hartland Township, Livingston County, Michigan
ECT Project #13-0685-2000

Date	MW-1			MW-2			MW-2D			MW-3			MW-3D			MW-4			MW-5			MW-6			MW-6D			MW-7		
	Sulfolane	DO	Sulfate	Sulfolane	DO	Sulfate	Sulfolane	DO	Sulfate	Sulfolane	DO	Sulfate	Sulfolane	DO	Sulfate	Sulfolane	DO	Sulfate	Sulfolane	DO	Sulfate	Sulfolane	DO	Sulfate	Sulfolane	DO	Sulfate	Sulfolane	DO	Sulfate
9/11-13/17	ND	8.08	---	ND	4.14	---	ND	5.36	---	ND	6.96	---	ND	1.03	---	ND	7.75	---	ND	7.31	---	ND	2.77	---	ND	5.90	---	ND	1.55	---
9/21/17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
12/19-20/17	ND	8.83	6.4	ND	8.76	16	ND	5.02	21	ND	9.81	41	ND	1.90	27	ND	7.10	24	ND	6.85	24	ND	2.99	42	ND	9.26	19	ND	10.07	46
1/25/18	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2/27/18	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
3/28-29/18	ND	7.87	5.0	ND	7.79	14	ND	4.05	17	ND	11.53	26	ND	1.31	30	ND	9.77	29	ND	6.31	24	ND	3.22	41	ND	6.92	20	ND	9.75	31
% Decrease	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Sulfolane Criterion	90																													
Sulfate Criterion	250																													

Date	MW-7D			MW-8			MW-9			MW-10			MW-11			MW-12S			MW-12D			MW-13			MW-13D					
	Sulfolane	DO	Sulfate	Sulfolane	DO	Sulfate	Sulfolane	DO	Sulfate	Sulfolane	DO	Sulfate	Sulfolane	DO	Sulfate	Sulfolane	DO	Sulfate	Sulfolane	DO	Sulfate	Sulfolane	DO	Sulfate	Sulfolane	DO	Sulfate			
9/11-13/17	1,900	0.79	---	ND	9.09	---	ND	0.73	---	ND	7.42	---	ND	3.69	---	ND	2.65	---	ND	1.36	---	ND	0.94	---	660 (730)	0.52	330			
9/21/17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---			
12/19-20/17	4,100	0.89	46	ND	6.34	8	ND	0.57	21	ND	7.95	36	ND	5.04	20	ND	3.98	19	ND	4.00	32	ND	13.79	80	480	0.51	240			
1/25/18	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	400	2.13	240
2/27/18	1,200	1.47	96	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	9.90	210
3/28-29/18	820	0.61	81	ND	9.65	12	ND	1.32	26	ND	10.34	48	ND	5.17	16	ND	7.70	18	ND	3.45	33	ND	10.12	63	ND	8.41	220			
% Decrease	80.0%	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	100.0%	---	---
Sulfolane Criterion	90																													
Sulfate Criterion	250																													

Date	MW-14S			MW-14D			MW-15			MW-15D			MW-15DD			MW-16			MW-16D			MW-17S			MW-17D					
	Sulfolane	DO	Sulfate	Sulfolane	DO	Sulfate	Sulfolane	DO	Sulfate	Sulfolane	DO	Sulfate	Sulfolane	DO	Sulfate	Sulfolane	DO	Sulfate	Sulfolane	DO	Sulfate	Sulfolane	DO	Sulfate	Sulfolane	DO	Sulfate			
9/11-13/17	120	0.85	---	7,700	0.22	---	ND	4.39	---	230	0.22	---	33	0.23	---	ND	3.31	---	ND	0.28	---	3,100	0.25	---	380	0.36	---			
9/21/17	---	---	---	---	---	---	---	---	---	---	---	---	48	0.64	---	---	---	---	---	---	---	---	---	---	---	---	---			
12/19-20/17	100	2.05	91	7,100	0.45	39	ND	11.02	14	ND	4.22	46	ND	0.56	37	ND	8.42	16	ND	5.99	24	2,400	0.88	49	51	8.10	33			
1/25/18	85	3.35	56	5,400	0.43	44	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	510	0.95	53	ND	10.07	38			
2/27/18	ND	9.63	110	4,000	0.50	48	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	460	0.96	53	ND	11.02	38			
3/28-29/18	ND	8.61	120	3,000 (5100)	0.22	50 (51)	ND	7.96	16	ND	6.86	29	ND	0.54	37	ND	8.73	19	ND	3.88	25	52 (52)	3.28	64	ND	9.68	36			
% Decrease	100.0%	---	---	33.8%	---	---	---	---	---	100%	---	---	100%	---	---	---	---	---	---	---	---	---	---	---	98.3%	---	---	100.0%	---	---
Sulfolane Criterion	90																													
Sulfate Criterion	250																													

Date	MW-18			MW-19S			MW-19D			MW-19DD			MW-20S			MW-20D			MW-21D			MW-22D			MW-23D		
	Sulfolane	DO	Sulfate	Sulfolane	DO	Sulfate	Sulfolane	DO	Sulfate	Sulfolane	DO	Sulfate	Sulfolane	DO	Sulfate	Sulfolane	DO	Sulfate	Sulfolane	DO	Sulfate	Sulfolane	DO	Sulfate	Sulfolane	DO	Sulfate
9/11-13/17	2,200	1.16	---	29	1.64	---	5,900	0.60	---	ND	3.82	---	63	1.50	---	12,000	0.45	---	ND	6.08	---	ND	7.76	---	ND	2.87	---
9/21/17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
12/19-20/17	660	0.67	37	ND	10.32	44	3,200	0.38	73	ND	7.16	22	49	4.04	45	12,000	0.52	43	ND	7.58	22	ND	5.74	12	ND	2.48	20
1/25/18	2,300	0.74	34	---	---	---	ND	0.77	74	---	---	---	ND	3.76	45	10,000	1.61	41	---	---	---	---	---	---	---	---	---
2/27/18	2,000	0.39	33	---	---	---	ND	0.57	51	---	---	---	ND	---	52	9,300	0.61	46	---	---	---	---	---	---	---	---	---
3/28-29/18	980	0.71	34	ND	9.45	43	290	0.47	54	ND	6.27	26	ND (ND)	2.03	57 (58)	10,000	2.00	51	ND	4.13	22	ND	5.32	9.4	ND	3.03	19
% Decrease	57.4%	---	---	100%	---	---	95.1%	---	---	---	---	---	---	---	---	100.0%	---	---	16.7%	---	---	---	---	---	---	---	---
Sulfolane Criterion	90																										
Sulfate Criterion	250																										

- Notes**
- 1) Concentrations of sulfolane reported in micrograms per liter (µg/L), equivalent to parts per billion (ppb).
 - 2) DO - dissolved oxygen.
 - 3) Concentrations of dissolved oxygen and sulfate reported in milligrams per liter (mg/L), equivalent to parts per million (ppm).
 - 4) (---) - Not sampled.
 - 5) ND - Concentration not detected above reporting limit.
 - 6) Sulfolane criterion established by MDEQ-Oil, Gas, and Minerals Division (MDEQ-OGMD).
 - 7) Sulfate criterion - Part 201 Residential Generic Cleanup Criteria and Screening Levels (Part 201 Residential GCCSLs), dated December 30, 2013, per R299.44 (Table 1) of the Michigan Administrative Code.
 - 8) Concentrations that are shaded **yellow** and bold exceed cleanup criteria.

TABLE 3
SULFOLANE GROUNDWATER ANALYTICAL SUMMARY & CLEANUP CRITERIA COMPARISON
 Hartland 36 Gas Plant
 SE/NE/NW Section 36, T03N-R06E,
 Hartland Township, Livingston County, Michigan
 ECT Project #13-0685-2000

Sample Location	Screened Interval (ft bgs)	11/4-5/15	1/27/16	6/3/2016	8/3-4/16	9/21-22/16	10/12/16	11/3/16	12/8/16	12/21-23/16	2/14/17	3/14-16/2017	4/27/17; 5/1/17	5/11/2017	5/30-31/17	6/19-21/17	9/11-13/17	9/21/2017	12/19-20/2017	1/25/2018	2/27/2018	3/28-29/2018
MW-1	20.1 - 25.1	ND	ND	ND	---	ND	---	---	---	---	---	ND	---	---	---	ND	ND	---	ND	---	---	ND
MW-2	19.1 - 24.1	ND	ND	ND	---	ND	---	---	---	---	---	ND	---	---	---	ND	ND	---	ND	---	---	ND
MW-2D	27.7 - 29.7	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	ND	ND	---	ND	---	---	ND
MW-3	22.0 - 27.0	ND	---	ND	---	ND	---	---	---	ND	---	ND	---	---	---	ND	ND	---	ND	---	---	ND
MW-3D	30.0 - 32.0	---	---	---	---	---	---	---	---	---	ND	ND	---	---	---	ND	ND	---	ND	---	---	ND
MW-4	23.1 - 28.1	ND	ND	ND	ND	ND	ND	ND	---	ND	---	ND	---	---	---	ND	ND	---	ND	---	---	ND
MW-5	18.0 - 23.0	ND	ND	ND	---	ND	ND	---	---	ND	---	ND	---	---	---	ND	ND	---	ND	---	---	ND
MW-6	25.4 - 30.4	ND	ND	ND	ND	ND	ND	ND	---	ND	---	ND	---	---	ND	ND	ND	---	ND	---	---	ND
MW-6D	39.4 - 44.4	---	---	---	ND	ND	ND	ND	---	ND	---	ND	---	---	ND	ND	ND	---	ND	---	---	ND
MW-7	25.2 - 30.2	880	44	510	ND	210	---	---	---	ND	---	ND	---	---	---	12	ND	---	ND	---	---	ND
MW-7D	39.2 - 44.2	---	---	---	---	---	---	---	3,100	---	---	3,000	---	---	---	2,600	1,900	---	4,100	---	1,200	820
MW-8	24.6 - 29.6	---	---	---	ND	ND	---	---	---	ND	---	ND	---	---	---	ND	ND	---	ND	---	---	ND
MW-9	23.6 - 28.6	---	---	---	ND	ND	---	---	---	ND	---	ND	---	---	---	ND	ND	---	ND	---	---	ND
MW-10	21.2 - 26.2	---	---	---	ND	ND	---	---	---	ND	---	ND	---	---	---	ND	ND	---	ND	---	---	ND
MW-11	21.7 - 26.7	---	---	---	ND	ND	---	---	---	ND	---	ND	---	---	---	ND	ND	---	ND	---	---	ND
MW-12S	20.5 - 25.5	---	---	---	ND	ND	ND	ND	---	ND	---	ND	---	---	ND	ND	ND	---	ND	---	---	ND
MW-12D	39.7 - 44.7	---	---	---	ND	ND	ND	ND	---	ND	---	ND	---	---	ND	ND	ND	---	ND	---	---	ND
MW-13	19.1 - 24.1	---	---	---	6,600	8,800	---	---	---	3,500	---	5,100	7,000	3,700	97	ND	ND	---	ND	---	---	ND
MW-13D	27.7 - 29.7	---	---	---	---	---	---	7,800	---	8,300	---	5,400	6,900	1,100	420	290	730	---	480	400	ND	ND
MW-14S	18.6 - 23.6	---	---	---	---	---	---	46	---	460	---	540	490	160	520	94	120	---	100	85	ND	ND
MW-14D	36.7 - 41.7	---	---	---	---	---	---	7,900	---	10,000	---	7,600	9,800	8,600	8,200	7,800	7,700	---	7,100	5,400	4,000	5,100
MW-15	19.3 - 24.3	---	---	---	ND	ND	---	---	---	ND	---	ND	---	---	---	ND	ND	---	ND	---	---	ND
MW-15D	37.9 - 42.9	---	---	---	---	---	---	---	---	---	4,600	3,200	---	---	---	670	230	---	ND	---	---	ND
MW-15DD	50 - 55	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	33	48	ND	---	---	ND
MW-16	19.5 - 24.5	---	---	---	ND	ND	---	---	---	ND	---	ND	ND	ND	ND	ND	ND	---	ND	---	---	ND
MW-16D	31.4 - 33.4	---	---	---	---	---	---	---	---	---	ND	ND	---	---	---	ND	ND	---	ND	---	---	ND
MW-17S	19.9 - 24.9	---	---	---	---	---	---	3,900	---	5,100	---	3,000	---	---	---	5,300	3,100	---	2,400	510	460	52
MW-17D	35.4 - 37.4	---	---	---	---	---	---	440	---	510	---	400	---	---	---	390	400	---	51	ND	ND	ND
MW-18	19.9 - 24.9	---	---	---	---	---	---	6,800	---	6,800	---	4,300	---	2,100	4,800	3,800	2,200	---	660	2,300	2,000	980
MW-19S	22.6 - 27.6	---	---	---	---	---	---	2,700	---	1,500	---	1,300	---	---	---	24	33	---	ND	---	---	ND
MW-19D	43.0 - 48.0	---	---	---	---	---	---	7,000	---	7,600	---	4,300	---	---	---	7,000	5,900	---	3,200	ND	ND	290
MW-19DD	57 - 62	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	ND	---	---	ND
MW-20S	17.8 - 22.8	---	---	---	---	---	---	---	25	---	---	97	---	---	---	160	63	---	49	ND	ND	ND
MW-20D	31.0 - 33.0	---	---	---	---	---	---	---	8,700	---	---	8,300	---	---	---	11,000	12,000	---	12,000	10,000	9,300	10,000
MW-21D	52.3 - 57.3	---	---	---	---	---	---	---	ND	---	---	ND	---	---	---	ND	ND	---	ND	---	---	ND
MW-22D	36.4 - 41.4	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	ND	ND	---	ND	---	---	ND
MW-23D	28.1 - 30.1	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	ND	ND	---	ND	---	---	ND
MDEQ-OGMD Cleanup Criteria		90																				
Collection Method		LF	LF	Bailer/PP	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF

Notes

- 1) ft bgs - Feet below ground surface.
- 2) Collection method - Grab, peristaltic pump (PP), low flow (LF), Bailer.
- 3) µg/L - Micrograms per liter, equivalent to parts per billion (ppb).
- 4) (---) - Not sampled.
- 5) ND - Concentration not detected above reporting limit.
- 6) Sulfolane concentrations included on the table are for the higher concentration from samples submitted for duplicate analysis.
- 7) Cleanup criteria for sulfolane established by MDEQ-Oil, Gas, and Minerals Division (MDEQ-OGMD).
- 8) Concentrations that are shaded and bold exceed cleanup criteria.
- 9) MW-7 sampled on 8/11/2016 for the 8/3-4/2016 sample event.

APPENDIX C

MONITOR WELL CONSTRUCTION LOGS

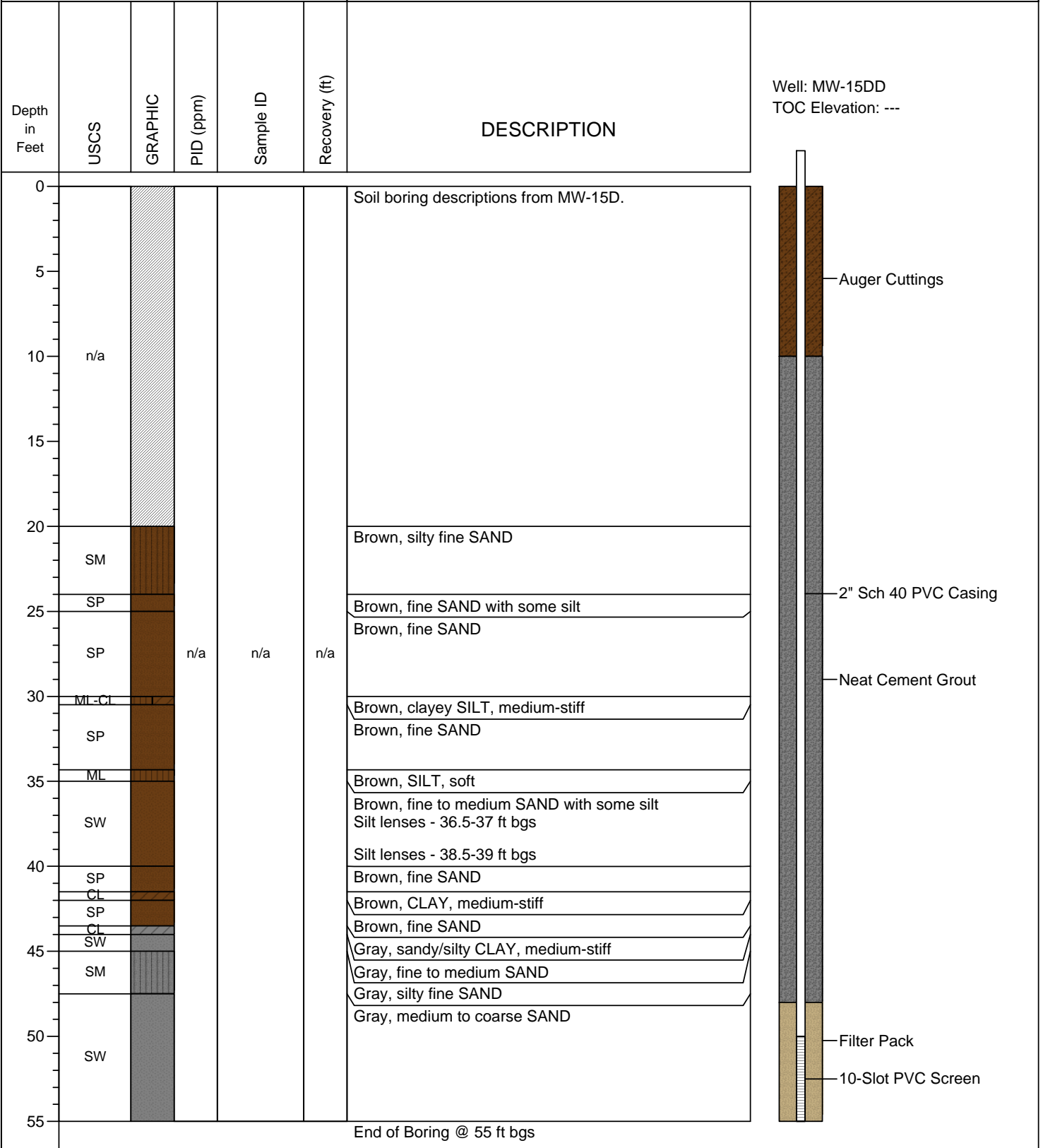
BORING LOG DIAGRAM: MW-15DD

Merit Energy Company
1510 Thomas Road
Kalkaska, Michigan 49646

Date Completed : 8/28/2017
Hole Diameter : 8 inches
Drilling Company : Shepler Well Drilling
Drilling Method : 4.25 inch ID HSAs
Drill Rig : GeoProbe 3230DT

Boring Location : Former Hartland 36 Gas Plant
: SE/NE/NW Section 36
: T03N-R06E
: Hartland Twp, Livingston Co, MI

Project #13-0685-2000



BORING LOG DIAGRAM: MW-19DD

Merit Energy Company
1510 Thomas Road
Kalkaska, Michigan 49646

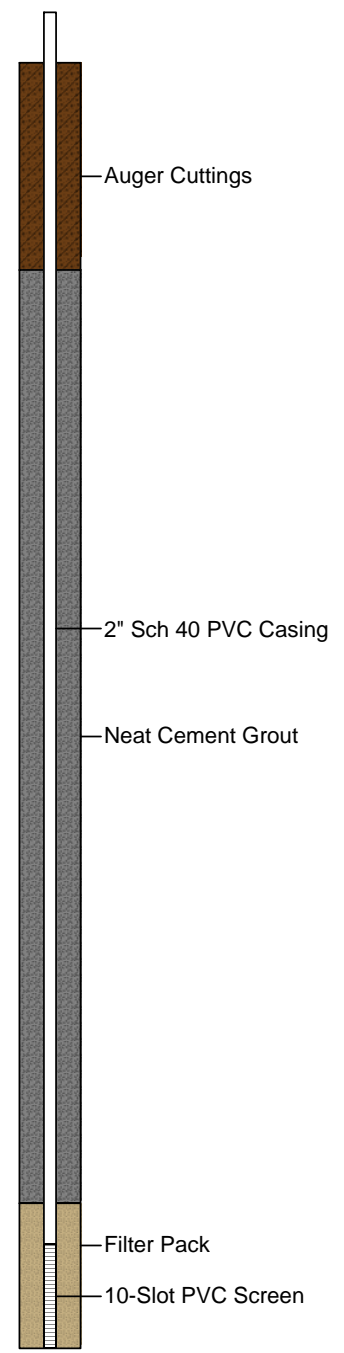
Date Completed : 8/28/2017
Hole Diameter : 8 inches
Drilling Company : Shepler Well Drilling
Drilling Method : 4.25 inch ID HSAs
Drill Rig : GeoProbe 3230DT

Boring Location : Former Hartland 36 Gas Plant
: SE/NE/NW Section 36
: T03N-R06E
: Hartland Twp, Livingston Co, MI

Project #13-0685-2000

Depth in Feet	USCS	GRAPHIC	PID (ppm)	Sample ID	Recovery (ft)	DESCRIPTION
0						Soil boring descriptions from MW-19D.
0 - 15	n/a	[Hatched Pattern]				
15 - 18	SW	[Solid Brown]				Lt. brown, fine to coarse SAND with trace of fine gravel, moist
18 - 20	SC	[Diagonal Hatching]				Lt. brown, clayey fine SAND with trace of medium to coarse sand
20 - 22	SM	[Vertical Hatching]				Lt. brown, silty fine to medium SAND with trace of coarse sand
22 - 30	SP-SW	[Solid Brown]	n/a	n/a	n/a	Brown, fine SAND with trace of medium to coarse sand
30 - 32	SP	[Solid Brown]				Brown, fine SAND with some gravel
32 - 34	SP	[Solid Brown]				Brown, fine SAND
34 - 36	SW	[Solid Brown]				Brown, fine to coarse SAND
36 - 38	SW	[Solid Brown]				Lt. brown, fine to coarse SAND with trace of gravel and some silt
38 - 40	SW	[Solid Brown]				Lt. brown, fine to coarse SAND with gravel
40 - 42	SW	[Solid Brown]				Lt. brown, medium to coarse SAND with trace of gravel
42 - 44	SW	[Solid Brown]				Gray, fine to medium SAND with trace of gravel
44 - 46	SW	[Solid Brown]				Gray, silty fine SAND with trace coars sand and silt, saturated; 2" gray, clayey-silt, <PL at 50.75 ft bgs
46 - 48	SW	[Solid Brown]				Lt. brown, fine to medium SAND with trace of gravel
48 - 50	SPML-CL	[Hatched Pattern]				
50 - 52	SW	[Solid Brown]				
52 - 54	SW	[Solid Brown]				
54 - 56	SW	[Solid Brown]				
56 - 58	SW	[Solid Brown]				
58 - 60	SW	[Solid Brown]				
60 - 62	SW	[Solid Brown]				
62						End of Boring @ 62 ft bgs

Well: MW-19DD
TOC Elevation: ---



APPENDIX D

LABORATORY ANALYTICAL REPORTS



20-Sep-2017

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

Re: **Merit Energy (Hartland 36 9.11.17)**

Work Order: **1709522**

Dear Sean,

ALS Environmental received 8 samples on 12-Sep-2017 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 industry accepted practices and Quality Control 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 16.

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: MN 998501

Report of Laboratory Analysis

ADDRESS 3352 128th Ave Holland, Michigan 49424 | 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: Merit Energy (Hartland 36 9.11.17)
Work Order: 1709522

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>
1709522-01	MW-8	Groundwater		9/11/2017 10:55	9/12/2017 09:30	<input type="checkbox"/>
1709522-02	MW-10	Groundwater		9/11/2017 11:38	9/12/2017 09:30	<input type="checkbox"/>
1709522-03	MW-3	Groundwater		9/11/2017 12:10	9/12/2017 09:30	<input type="checkbox"/>
1709522-04	MW-3D	Groundwater		9/11/2017 12:53	9/12/2017 09:30	<input type="checkbox"/>
1709522-05	MW-7	Groundwater		9/11/2017 13:35	9/12/2017 09:30	<input type="checkbox"/>
1709522-06	MW-7D	Groundwater		9/11/2017 14:12	9/12/2017 09:30	<input type="checkbox"/>
1709522-07	MW-9	Groundwater		9/11/2017 15:08	9/12/2017 09:30	<input type="checkbox"/>
1709522-08	MW-4	Groundwater		9/11/2017 15:56	9/12/2017 09:30	<input type="checkbox"/>

ALS Group, USA

Date: 20-Sep-17

Client: Merit Energy
Project: Merit Energy (Hartland 36 9.11.17)
Sample ID: MW-8
Collection Date: 9/11/2017 10:55 AM

Work Order: 1709522
Lab ID: 1709522-01
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 9/13/17 17:08	Analyst: RM
Sulfolane	ND		11	µg/L	1	9/15/2017 02:54 AM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/15/2017 02:54 AM
Surr: 2-Fluorobiphenyl	52.5		34-98	%REC	1	9/15/2017 02:54 AM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/15/2017 02:54 AM
Surr: 4-Terphenyl-d14	85.8		50-111	%REC	1	9/15/2017 02:54 AM
Surr: Nitrobenzene-d5	48.3		32-89	%REC	1	9/15/2017 02:54 AM
Surr: Phenol-d6	0		10-35	%REC	1	9/15/2017 02:54 AM

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

Client: Merit Energy
Project: Merit Energy (Hartland 36 9.11.17)
Sample ID: MW-10
Collection Date: 9/11/2017 11:38 AM

Work Order: 1709522
Lab ID: 1709522-02
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 9/13/17 17:08	Analyst: RM	
Sulfolane	ND		10	µg/L	1	9/15/2017 03:12 AM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/15/2017 03:12 AM
Surr: 2-Fluorobiphenyl	29.9	S	34-98	%REC	1	9/15/2017 03:12 AM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/15/2017 03:12 AM
Surr: 4-Terphenyl-d14	79.5		50-111	%REC	1	9/15/2017 03:12 AM
Surr: Nitrobenzene-d5	35.6		32-89	%REC	1	9/15/2017 03:12 AM
Surr: Phenol-d6	0		10-35	%REC	1	9/15/2017 03:12 AM

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

ALS Group, USA

Date: 20-Sep-17

Client: Merit Energy
Project: Merit Energy (Hartland 36 9.11.17)
Sample ID: MW-3
Collection Date: 9/11/2017 12:10 PM

Work Order: 1709522
Lab ID: 1709522-03
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 9/13/17 17:08	Analyst: RM
Sulfolane	ND		11	µg/L	1	9/15/2017 03:30 AM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/15/2017 03:30 AM
Surr: 2-Fluorobiphenyl	46.7		34-98	%REC	1	9/15/2017 03:30 AM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/15/2017 03:30 AM
Surr: 4-Terphenyl-d14	73.2		50-111	%REC	1	9/15/2017 03:30 AM
Surr: Nitrobenzene-d5	37.2		32-89	%REC	1	9/15/2017 03:30 AM
Surr: Phenol-d6	0		10-35	%REC	1	9/15/2017 03:30 AM

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

Client: Merit Energy
 Project: Merit Energy (Hartland 36 9.11.17)
 Sample ID: MW-3D
 Collection Date: 9/11/2017 12:53 PM

Work Order: 1709522
 Lab ID: 1709522-04
 Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 9/13/17 17:08	Analyst: RM	
Sulfolane	ND		10	µg/L	1	9/15/2017 03:48 AM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/15/2017 03:48 AM
Surr: 2-Fluorobiphenyl	36.9		34-98	%REC	1	9/15/2017 03:48 AM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/15/2017 03:48 AM
Surr: 4-Terphenyl-d14	68.9		50-111	%REC	1	9/15/2017 03:48 AM
Surr: Nitrobenzene-d5	39.4		32-89	%REC	1	9/15/2017 03:48 AM
Surr: Phenol-d6	0		10-35	%REC	1	9/15/2017 03:48 AM

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

Client: Merit Energy
Project: Merit Energy (Hartland 36 9.11.17)
Sample ID: MW-7
Collection Date: 9/11/2017 01:35 PM

Work Order: 1709522
Lab ID: 1709522-05
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 9/13/17 17:08	Analyst: RM	
Sulfolane	ND		11	µg/L	1	9/15/2017 04:06 AM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/15/2017 04:06 AM
Surr: 2-Fluorobiphenyl	52.3		34-98	%REC	1	9/15/2017 04:06 AM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/15/2017 04:06 AM
Surr: 4-Terphenyl-d14	75.5		50-111	%REC	1	9/15/2017 04:06 AM
Surr: Nitrobenzene-d5	54.7		32-89	%REC	1	9/15/2017 04:06 AM
Surr: Phenol-d6	0		10-35	%REC	1	9/15/2017 04:06 AM

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

Client: Merit Energy
 Project: Merit Energy (Hartland 36 9.11.17)
 Sample ID: MW-7D
 Collection Date: 9/11/2017 02:12 PM

Work Order: 1709522
 Lab ID: 1709522-06
 Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 9/13/17 17:08	Analyst: RM
Sulfolane	1,900		110	µg/L	10	9/18/2017 09:18 PM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/15/2017 04:24 AM
Surr: 2-Fluorobiphenyl	59.5		34-98	%REC	1	9/15/2017 04:24 AM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/15/2017 04:24 AM
Surr: 4-Terphenyl-d14	72.9		50-111	%REC	1	9/15/2017 04:24 AM
Surr: Nitrobenzene-d5	59.9		32-89	%REC	1	9/15/2017 04:24 AM
Surr: Phenol-d6	0		10-35	%REC	1	9/15/2017 04:24 AM

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

ALS Group, USA

Date: 20-Sep-17

Client: Merit Energy
Project: Merit Energy (Hartland 36 9.11.17)
Sample ID: MW-9
Collection Date: 9/11/2017 03:08 PM

Work Order: 1709522
Lab ID: 1709522-07
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 9/13/17 17:08	Analyst: RM
Sulfolane	ND		11	µg/L	1	9/15/2017 04:42 AM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/15/2017 04:42 AM
Surr: 2-Fluorobiphenyl	47.2		34-98	%REC	1	9/15/2017 04:42 AM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/15/2017 04:42 AM
Surr: 4-Terphenyl-d14	72.5		50-111	%REC	1	9/15/2017 04:42 AM
Surr: Nitrobenzene-d5	45.0		32-89	%REC	1	9/15/2017 04:42 AM
Surr: Phenol-d6	0		10-35	%REC	1	9/15/2017 04:42 AM

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

Client: Merit Energy
 Project: Merit Energy (Hartland 36 9.11.17)
 Sample ID: MW-4
 Collection Date: 9/11/2017 03:56 PM

Work Order: 1709522
 Lab ID: 1709522-08
 Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D			
Sulfolane	ND		10	µg/L	1	9/15/2017 05:00 AM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/15/2017 05:00 AM
Surr: 2-Fluorobiphenyl	45.8		34-98	%REC	1	9/15/2017 05:00 AM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/15/2017 05:00 AM
Surr: 4-Terphenyl-d14	83.3		50-111	%REC	1	9/15/2017 05:00 AM
Surr: Nitrobenzene-d5	37.3		32-89	%REC	1	9/15/2017 05:00 AM
Surr: Phenol-d6	0		10-35	%REC	1	9/15/2017 05:00 AM

Prep: SW3510 9/13/17 17:08

Analyst: RM

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

Client: Merit Energy
Project: Merit Energy (Hartland 36 9.11.17)
Work Order: 1709522

Case Narrative

Batch 107305 Sample SBLKW1-107305: Sulfolane samples extracted at neutral pH. Samples not controlled by acid surrogates.

Batch 107305, Sample 1709522-02A: Surrogate for Sulfolane out due to matrix interference.
Client Sample ID: MW-10

Client: Merit Energy
Work Order: 1709522
Project: Merit Energy (Hartland 36 9.11.17)

QC BATCH REPORT

Batch ID: **107305** Instrument ID: **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-107305-107305				Units: µg/L		Analysis Date: 9/15/2017 01:24 AM		
Client ID:		Run ID: SVMS8_170914A		SeqNo: 4642939		Prep Date: 9/13/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPC	RPD Limit	Qual
Sulfolane	ND	10								
Surr: 2,4,6-Tribromophenol	34.57	0								
Surr: 2-Fluorobiphenyl	25.39	0	50	0	50.8	34-98		0		
Surr: 2-Fluorophenol	12.8	0								
Surr: 4-Terphenyl-d14	37.65	0	50	0	75.3	50-111		0		
Surr: Nitrobenzene-d5	24.18	0	50	0	48.4	32-89		0		
Surr: Phenol-d6	5.2	0								

LCS		Sample ID: SLCSW1-107305-107305				Units: µg/L		Analysis Date: 9/15/2017 01:42 AM		
Client ID:		Run ID: SVMS8_170914A		SeqNo: 4642940		Prep Date: 9/13/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPC	RPD Limit	Qual
Sulfolane	33.56	10	100	0	33.6	30-100		0		
Surr: 2,4,6-Tribromophenol	29.92	0	50	0	59.8	32-92		0		
Surr: 2-Fluorobiphenyl	18.81	0	50	0	37.6	34-98		0		
Surr: 2-Fluorophenol	7.78	0	50	0	15.6	23-55		0		S
Surr: 4-Terphenyl-d14	38.59	0	50	0	77.2	50-111		0		
Surr: Nitrobenzene-d5	19.01	0	50	0	38	32-89		0		
Surr: Phenol-d6	2.75	0	50	0	5.5	10-35		0		S

The following samples were analyzed in this batch:

1709522-01A	1709522-02A	1709522-03A
1709522-04A	1709522-05A	1709522-06A
1709522-07A	1709522-08A	

Client: Merit Energy
Project: Merit Energy (Hartland 36 9.11.17)
WorkOrder: 1709522

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-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
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: **12-Sep-17 09:30**

Work Order: **1709522**

Received by: **NCF**

Checklist completed by Nicole Fredericks 12-Sep-17
eSignature Date

Reviewed by: Gary Byar 12-Sep-17
eSignature Date

Matrices: groundwater

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 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>5.6/5.6</u>		<u>sr2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>9/12/2017 10:50:41 AM</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 #: 1709522																
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	ilewandowski@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	MW-8	9/11/17	1055	GW	—	1	X											
2	MW-10	9/11/17	1138	GW	—	1	X											
3	MW-3	9/11/17	1210	GW	—	1	X											
4	MW-3D	9/11/17	1253	GW	—	1	X											
5	MW-7	9/11/17	1335	GW	—	1	X											
6	MW-7D	9/11/17	1412	GW	—	1	X											
7	MW-9	9/11/17	1508	GW	—	1	X											
8	MW-4	9/11/17	1556	GW	—	1	X											
Sampler(s): Please Print & Sign <i>Tom Kravik</i>		Shipment Method: UPS		Required Turnaround Time: (Check Box) <input type="checkbox"/> 10 Wk Days <input type="checkbox"/> 5-7 Wk Days <input type="checkbox"/> 3 Wk Days <input checked="" type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				Other <u>STD</u>				Results Due Date:						
Relinquished by: <i>Tom Kravik</i>		Date: 9/11/17	Time: 1722	Received by: Annox UPS		Date:	Time:	Notes: ALS Project: MERITENERGY - Misc										
Relinquished by: Annox UPS		Date:	Time:	Received by (Laboratory): Drew French		Date: 9/12/17	Time: 0930	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: SW646 Methods/CLP like <input type="checkbox"/> Other:								
Logged by (Laboratory): NTF		Date: 9/12/17	Time: 1040	Checked by (Laboratory): GRB				SK-2	SK-6									
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.											

50 LBS

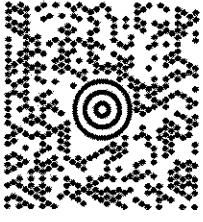
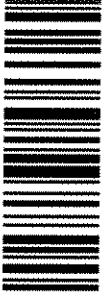
1 OF 1

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

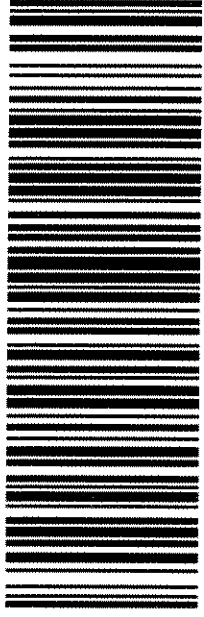
SHIP TO:

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

MI 495 9-04



UPS NEXT DAY AIR 1
TRACKING #: 1Z V54 9W4 01 5057 5306



REF 1:130685, 2000

BILLING: 3RD PARTY

WS 20.0.20 Xerox WorkCent 90.0A 07/2017

Fold here and place in label pouch



19-Sep-2017

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

Re: **Merit Energy (Hartland 36 9.11.17)**

Work Order: **1709525**

Dear Sean,

ALS Environmental received 8 samples on 12-Sep-2017 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 industry accepted practices and Quality Control 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 15.

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: MN 998501

Report of Laboratory Analysis

ADDRESS 3352 128th Ave Holland, Michigan 49424 | 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: Merit Energy (Hartland 36 9.11.17)
Work Order: 1709525

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>
1709525-01	MW-5	Water		9/11/2017 10:35	9/12/2017 09:30	<input type="checkbox"/>
1709525-02	MW-1	Water		9/11/2017 11:40	9/12/2017 09:30	<input type="checkbox"/>
1709525-03	MW-22D	Water		9/11/2017 12:30	9/12/2017 09:30	<input type="checkbox"/>
1709525-04	MW-2D	Water		9/11/2017 13:10	9/12/2017 09:30	<input type="checkbox"/>
1709525-05	MW-2	Water		9/11/2017 13:45	9/12/2017 09:30	<input type="checkbox"/>
1709525-06	MW-23D	Water		9/11/2017 14:40	9/12/2017 09:30	<input type="checkbox"/>
1709525-07	MW-15D	Water		9/11/2017 15:50	9/12/2017 09:30	<input type="checkbox"/>
1709525-08	MW-15	Water		9/11/2017 16:40	9/12/2017 09:30	<input type="checkbox"/>

ALS Group, USA

Date: 19-Sep-17

Client: Merit Energy
Project: Merit Energy (Hartland 36 9.11.17)
Sample ID: MW-5
Collection Date: 9/11/2017 10:35 AM

Work Order: 1709525
Lab ID: 1709525-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D			
Sulfolane	ND		10	µg/L	1	9/15/2017 02:36 AM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/15/2017 02:36 AM
Surr: 2-Fluorobiphenyl	42.4		34-98	%REC	1	9/15/2017 02:36 AM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/15/2017 02:36 AM
Surr: 4-Terphenyl-d14	69.0		50-111	%REC	1	9/15/2017 02:36 AM
Surr: Nitrobenzene-d5	40.0		32-89	%REC	1	9/15/2017 02:36 AM
Surr: Phenol-d6	0		10-35	%REC	1	9/15/2017 02:36 AM

Prep: SW3510 9/13/17 17:08

Analyst: RM

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

ALS Group, USA

Date: 19-Sep-17

Client: Merit Energy
Project: Merit Energy (Hartland 36 9.11.17)
Sample ID: MW-1
Collection Date: 9/11/2017 11:40 AM

Work Order: 1709525
Lab ID: 1709525-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D			
Sulfolane	ND		10	µg/L	1	9/15/2017 05:18 AM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/15/2017 05:18 AM
Surr: 2-Fluorobiphenyl	38.6		34-98	%REC	1	9/15/2017 05:18 AM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/15/2017 05:18 AM
Surr: 4-Terphenyl-d14	61.1		50-111	%REC	1	9/15/2017 05:18 AM
Surr: Nitrobenzene-d5	37.4		32-89	%REC	1	9/15/2017 05:18 AM
Surr: Phenol-d6	0		10-35	%REC	1	9/15/2017 05:18 AM

Prep: SW3510 9/13/17 17:08

Analyst: RM

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

Client: Merit Energy
Project: Merit Energy (Hartland 36 9.11.17)
Sample ID: MW-22D
Collection Date: 9/11/2017 12:30 PM

Work Order: 1709525
Lab ID: 1709525-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 9/13/17 17:08	Analyst: RM	
Sulfolane	ND		10	µg/L	1	9/15/2017 05:37 AM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/15/2017 05:37 AM
Surr: 2-Fluorobiphenyl	36.1		34-98	%REC	1	9/15/2017 05:37 AM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/15/2017 05:37 AM
Surr: 4-Terphenyl-d14	77.2		50-111	%REC	1	9/15/2017 05:37 AM
Surr: Nitrobenzene-d5	33.0		32-89	%REC	1	9/15/2017 05:37 AM
Surr: Phenol-d6	0		10-35	%REC	1	9/15/2017 05:37 AM

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

ALS Group, USA

Date: 19-Sep-17

Client: Merit Energy
Project: Merit Energy (Hartland 36 9.11.17)
Sample ID: MW-2D
Collection Date: 9/11/2017 01:10 PM

Work Order: 1709525
Lab ID: 1709525-04
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 9/13/17 17:08	Analyst: RM	
Sulfolane	ND		10	µg/L	1	9/15/2017 05:55 AM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/15/2017 05:55 AM
Surr: 2-Fluorobiphenyl	36.1		34-98	%REC	1	9/15/2017 05:55 AM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/15/2017 05:55 AM
Surr: 4-Terphenyl-d14	61.2		50-111	%REC	1	9/15/2017 05:55 AM
Surr: Nitrobenzene-d5	36.2		32-89	%REC	1	9/15/2017 05:55 AM
Surr: Phenol-d6	0		10-35	%REC	1	9/15/2017 05:55 AM

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

ALS Group, USA

Date: 19-Sep-17

Client: Merit Energy
Project: Merit Energy (Hartland 36 9.11.17)
Sample ID: MW-2
Collection Date: 9/11/2017 01:45 PM

Work Order: 1709525
Lab ID: 1709525-05
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D			
Sulfolane	ND		10	µg/L	1	9/15/2017 06:13 AM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/15/2017 06:13 AM
Surr: 2-Fluorobiphenyl	47.4		34-98	%REC	1	9/15/2017 06:13 AM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/15/2017 06:13 AM
Surr: 4-Terphenyl-d14	72.1		50-111	%REC	1	9/15/2017 06:13 AM
Surr: Nitrobenzene-d5	43.0		32-89	%REC	1	9/15/2017 06:13 AM
Surr: Phenol-d6	0		10-35	%REC	1	9/15/2017 06:13 AM

Prep: SW3510 9/13/17 17:08

Analyst: RM

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

Client: Merit Energy
Project: Merit Energy (Hartland 36 9.11.17)
Sample ID: MW-23D
Collection Date: 9/11/2017 02:40 PM

Work Order: 1709525
Lab ID: 1709525-06
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 9/13/17 17:08	Analyst: RM	
Sulfolane	ND		10	µg/L	1	9/15/2017 06:31 AM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/15/2017 06:31 AM
Surr: 2-Fluorobiphenyl	34.9		34-98	%REC	1	9/15/2017 06:31 AM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/15/2017 06:31 AM
Surr: 4-Terphenyl-d14	57.7		50-111	%REC	1	9/15/2017 06:31 AM
Surr: Nitrobenzene-d5	30.5	S	32-89	%REC	1	9/15/2017 06:31 AM
Surr: Phenol-d6	0		10-35	%REC	1	9/15/2017 06:31 AM

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

ALS Group, USA

Date: 19-Sep-17

Client: Merit Energy
Project: Merit Energy (Hartland 36 9.11.17)
Sample ID: MW-15D
Collection Date: 9/11/2017 03:50 PM

Work Order: 1709525
Lab ID: 1709525-07
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 9/13/17 17:08	Analyst: RM
Sulfolane	230		10	µg/L	1	9/15/2017 06:49 AM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/15/2017 06:49 AM
Surr: 2-Fluorobiphenyl	41.9		34-98	%REC	1	9/15/2017 06:49 AM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/15/2017 06:49 AM
Surr: 4-Terphenyl-d14	81.9		50-111	%REC	1	9/15/2017 06:49 AM
Surr: Nitrobenzene-d5	38.0		32-89	%REC	1	9/15/2017 06:49 AM
Surr: Phenol-d6	0		10-35	%REC	1	9/15/2017 06:49 AM

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

Client: Merit Energy
Project: Merit Energy (Hartland 36 9.11.17)
Sample ID: MW-15
Collection Date: 9/11/2017 04:40 PM

Work Order: 1709525
Lab ID: 1709525-08
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 9/13/17 17:08	Analyst: RM	
Sulfolane	ND		10	µg/L	1	9/15/2017 07:07 AM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/15/2017 07:07 AM
Surr: 2-Fluorobiphenyl	54.6		34-98	%REC	1	9/15/2017 07:07 AM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/15/2017 07:07 AM
Surr: 4-Terphenyl-d14	107		50-111	%REC	1	9/15/2017 07:07 AM
Surr: Nitrobenzene-d5	50.8		32-89	%REC	1	9/15/2017 07:07 AM
Surr: Phenol-d6	0		10-35	%REC	1	9/15/2017 07:07 AM

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

Client: Merit Energy
Project: Merit Energy (Hartland 36 9.11.17)
Work Order: 1709525

Case Narrative

Batch 107305 Sample SBLKW1-107305: Sulfolane samples extracted at neutral pH. Samples not controlled by acid surrogates.

Batch 107305, Sample 1709525-06A: Surrogate for Sulfolane out due to matrix interference. Client Sample ID: MW-23D

Batch 107305, Sample 1709525-01A MSD: Sulfolane accuracy and precision passed. Surogate failures isolated to this sample. Client Samle ID: MW-5

Client: Merit Energy
Work Order: 1709525
Project: Merit Energy (Hartland 36 9.11.17)

QC BATCH REPORT

Batch ID: **107305** Instrument ID: **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-107305-107305				Units: µg/L		Analysis Date: 9/15/2017 01:24 AM		
Client ID:		Run ID: SVMS8_170914A			SeqNo: 4642939		Prep Date: 9/13/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPC	RPD Limit	Qual
Sulfolane	ND	10								
<i>Surr: 2,4,6-Tribromophenol</i>	34.57	0								
<i>Surr: 2-Fluorobiphenyl</i>	25.39	0	50	0	50.8	34-98		0		
<i>Surr: 2-Fluorophenol</i>	12.8	0								
<i>Surr: 4-Terphenyl-d14</i>	37.65	0	50	0	75.3	50-111		0		
<i>Surr: Nitrobenzene-d5</i>	24.18	0	50	0	48.4	32-89		0		
<i>Surr: Phenol-d6</i>	5.2	0								

The following samples were analyzed in this batch:

1709525-01A	1709525-02A	1709525-03A
1709525-04A	1709525-05A	1709525-06A
1709525-07A	1709525-08A	

Client: Merit Energy
Project: Merit Energy (Hartland 36 9.11.17)
WorkOrder: 1709525

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-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
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: **12-Sep-17 09:30**

Work Order: **1709525**

Received by: **NCF**

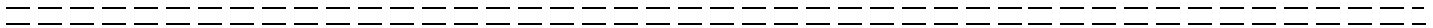
Checklist completed by Nicole Fredericks 12-Sep-17
eSignature Date

Reviewed by: Gary Byar 12-Sep-17
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>9/12/2017 10:56:36 AM</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 #: 1709525

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
1	MW-5	9/11/17	1035	water	none	1	X										
2	MW-1		1140				X										
3	MW-22d		1230				X										
4	MW-2d		1310				X										
5	MW-2		1345				X										
1	MW-5 MS		1035				X										
1	MW-5 MSP		1035				X										
6	MW-23d		1440				X										
7	MW-15d		1550				X										
8	MW-15		1640				X										

Sampler(s): Please Print & Sign Jason Bartholomew Shipment Method: UPS 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: _____ Time: _____ Received by: [Signature] Date: _____ Time: _____ Notes: ALS Project: MERITENERGY - Misc

Relinquished by: [Signature] Date: _____ Time: _____ Received by (Laboratory): [Signature] Date: 9-12-17 Time: 0930 ALS Cooler ID: SP2 Cooler Temp: 3.6 QC Package: (Check Box Below) Level II: Standard QC Level III: Raw Data TRRP LRC TRRP Level IV

Logged by (Laboratory): NJF Date: 9-12-17 Time: 1100 Checked by (Laboratory): GRB Level IV: SW046 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.



20-Sep-2017

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

Re: **Merit (Hartland 36 Gas Plant 9.12.17)**

Work Order: **1709615**

Dear Sean,

ALS Environmental received 10 samples on 13-Sep-2017 08:00 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 industry accepted practices and Quality Control 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: MN 998501

Report of Laboratory Analysis

ADDRESS 3352 128th Ave Holland, Michigan 49424 | 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: Merit (Hartland 36 Gas Plant 9.12.17)
Work Order: 1709615

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>
1709615-01	MW-16S	Water		9/12/2017 09:10	9/13/2017 08:00	<input type="checkbox"/>
1709615-02	MW-16D	Water		9/12/2017 09:55	9/13/2017 08:00	<input type="checkbox"/>
1709615-03	MW-15DD	Water		9/12/2017 10:45	9/13/2017 08:00	<input type="checkbox"/>
1709615-04	MW-17D	Water		9/12/2017 12:25	9/13/2017 08:00	<input type="checkbox"/>
1709615-05	MW-17S	Water		9/12/2017 13:25	9/13/2017 08:00	<input type="checkbox"/>
1709615-06	MW-14S	Water		9/12/2017 15:00	9/13/2017 08:00	<input type="checkbox"/>
1709615-07	MW-14D	Water		9/12/2017 15:45	9/13/2017 08:00	<input type="checkbox"/>
1709615-08	DUP 03	Water		9/12/2017	9/13/2017 08:00	<input type="checkbox"/>
1709615-09	MW-6S	Water		9/12/2017 16:15	9/13/2017 08:00	<input type="checkbox"/>
1709615-10	FB091217	Water		9/12/2017 14:50	9/13/2017 08:00	<input type="checkbox"/>

Client: Merit Energy
 Project: Merit (Hartland 36 Gas Plant 9.12.17)
 Sample ID: MW-16S
 Collection Date: 9/12/2017 09:10 AM

Work Order: 1709615
 Lab ID: 1709615-01
 Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 9/15/17 12:22	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/19/2017 08:18 AM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/19/2017 08:18 AM
Surr: 2-Fluorobiphenyl	49.9		34-98	%REC	1	9/19/2017 08:18 AM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/19/2017 08:18 AM
Surr: 4-Terphenyl-d14	79.3		50-111	%REC	1	9/19/2017 08:18 AM
Surr: Nitrobenzene-d5	46.2		32-89	%REC	1	9/19/2017 08:18 AM
Surr: Phenol-d6	0		10-35	%REC	1	9/19/2017 08:18 AM

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

Client: Merit Energy
Project: Merit (Hartland 36 Gas Plant 9.12.17)
Sample ID: MW-16D
Collection Date: 9/12/2017 09:55 AM

Work Order: 1709615
Lab ID: 1709615-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 9/15/17 12:22	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/19/2017 08:37 AM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/19/2017 08:37 AM
Surr: 2-Fluorobiphenyl	37.2		34-98	%REC	1	9/19/2017 08:37 AM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/19/2017 08:37 AM
Surr: 4-Terphenyl-d14	62.4		50-111	%REC	1	9/19/2017 08:37 AM
Surr: Nitrobenzene-d5	32.3		32-89	%REC	1	9/19/2017 08:37 AM
Surr: Phenol-d6	0		10-35	%REC	1	9/19/2017 08:37 AM

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

Client: Merit Energy
 Project: Merit (Hartland 36 Gas Plant 9.12.17)
 Sample ID: MW-15DD
 Collection Date: 9/12/2017 10:45 AM

Work Order: 1709615
 Lab ID: 1709615-03
 Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 9/15/17 12:22	Analyst: RM
Sulfolane	33		10	µg/L	1	9/19/2017 08:55 AM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/19/2017 08:55 AM
Surr: 2-Fluorobiphenyl	52.8		34-98	%REC	1	9/19/2017 08:55 AM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/19/2017 08:55 AM
Surr: 4-Terphenyl-d14	104		50-111	%REC	1	9/19/2017 08:55 AM
Surr: Nitrobenzene-d5	37.1		32-89	%REC	1	9/19/2017 08:55 AM
Surr: Phenol-d6	0		10-35	%REC	1	9/19/2017 08:55 AM

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

Client: Merit Energy
 Project: Merit (Hartland 36 Gas Plant 9.12.17)
 Sample ID: MW-17D
 Collection Date: 9/12/2017 12:25 PM

Work Order: 1709615
 Lab ID: 1709615-04
 Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 9/15/17 12:22	Analyst: RM
Sulfolane	380		10	µg/L	1	9/19/2017 09:13 AM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/19/2017 09:13 AM
Surr: 2-Fluorobiphenyl	51.1		34-98	%REC	1	9/19/2017 09:13 AM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/19/2017 09:13 AM
Surr: 4-Terphenyl-d14	68.1		50-111	%REC	1	9/19/2017 09:13 AM
Surr: Nitrobenzene-d5	42.9		32-89	%REC	1	9/19/2017 09:13 AM
Surr: Phenol-d6	0		10-35	%REC	1	9/19/2017 09:13 AM

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

ALS Group, USA

Date: 20-Sep-17

Client: Merit Energy
Project: Merit (Hartland 36 Gas Plant 9.12.17)
Sample ID: MW-17S
Collection Date: 9/12/2017 01:25 PM

Work Order: 1709615
Lab ID: 1709615-05
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 9/15/17 12:22	Analyst: RM
Sulfolane	3,100		200	µg/L	20	9/19/2017 02:51 PM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/19/2017 09:31 AM
Surr: 2-Fluorobiphenyl	53.0		34-98	%REC	1	9/19/2017 09:31 AM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/19/2017 09:31 AM
Surr: 4-Terphenyl-d14	80.0		50-111	%REC	1	9/19/2017 09:31 AM
Surr: Nitrobenzene-d5	46.4		32-89	%REC	1	9/19/2017 09:31 AM
Surr: Phenol-d6	0		10-35	%REC	1	9/19/2017 09:31 AM

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

ALS Group, USA

Date: 20-Sep-17

Client: Merit Energy
Project: Merit (Hartland 36 Gas Plant 9.12.17)
Sample ID: MW-14S
Collection Date: 9/12/2017 03:00 PM

Work Order: 1709615
Lab ID: 1709615-06
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 9/15/17 12:22	Analyst: RM
Sulfolane	120		10	µg/L	1	9/19/2017 09:49 AM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/19/2017 09:49 AM
Surr: 2-Fluorobiphenyl	39.5		34-98	%REC	1	9/19/2017 09:49 AM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/19/2017 09:49 AM
Surr: 4-Terphenyl-d14	64.7		50-111	%REC	1	9/19/2017 09:49 AM
Surr: Nitrobenzene-d5	35.3		32-89	%REC	1	9/19/2017 09:49 AM
Surr: Phenol-d6	0		10-35	%REC	1	9/19/2017 09:49 AM

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

Client: Merit Energy
Project: Merit (Hartland 36 Gas Plant 9.12.17)
Sample ID: MW-14D
Collection Date: 9/12/2017 03:45 PM

Work Order: 1709615
Lab ID: 1709615-07
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D			
Sulfolane	7,700		500	µg/L	50	
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/19/2017 03:09 PM
Surr: 2-Fluorobiphenyl	61.9		34-98	%REC	1	9/19/2017 10:07 AM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/19/2017 10:07 AM
Surr: 4-Terphenyl-d14	85.1		50-111	%REC	1	9/19/2017 10:07 AM
Surr: Nitrobenzene-d5	53.6		32-89	%REC	1	9/19/2017 10:07 AM
Surr: Phenol-d6	0		10-35	%REC	1	9/19/2017 10:07 AM

Prep: SW3510 9/15/17 12:22

Analyst: **RM**

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

Client: Merit Energy

Project: Merit (Hartland 36 Gas Plant 9.12.17)

Work Order: 1709615

Sample ID: DUP 03

Lab ID: 1709615-08

Collection Date: 9/12/2017

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 9/15/17 12:22	Analyst: RM
Sulfolane	400		10	µg/L	1	9/19/2017 10:26 AM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/19/2017 10:26 AM
Surr: 2-Fluorobiphenyl	47.9		34-98	%REC	1	9/19/2017 10:26 AM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/19/2017 10:26 AM
Surr: 4-Terphenyl-d14	75.6		50-111	%REC	1	9/19/2017 10:26 AM
Surr: Nitrobenzene-d5	44.5		32-89	%REC	1	9/19/2017 10:26 AM
Surr: Phenol-d6	0		10-35	%REC	1	9/19/2017 10:26 AM

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

ALS Group, USA

Date: 20-Sep-17

Client: Merit Energy

Project: Merit (Hartland 36 Gas Plant 9.12.17)

Work Order: 1709615

Sample ID: MW-6S

Lab ID: 1709615-09

Collection Date: 9/12/2017 04:15 PM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 9/15/17 12:22	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/19/2017 10:44 AM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/19/2017 10:44 AM
Surr: 2-Fluorobiphenyl	38.0		34-98	%REC	1	9/19/2017 10:44 AM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/19/2017 10:44 AM
Surr: 4-Terphenyl-d14	59.6		50-111	%REC	1	9/19/2017 10:44 AM
Surr: Nitrobenzene-d5	34.2		32-89	%REC	1	9/19/2017 10:44 AM
Surr: Phenol-d6	0		10-35	%REC	1	9/19/2017 10:44 AM

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

Client: Merit Energy
 Project: Merit (Hartland 36 Gas Plant 9.12.17)
 Sample ID: FB091217
 Collection Date: 9/12/2017 02:50 PM

Work Order: 1709615
 Lab ID: 1709615-10
 Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510	9/15/17 12:22	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/19/2017 11:02 AM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/19/2017 11:02 AM
Surr: 2-Fluorobiphenyl	56.8		34-98	%REC	1	9/19/2017 11:02 AM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/19/2017 11:02 AM
Surr: 4-Terphenyl-d14	86.2		50-111	%REC	1	9/19/2017 11:02 AM
Surr: Nitrobenzene-d5	49.1		32-89	%REC	1	9/19/2017 11:02 AM
Surr: Phenol-d6	0		10-35	%REC	1	9/19/2017 11:02 AM

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

Client: Merit Energy
Project: Merit (Hartland 36 Gas Plant 9.12.17)
Work Order: 1709615

Case Narrative

Batch 107366 Sample SBLKW1-107366: Sulfolane samples extracted at neutral pH. Samples not controlled by acid surrogates.

Client: Merit Energy
Work Order: 1709615
Project: Merit (Hartland 36 Gas Plant 9.12.17)

QC BATCH REPORT

Batch ID: **107366** Instrument ID: **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-107366-107366				Units: µg/L		Analysis Date: 9/19/2017 06:30 AM			
Client ID:		Run ID: SVMS8_170918B				SeqNo: 4646501		Prep Date: 9/15/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPC	RPD Limit	Qual	
Sulfolane	ND	10									
<i>Surr: 2-Fluorobiphenyl</i>	24.02	0	50	0	48	34-98	0				
<i>Surr: 4-Terphenyl-d14</i>	37.88	0	50	0	75.8	50-111	0				
<i>Surr: Nitrobenzene-d5</i>	22.72	0	50	0	45.4	32-89	0				

LCS		Sample ID: SLCSW1-107366-107366				Units: µg/L		Analysis Date: 9/19/2017 06:48 AM			
Client ID:		Run ID: SVMS8_170918B				SeqNo: 4646502		Prep Date: 9/15/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPC	RPD Limit	Qual	
Sulfolane	50.66	10	100	0	50.7	30-100	0				
<i>Surr: 2-Fluorobiphenyl</i>	22.6	0	50	0	45.2	34-98	0				
<i>Surr: 4-Terphenyl-d14</i>	42.12	0	50	0	84.2	50-111	0				
<i>Surr: Nitrobenzene-d5</i>	25.43	0	50	0	50.9	32-89	0				

LCSD		Sample ID: SLCSDW1-107366-107366				Units: µg/L		Analysis Date: 9/19/2017 07:06 AM			
Client ID:		Run ID: SVMS8_170918B				SeqNo: 4646503		Prep Date: 9/15/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPC	RPD Limit	Qual	
Sulfolane	40.34	10	100	0	40.3	30-100	50.66	22.7	30		
<i>Surr: 2-Fluorobiphenyl</i>	23.67	0	50	0	47.3	34-98	22.6	4.63	40		
<i>Surr: 4-Terphenyl-d14</i>	34.85	0	50	0	69.7	50-111	42.12	18.9	40		
<i>Surr: Nitrobenzene-d5</i>	21.49	0	50	0	43	32-89	25.43	16.8	40		

The following samples were analyzed in this batch:

1709615-01A	1709615-02A	1709615-03A
1709615-04A	1709615-05A	1709615-06A
1709615-07A	1709615-08A	1709615-09A
1709615-10A		

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

Client: Merit Energy
Project: Merit (Hartland 36 Gas Plant 9.12.17)
WorkOrder: 1709615

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-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
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: **13-Sep-17 08:00**

Work Order: **1709615**

Received by: **NCF**

Checklist completed by Nicole Fredericks 13-Sep-17
eSignature Date

Reviewed by: Gary Byar 13-Sep-17
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>9/13/2017 10:57:54 AM</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 #: 1709615															
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
1	MW-16S	9/12/17	0910	Water	-	1	X										
2	MW-16d		0955				X										
3	MW-15 d d		1045				X										
4	MW-17d		1225				X										
5	MW-17S		1325				X										
6	MW-14S		1500				X										
7	MW-14d		1545				X										
8	Dip 03		-				X										
9	MW-6S		1615				X										
10	FB091217		1450				X										
Sampler(s): Please Print & Sign Jason Bartholomeo / Jim Bartholomeo		Shipment Method: UPS		Required Turnaround Time: (Check Box) <input checked="" type="checkbox"/> 10 Wk Days <input 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: [Signature]		Date: 9/12/17	Time: 1655	Received by: UPS		Date: 9-13-17	Time: 1100	Notes: ALS Project: MERITENERGY - Misc									
Relinquished by: UPS		Date:	Time:	Received by (Laboratory): [Signature]		Date: 9-13-17	Time: 1100	ALS Cooler ID: SR2	Cooler Temp: 3.6	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): NJF		Date: 9-13-17	Time: 1100	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.

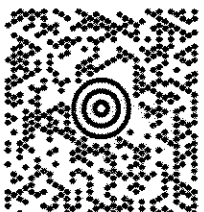
50 LBS

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

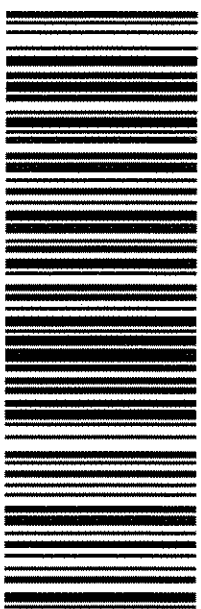
REF 1:130685, 2000



MI 495 9-04


UPS NEXT DAY AIR





TRACKING #: 1Z V54 9W4 01 5173 0921



BILLING: 3RD PARTY

W.S. 309.20 Xerox WorkScan 90.0A 07/2017

Fold here and place in label pouch

CUSTODY SEAL			
DATE	9/12/17		
SIGNATURE			
QEC			
Quality Environmental Containers 800-265-3960 • 313-255-3900			



20-Sep-2017

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

Re: **Merit (Hartland 36 Gas Plant 9.12.17)**

Work Order: **1709619**

Dear Sean,

ALS Environmental received 10 samples on 12-Sep-2017 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 industry accepted practices and Quality Control 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: MN 998501

Report of Laboratory Analysis

ADDRESS 3352 128th Ave Holland, Michigan 49424 | 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: Merit (Hartland 36 Gas Plant 9.12.17)
Work Order: 1709619

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>
1709619-01	MW-19S	Groundwater		9/12/2017 09:32	9/12/2017 10:00	<input type="checkbox"/>
1709619-02	MW-19D	Groundwater		9/12/2017 10:25	9/12/2017 10:00	<input type="checkbox"/>
1709619-03	MW-19DD	Groundwater		9/12/2017 11:20	9/12/2017 10:00	<input type="checkbox"/>
1709619-04	MW-11	Groundwater		9/12/2017 12:05	9/12/2017 10:00	<input type="checkbox"/>
1709619-05	MW-18	Groundwater		9/12/2017 13:10	9/12/2017 10:00	<input type="checkbox"/>
1709619-06	MW-12S	Groundwater		9/12/2017 14:05	9/12/2017 10:00	<input type="checkbox"/>
1709619-07	MW-12D	Groundwater		9/12/2017 14:40	9/12/2017 10:00	<input type="checkbox"/>
1709619-08	MW-6D	Groundwater		9/12/2017 15:35	9/12/2017 10:00	<input type="checkbox"/>
1709619-09	DUPE01	Groundwater		9/12/2017	9/12/2017 10:00	<input type="checkbox"/>
1709619-10	DUPE02	Groundwater		9/12/2017	9/12/2017 10:00	<input type="checkbox"/>

ALS Group, USA

Date: 20-Sep-17

Client: Merit Energy
Project: Merit (Hartland 36 Gas Plant 9.12.17)
Sample ID: MW-19S
Collection Date: 9/12/2017 09:32 AM

Work Order: 1709619
Lab ID: 1709619-01
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 9/15/17 12:22	Analyst: RM
Sulfolane	29		10	µg/L	1	9/19/2017 11:20 AM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/19/2017 11:20 AM
Surr: 2-Fluorobiphenyl	50.8		34-98	%REC	1	9/19/2017 11:20 AM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/19/2017 11:20 AM
Surr: 4-Terphenyl-d14	73.8		50-111	%REC	1	9/19/2017 11:20 AM
Surr: Nitrobenzene-d5	46.1		32-89	%REC	1	9/19/2017 11:20 AM
Surr: Phenol-d6	0		10-35	%REC	1	9/19/2017 11:20 AM

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

ALS Group, USA

Date: 20-Sep-17

Client: Merit Energy
Project: Merit (Hartland 36 Gas Plant 9.12.17)
Sample ID: MW-19D
Collection Date: 9/12/2017 10:25 AM

Work Order: 1709619
Lab ID: 1709619-02
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D			
Sulfolane	5,900		200	µg/L	20	
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/19/2017 03:27 PM
Surr: 2-Fluorobiphenyl	58.4		34-98	%REC	1	9/19/2017 11:38 AM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/19/2017 11:38 AM
Surr: 4-Terphenyl-d14	75.8		50-111	%REC	1	9/19/2017 11:38 AM
Surr: Nitrobenzene-d5	50.0		32-89	%REC	1	9/19/2017 11:38 AM
Surr: Phenol-d6	0		10-35	%REC	1	9/19/2017 11:38 AM

Prep: SW3510 9/15/17 12:22

Analyst: RM

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

ALS Group, USA

Date: 20-Sep-17

Client: Merit Energy
Project: Merit (Hartland 36 Gas Plant 9.12.17)
Sample ID: MW-19DD
Collection Date: 9/12/2017 11:20 AM

Work Order: 1709619
Lab ID: 1709619-03
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 9/15/17 12:22	Analyst: RM	
Sulfolane	ND		10	µg/L	1	9/19/2017 11:57 AM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/19/2017 11:57 AM
Surr: 2-Fluorobiphenyl	47.0		34-98	%REC	1	9/19/2017 11:57 AM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/19/2017 11:57 AM
Surr: 4-Terphenyl-d14	78.0		50-111	%REC	1	9/19/2017 11:57 AM
Surr: Nitrobenzene-d5	42.3		32-89	%REC	1	9/19/2017 11:57 AM
Surr: Phenol-d6	0		10-35	%REC	1	9/19/2017 11:57 AM

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

Client: Merit Energy
Project: Merit (Hartland 36 Gas Plant 9.12.17)
Sample ID: MW-11
Collection Date: 9/12/2017 12:05 PM

Work Order: 1709619
Lab ID: 1709619-04
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 9/15/17 12:22	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/19/2017 12:15 PM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/19/2017 12:15 PM
Surr: 2-Fluorobiphenyl	51.5		34-98	%REC	1	9/19/2017 12:15 PM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/19/2017 12:15 PM
Surr: 4-Terphenyl-d14	80.5		50-111	%REC	1	9/19/2017 12:15 PM
Surr: Nitrobenzene-d5	47.3		32-89	%REC	1	9/19/2017 12:15 PM
Surr: Phenol-d6	0		10-35	%REC	1	9/19/2017 12:15 PM

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

ALS Group, USA

Date: 20-Sep-17

Client: Merit Energy
Project: Merit (Hartland 36 Gas Plant 9.12.17)
Sample ID: MW-18
Collection Date: 9/12/2017 01:10 PM

Work Order: 1709619
Lab ID: 1709619-05
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 9/15/17 12:22	Analyst: RM
Sulfolane	2,200		100	µg/L	10	9/19/2017 03:46 PM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/19/2017 12:33 PM
Surr: 2-Fluorobiphenyl	50.2		34-98	%REC	1	9/19/2017 12:33 PM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/19/2017 12:33 PM
Surr: 4-Terphenyl-d14	63.9		50-111	%REC	1	9/19/2017 12:33 PM
Surr: Nitrobenzene-d5	41.0		32-89	%REC	1	9/19/2017 12:33 PM
Surr: Phenol-d6	0		10-35	%REC	1	9/19/2017 12:33 PM

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

ALS Group, USA

Date: 20-Sep-17

Client: Merit Energy
Project: Merit (Hartland 36 Gas Plant 9.12.17)
Sample ID: MW-12S
Collection Date: 9/12/2017 02:05 PM

Work Order: 1709619
Lab ID: 1709619-06
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 9/15/17 12:22	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/19/2017 12:51 PM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/19/2017 12:51 PM
Surr: 2-Fluorobiphenyl	52.2		34-98	%REC	1	9/19/2017 12:51 PM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/19/2017 12:51 PM
Surr: 4-Terphenyl-d14	93.7		50-111	%REC	1	9/19/2017 12:51 PM
Surr: Nitrobenzene-d5	47.0		32-89	%REC	1	9/19/2017 12:51 PM
Surr: Phenol-d6	0		10-35	%REC	1	9/19/2017 12:51 PM

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

ALS Group, USA

Date: 20-Sep-17

Client: Merit Energy
Project: Merit (Hartland 36 Gas Plant 9.12.17)
Sample ID: MW-12D
Collection Date: 9/12/2017 02:40 PM

Work Order: 1709619
Lab ID: 1709619-07
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D			
Sulfolane	ND		10	µg/L	1	9/19/2017 01:10 PM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/19/2017 01:10 PM
Surr: 2-Fluorobiphenyl	56.3		34-98	%REC	1	9/19/2017 01:10 PM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/19/2017 01:10 PM
Surr: 4-Terphenyl-d14	78.9		50-111	%REC	1	9/19/2017 01:10 PM
Surr: Nitrobenzene-d5	48.6		32-89	%REC	1	9/19/2017 01:10 PM
Surr: Phenol-d6	0		10-35	%REC	1	9/19/2017 01:10 PM

Prep: SW3510 9/15/17 12:22

Analyst: RM

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

ALS Group, USA

Date: 20-Sep-17

Client: Merit Energy
Project: Merit (Hartland 36 Gas Plant 9.12.17)
Sample ID: MW-6D
Collection Date: 9/12/2017 03:35 PM

Work Order: 1709619
Lab ID: 1709619-08
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 9/15/17 12:22	Analyst: RM
Sulfolane	ND		10	µg/L	1	9/19/2017 01:28 PM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/19/2017 01:28 PM
Surr: 2-Fluorobiphenyl	58.1		34-98	%REC	1	9/19/2017 01:28 PM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/19/2017 01:28 PM
Surr: 4-Terphenyl-d14	84.4		50-111	%REC	1	9/19/2017 01:28 PM
Surr: Nitrobenzene-d5	51.9		32-89	%REC	1	9/19/2017 01:28 PM
Surr: Phenol-d6	0		10-35	%REC	1	9/19/2017 01:28 PM

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

Client: Merit Energy

Project: Merit (Hartland 36 Gas Plant 9.12.17)

Sample ID: DUPE01

Collection Date: 9/12/2017

Work Order: 1709619

Lab ID: 1709619-09

Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 9/15/17 12:22	Analyst: RM
Sulfolane	33		10	µg/L	1	9/19/2017 01:46 PM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/19/2017 01:46 PM
Surr: 2-Fluorobiphenyl	50.0		34-98	%REC	1	9/19/2017 01:46 PM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/19/2017 01:46 PM
Surr: 4-Terphenyl-d14	83.0		50-111	%REC	1	9/19/2017 01:46 PM
Surr: Nitrobenzene-d5	45.2		32-89	%REC	1	9/19/2017 01:46 PM
Surr: Phenol-d6	0		10-35	%REC	1	9/19/2017 01:46 PM

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

ALS Group, USA

Date: 20-Sep-17

Client: Merit Energy

Project: Merit (Hartland 36 Gas Plant 9.12.17)

Sample ID: DUPE02

Collection Date: 9/12/2017

Work Order: 1709619

Lab ID: 1709619-10

Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 9/15/17 12:22	Analyst: RM
Sulfolane	5,400		200	µg/L	20	9/19/2017 04:04 PM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/19/2017 02:05 PM
Surr: 2-Fluorobiphenyl	74.2		34-98	%REC	1	9/19/2017 02:05 PM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/19/2017 02:05 PM
Surr: 4-Terphenyl-d14	87.0		50-111	%REC	1	9/19/2017 02:05 PM
Surr: Nitrobenzene-d5	61.6		32-89	%REC	1	9/19/2017 02:05 PM
Surr: Phenol-d6	0		10-35	%REC	1	9/19/2017 02:05 PM

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

Client: Merit Energy
Project: Merit (Hartland 36 Gas Plant 9.12.17)
Work Order: 1709619

Case Narrative

Batch 107366 Sample SBLKW1-107366: Sulfolane samples extracted at neutral pH. Samples not controlled by acid surrogates.

Client: Merit Energy
Work Order: 1709619
Project: Merit (Hartland 36 Gas Plant 9.12.17)

QC BATCH REPORT

Batch ID: **107366** Instrument ID: **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-107366-107366				Units: µg/L		Analysis Date: 9/19/2017 06:30 AM			
Client ID:		Run ID: SVMS8_170918B				SeqNo: 4646501		Prep Date: 9/15/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPC	RPD Limit	Qual	
Sulfolane	ND	10									
<i>Surr: 2-Fluorobiphenyl</i>	24.02	0	50	0	48	34-98	0				
<i>Surr: 4-Terphenyl-d14</i>	37.88	0	50	0	75.8	50-111	0				
<i>Surr: Nitrobenzene-d5</i>	22.72	0	50	0	45.4	32-89	0				

LCS		Sample ID: SLCSW1-107366-107366				Units: µg/L		Analysis Date: 9/19/2017 06:48 AM			
Client ID:		Run ID: SVMS8_170918B				SeqNo: 4646502		Prep Date: 9/15/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPC	RPD Limit	Qual	
Sulfolane	50.66	10	100	0	50.7	30-100	0				
<i>Surr: 2-Fluorobiphenyl</i>	22.6	0	50	0	45.2	34-98	0				
<i>Surr: 4-Terphenyl-d14</i>	42.12	0	50	0	84.2	50-111	0				
<i>Surr: Nitrobenzene-d5</i>	25.43	0	50	0	50.9	32-89	0				

LCSD		Sample ID: SLCSDW1-107366-107366				Units: µg/L		Analysis Date: 9/19/2017 07:06 AM			
Client ID:		Run ID: SVMS8_170918B				SeqNo: 4646503		Prep Date: 9/15/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPC	RPD Limit	Qual	
Sulfolane	40.34	10	100	0	40.3	30-100	50.66	22.7	30		
<i>Surr: 2-Fluorobiphenyl</i>	23.67	0	50	0	47.3	34-98	22.6	4.63	40		
<i>Surr: 4-Terphenyl-d14</i>	34.85	0	50	0	69.7	50-111	42.12	18.9	40		
<i>Surr: Nitrobenzene-d5</i>	21.49	0	50	0	43	32-89	25.43	16.8	40		

The following samples were analyzed in this batch:

1709619-01A	1709619-02A	1709619-03A
1709619-04A	1709619-05A	1709619-06A
1709619-07A	1709619-08A	1709619-09A
1709619-10A		

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

Client: Merit Energy
Project: Merit (Hartland 36 Gas Plant 9.12.17)
WorkOrder: 1709619

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-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
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: **12-Sep-17 10:00**

Work Order: **1709619**

Received by: **NCF**

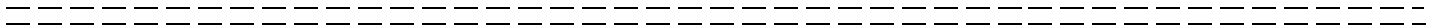
Checklist completed by Nicole Fredericks 13-Sep-17
eSignature Date

Reviewed by: Gary Byar 13-Sep-17
eSignature Date

Matrices: groundwater
 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>9/13/2017 11:06:03 AM</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			
1	MW-195	9/12/17	0932	GW	—	1	X													
2	MW-19D	}	1025	GW	—	1	X													
3	MW-19DD		1120	GW	—	1	X													
4	MW-11		1205	GW	—	1	X													
5	MW-18		1310	GW	—	1	X													
6	MW-12S		1405	GW	—	1	X													
7	MW-12D		1440	GW	—	1	X													
8	MW-6D		1535	GW	—	1	X													
9	DUPE 01		—	—	GW	—	1	X												
10	DUPE 02		—	—	GW	—	1	X												
Sampler(s): Please Print & Sign <i>Jana Karrik</i>			Shipment Method: UPS		Required Turnaround Time: (Check Box) <input type="checkbox"/> 10 Wk Days <input 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>Jana Karrik</i>		Date: 9/12/17	Time: 1650	Received by: UPS		Date:	Time:	Notes: ALS Project: MERITENERGY - Misc												
Relinquished by: UPS		Date:	Time:	Received by (Laboratory): <i>Nuel Fred</i>		Date: 9-13-17	Time: 1000	ALS Cooler ID: SP2	Cooler Temp: 3.6	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): NJF		Date: 9-13-17	Time: 1100	Checked by (Laboratory): 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.								

50 LBS

1 OF 1

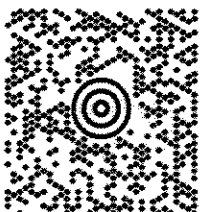
FROM:

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

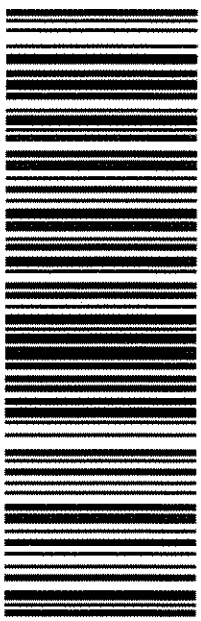
REF 1:130685, 2000



MI 495 9-04


UPS NEXT DAY AIR

TRACKING #: 1Z V54 9W4 01 5173 0921



BILLING: 3RD PARTY

W.S. 303 20 Xerox WorkScan 90.0A 07/2017

Fold here and place in label pouch

CUSTODY SEAL

DATE 9/12/17

SIGNATURE [Signature]



Quality Environmental Containers
800-265-3960 • 313-255-3900



21-Sep-2017

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

Re: **Merit (Hartland 36 Gas Plant 9.13.17)**

Work Order: **1709745**

Dear Sean,

ALS Environmental received 9 samples on 14-Sep-2017 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 industry accepted practices and Quality Control 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: MN 998501

Report of Laboratory Analysis

ADDRESS 3352 128th Ave Holland, Michigan 49424 | 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: Merit (Hartland 36 Gas Plant 9.13.17)
Work Order: 1709745

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>
1709745-01	MW-20S	Water		9/13/2017 09:05	9/14/2017 10:00	<input type="checkbox"/>
1709745-02	MW-20d	Water		9/13/2017 10:00	9/14/2017 10:00	<input type="checkbox"/>
1709745-03	MW-21d	Water		9/13/2017 11:05	9/14/2017 10:00	<input type="checkbox"/>
1709745-04	Field Blank #2	Water		9/13/2017 11:30	9/14/2017 10:00	<input type="checkbox"/>
1709745-05	MW-13D	Water		9/13/2017 09:42	9/14/2017 10:00	<input type="checkbox"/>
1709745-06	MW-13S	Water		9/13/2017 10:25	9/14/2017 10:00	<input type="checkbox"/>
1709745-07	MP-1D	Water		9/13/2017 11:10	9/14/2017 10:00	<input type="checkbox"/>
1709745-08	MP-2S	Water		9/13/2017 12:05	9/14/2017 10:00	<input type="checkbox"/>
1709745-09	DUPE 04	Water		9/13/2017	9/14/2017 10:00	<input type="checkbox"/>

ALS Group, USA

Date: 21-Sep-17

Client: Merit Energy

Project: Merit (Hartland 36 Gas Plant 9.13.17)

Sample ID: MW-20S

Collection Date: 9/13/2017 09:05 AM

Work Order: 1709745

Lab ID: 1709745-01

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D			
Sulfolane	63		10	µg/L	1	9/19/2017 02:23 PM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/19/2017 02:23 PM
Surr: 2-Fluorobiphenyl	48.2		34-98	%REC	1	9/19/2017 02:23 PM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/19/2017 02:23 PM
Surr: 4-Terphenyl-d14	83.5		50-111	%REC	1	9/19/2017 02:23 PM
Surr: Nitrobenzene-d5	41.5		32-89	%REC	1	9/19/2017 02:23 PM
Surr: Phenol-d6	0		10-35	%REC	1	9/19/2017 02:23 PM

Prep: SW3510 9/15/17 16:02

Analyst: RM

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

Client: Merit Energy
Project: Merit (Hartland 36 Gas Plant 9.13.17)
Sample ID: MW-20d
Collection Date: 9/13/2017 10:00 AM

Work Order: 1709745
Lab ID: 1709745-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 9/15/17 16:02		Analyst: RM
Sulfolane	12,000		200	µg/L	20	9/21/2017 03:20 PM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/21/2017 12:44 PM
Surr: 2-Fluorobiphenyl	65.3		34-98	%REC	1	9/21/2017 12:44 PM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/21/2017 12:44 PM
Surr: 4-Terphenyl-d14	84.3		50-111	%REC	1	9/21/2017 12:44 PM
Surr: Nitrobenzene-d5	59.1		32-89	%REC	1	9/21/2017 12:44 PM
Surr: Phenol-d6	0		10-35	%REC	1	9/21/2017 12:44 PM

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

Client: Merit Energy
Project: Merit (Hartland 36 Gas Plant 9.13.17)
Sample ID: MW-21d
Collection Date: 9/13/2017 11:05 AM

Work Order: 1709745
Lab ID: 1709745-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D			
Sulfolane	ND		10	µg/L	1	9/21/2017 01:04 PM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/21/2017 01:04 PM
Surr: 2-Fluorobiphenyl	51.7		34-98	%REC	1	9/21/2017 01:04 PM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/21/2017 01:04 PM
Surr: 4-Terphenyl-d14	78.9		50-111	%REC	1	9/21/2017 01:04 PM
Surr: Nitrobenzene-d5	46.3		32-89	%REC	1	9/21/2017 01:04 PM
Surr: Phenol-d6	0		10-35	%REC	1	9/21/2017 01:04 PM

Prep: SW3510 9/15/17 16:02

Analyst: **RM**

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

ALS Group, USA

Date: 21-Sep-17

Client: Merit Energy
Project: Merit (Hartland 36 Gas Plant 9.13.17)
Sample ID: Field Blank #2
Collection Date: 9/13/2017 11:30 AM

Work Order: 1709745
Lab ID: 1709745-04
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 9/15/17 16:02	Analyst: RM
Sulfolane	ND		12	µg/L	1	9/21/2017 01:23 PM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/21/2017 01:23 PM
Surr: 2-Fluorobiphenyl	57.5		34-98	%REC	1	9/21/2017 01:23 PM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/21/2017 01:23 PM
Surr: 4-Terphenyl-d14	84.6		50-111	%REC	1	9/21/2017 01:23 PM
Surr: Nitrobenzene-d5	50.2		32-89	%REC	1	9/21/2017 01:23 PM
Surr: Phenol-d6	0		10-35	%REC	1	9/21/2017 01:23 PM

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

ALS Group, USA

Date: 21-Sep-17

Client: Merit Energy
Project: Merit (Hartland 36 Gas Plant 9.13.17)
Sample ID: MW-13D
Collection Date: 9/13/2017 09:42 AM

Work Order: 1709745
Lab ID: 1709745-05
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D			Analyst: RM
Sulfolane	660		10	µg/L	1	9/21/2017 01:42 PM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/21/2017 01:42 PM
Surr: 2-Fluorobiphenyl	55.0		34-98	%REC	1	9/21/2017 01:42 PM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/21/2017 01:42 PM
Surr: 4-Terphenyl-d14	77.6		50-111	%REC	1	9/21/2017 01:42 PM
Surr: Nitrobenzene-d5	52.8		32-89	%REC	1	9/21/2017 01:42 PM
Surr: Phenol-d6	0		10-35	%REC	1	9/21/2017 01:42 PM
SULFATE			A4500-SO4 E-97			Analyst: ED
Sulfate	330	x	4.0	mg/L	4	9/19/2017 06:00 PM

Prep: SW3510 9/15/17 16:02

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

ALS Group, USA

Date: 21-Sep-17

Client: Merit Energy

Project: Merit (Hartland 36 Gas Plant 9.13.17)

Sample ID: MW-13S

Collection Date: 9/13/2017 10:25 AM

Work Order: 1709745

Lab ID: 1709745-06

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 9/15/17 16:02	Analyst: RM	
Sulfolane	ND		12	µg/L	1	9/21/2017 02:02 PM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/21/2017 02:02 PM
Surr: 2-Fluorobiphenyl	53.9		34-98	%REC	1	9/21/2017 02:02 PM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/21/2017 02:02 PM
Surr: 4-Terphenyl-d14	66.8		50-111	%REC	1	9/21/2017 02:02 PM
Surr: Nitrobenzene-d5	50.2		32-89	%REC	1	9/21/2017 02:02 PM
Surr: Phenol-d6	0		10-35	%REC	1	9/21/2017 02:02 PM

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

ALS Group, USA

Date: 21-Sep-17

Client: Merit Energy
Project: Merit (Hartland 36 Gas Plant 9.13.17)
Sample ID: MP-1D
Collection Date: 9/13/2017 11:10 AM

Work Order: 1709745
Lab ID: 1709745-07
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D			Analyst: RM
Sulfolane	73		11	µg/L	1	9/21/2017 02:22 PM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/21/2017 02:22 PM
Surr: 2-Fluorobiphenyl	54.6		34-98	%REC	1	9/21/2017 02:22 PM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/21/2017 02:22 PM
Surr: 4-Terphenyl-d14	71.1		50-111	%REC	1	9/21/2017 02:22 PM
Surr: Nitrobenzene-d5	48.4		32-89	%REC	1	9/21/2017 02:22 PM
Surr: Phenol-d6	0		10-35	%REC	1	9/21/2017 02:22 PM
SULFATE			A4500-SO4 E-97			Analyst: ED
Sulfate	120	x	4.0	mg/L	4	9/19/2017 06:00 PM

Prep: SW3510 9/15/17 16:02

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

ALS Group, USA

Date: 21-Sep-17

Client: Merit Energy
Project: Merit (Hartland 36 Gas Plant 9.13.17)
Sample ID: MP-2S
Collection Date: 9/13/2017 12:05 PM

Work Order: 1709745
Lab ID: 1709745-08
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D			Analyst: RM
Sulfolane	ND		11	µg/L	1	9/21/2017 02:41 PM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/21/2017 02:41 PM
Surr: 2-Fluorobiphenyl	55.3		34-98	%REC	1	9/21/2017 02:41 PM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/21/2017 02:41 PM
Surr: 4-Terphenyl-d14	78.2		50-111	%REC	1	9/21/2017 02:41 PM
Surr: Nitrobenzene-d5	48.5		32-89	%REC	1	9/21/2017 02:41 PM
Surr: Phenol-d6	0		10-35	%REC	1	9/21/2017 02:41 PM
SULFATE			A4500-SO4 E-97			Analyst: ED
Sulfate	54	x	1.0	mg/L	1	9/19/2017 06:00 PM

Prep: SW3510 9/15/17 16:02

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

ALS Group, USA

Date: 21-Sep-17

Client: Merit Energy

Project: Merit (Hartland 36 Gas Plant 9.13.17)

Sample ID: DUPE 04

Collection Date: 9/13/2017

Work Order: 1709745

Lab ID: 1709745-09

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D			Analyst: RM
Sulfolane	730		13	µg/L	1	9/21/2017 03:01 PM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/21/2017 03:01 PM
Surr: 2-Fluorobiphenyl	58.4		34-98	%REC	1	9/21/2017 03:01 PM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/21/2017 03:01 PM
Surr: 4-Terphenyl-d14	76.8		50-111	%REC	1	9/21/2017 03:01 PM
Surr: Nitrobenzene-d5	53.2		32-89	%REC	1	9/21/2017 03:01 PM
Surr: Phenol-d6	0		10-35	%REC	1	9/21/2017 03:01 PM
SULFATE			A4500-SO4 E-97			Analyst: ED
Sulfate	390	x	4.0	mg/L	4	9/19/2017 06:00 PM

Prep: SW3510 9/15/17 16:02

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

Client: Merit Energy
Project: Merit (Hartland 36 Gas Plant 9.13.17)
Work Order: 1709745

Case Narrative

Batch 107419 Sample SBLKW1-107419: Sulfolane samples extracted at neutral pH. Samples not controlled by acid surrogates.

Client: Merit Energy
Work Order: 1709745
Project: Merit (Hartland 36 Gas Plant 9.13.17)

QC BATCH REPORT

Batch ID: **107419** Instrument ID: **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-107419-107419				Units: µg/L		Analysis Date: 9/19/2017 07:24 AM			
Client ID:		Run ID: SVMS8_170918B				SeqNo: 4646504		Prep Date: 9/15/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPC	RPD Limit	Qual	
Sulfolane	ND	10									
Surr: 2-Fluorobiphenyl	25.03	0	50	0	50.1	34-98	0				
Surr: 4-Terphenyl-d14	44.77	0	50	0	89.5	50-111	0				
Surr: Nitrobenzene-d5	23.8	0	50	0	47.6	32-89	0				

LCS		Sample ID: SLCSW1-107419-107419				Units: µg/L		Analysis Date: 9/19/2017 07:42 AM			
Client ID:		Run ID: SVMS8_170918B				SeqNo: 4646505		Prep Date: 9/15/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPC	RPD Limit	Qual	
Sulfolane	51.55	10	100	0	51.6	30-100	0				
Surr: 2-Fluorobiphenyl	27.96	0	50	0	55.9	34-98	0				
Surr: 4-Terphenyl-d14	32.95	0	50	0	65.9	50-111	0				
Surr: Nitrobenzene-d5	24.15	0	50	0	48.3	32-89	0				

LCSD		Sample ID: SLCSDW1-107419-107419				Units: µg/L		Analysis Date: 9/19/2017 08:00 AM			
Client ID:		Run ID: SVMS8_170918B				SeqNo: 4646506		Prep Date: 9/15/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPC	RPD Limit	Qual	
Sulfolane	55.08	10	100	0	55.1	30-100	51.55	6.62	30		
Surr: 2-Fluorobiphenyl	28.64	0	50	0	57.3	34-98	27.96	2.4	40		
Surr: 4-Terphenyl-d14	44.78	0	50	0	89.6	50-111	32.95	30.4	40		
Surr: Nitrobenzene-d5	26.68	0	50	0	53.4	32-89	24.15	9.95	40		

The following samples were analyzed in this batch:

1709745-01A	1709745-02A	1709745-03A
1709745-04A	1709745-05A	1709745-06A
1709745-07A	1709745-08A	1709745-09A

Client: Merit Energy
 Work Order: 1709745
 Project: Merit (Hartland 36 Gas Plant 9.13.17)

QC BATCH REPORT

Batch ID: **R220346** Instrument ID: **GALLERY** Method: **A4500-SO4 E-97**

MBLK		Sample ID: WBLKW1-170919-R220346				Units: mg/L		Analysis Date: 9/19/2017 06:00 PM		
Client ID:		Run ID: GALLERY_170919A				SeqNo: 4646661		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	0.3906	1.0								Jx

MS		Sample ID: 1709745-08B MS				Units: mg/L		Analysis Date: 9/19/2017 06:00 PM		
Client ID: MP-2S		Run ID: GALLERY_170919A				SeqNo: 4646681		Prep Date:		DF: 4
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	100.6	4.0	50	54.18	92.9	75-125	0			x

MSD		Sample ID: 1709745-08B MSD				Units: mg/L		Analysis Date: 9/19/2017 06:00 PM		
Client ID: MP-2S		Run ID: GALLERY_170919A				SeqNo: 4646682		Prep Date:		DF: 4
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	95.31	4.0	50	54.18	82.3	75-125	100.6	5.45	20	x

LCS1		Sample ID: WLCS1W1-170919-R220346				Units: mg/L		Analysis Date: 9/19/2017 06:00 PM		
Client ID:		Run ID: GALLERY_170919A				SeqNo: 4646673		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	10.46	1.0	10	0	105	80-120	0			x

LCS2		Sample ID: WLCS2W1-170919-R220346				Units: mg/L		Analysis Date: 9/19/2017 06:00 PM		
Client ID:		Run ID: GALLERY_170919A				SeqNo: 4646674		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	53.07	1.0	50	0	106	80-120	0			x

The following samples were analyzed in this batch:

1709745-05B	1709745-07B	1709745-08B
1709745-09B		

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

Client: Merit Energy
Project: Merit (Hartland 36 Gas Plant 9.13.17)
WorkOrder: 1709745

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-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
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
mg/L	Milligrams per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **14-Sep-17 10:00**

Work Order: **1709745**

Received by: **KRW**

Checklist completed by Keith Wierenga 14-Sep-17
eSignature Date

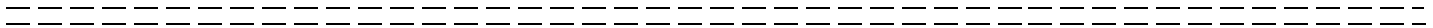
Reviewed by: Gary Byar 14-Sep-17
eSignature Date

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>4.2/4.2 C</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>9/14/2017 12:55:35 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 #: 1709745																	
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	Sulfate														
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		
	MW-20S	9/13/17	0905	Water	-	1	X												
	MW-20d		1000			1	X												
	MW-21d		1105			1	X												
	Field Blank #2		1130			1	X												
	MW-13D		0942	GW		2	X	X											
	MW-13S		1025	GW		1	X												
	MP-1D		1110	GW		2	X	X											
	MP-2S		1205	GW		2	X	X											
	DUPE 04			GW		2	X	X											
Sampler(s): Please Print & Sign Jason Bartholomew Jan Bartholomew		Shipment Method: UPS		Required Turnaround Time: (Check Box) <input checked="" type="checkbox"/> 10 Wk Days <input 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 Bartholomew		Date: 9/13/17	Time:	Received by: UPS		Date:	Time:	Notes: ALS Project: MERITENERGY - Misc											
Relinquished by: UPS		Date: 9/14/17	Time: 1000	Received by (Laboratory):		Date:	Time:	ALS Cooler ID: 5R2	Cooler Temp: 4.2°C	QC Package: (Check Box Below)									
Logged by (Laboratory): KR		Date: 9/14/17	Time: 1245	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.									

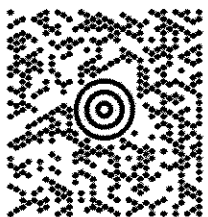
50 LBS

1 OF 1

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

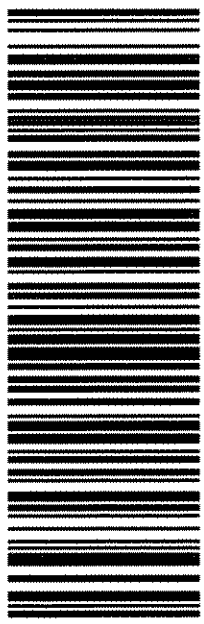
SHIP TO:
SAMPLE RECEIVING
(616) 399-6070
ALS ENVIRONMENTAL
3352 128TH AVENUE
HOLLAND MI 49424-9263

REF 1:130685, 2000



MI 495 9-04

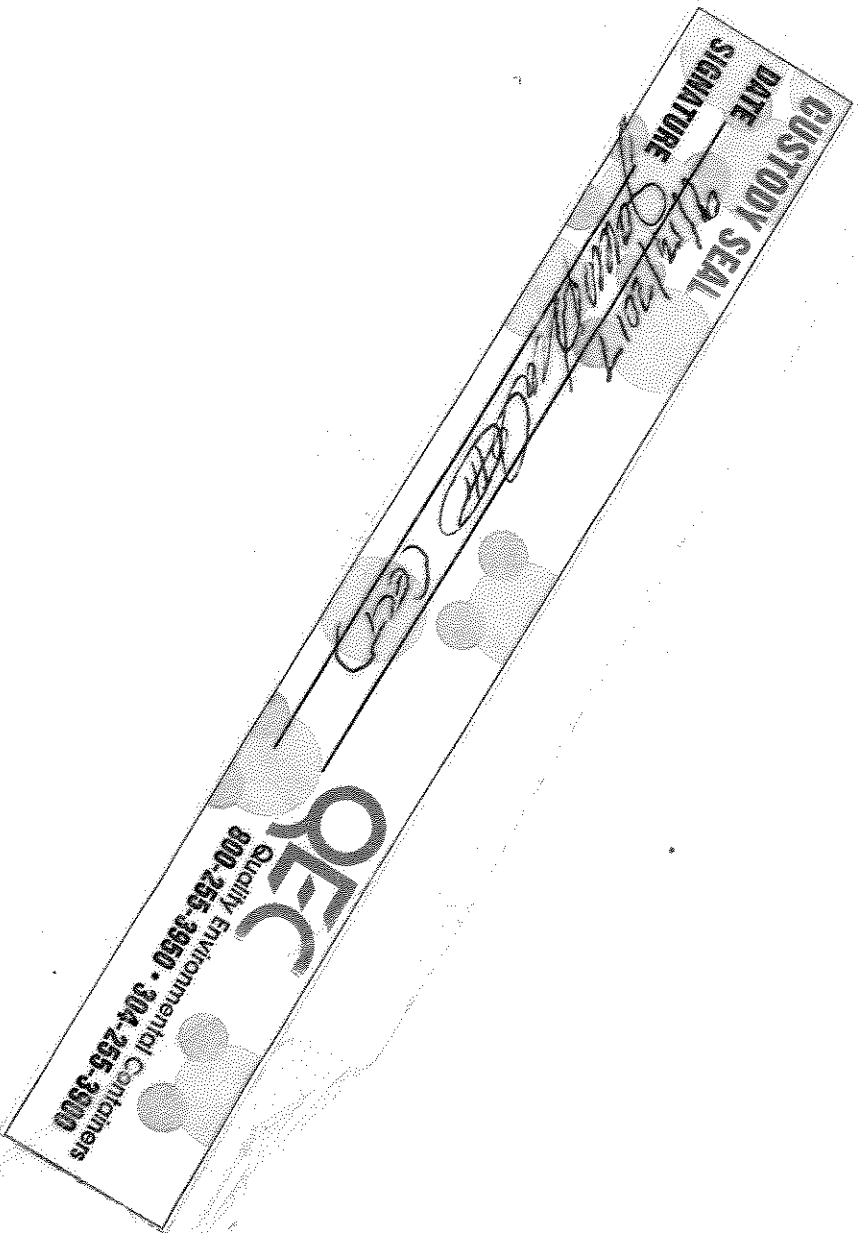
UPS NEXT DAY AIR **1**
TRACKING #: 1Z V54 9W4 01 5025 4939



BILLING: 3RD PARTY

W5 20.0.20 Knox WorkCan 90.0A 07/2017

Fold here and place in label pouch





29-Sep-2017

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

Re: **ECT (Merit Energy Hartland 36 9,21,17)**

Work Order: **17091361**

Dear Sean,

ALS Environmental received 1 sample on 22-Sep-2017 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 industry accepted practices and Quality Control 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 9.

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: MN 998501

Report of Laboratory Analysis

ADDRESS 3352 128th Ave Holland, Michigan 49424 | 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 Energy Hartland 36 9,21,17)
Work Order: 17091361

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>
17091361-01	MW-15dd	Water		9/21/2017 16:00	9/22/2017 10:00	<input type="checkbox"/>

ALS Group, USA

Date: 29-Sep-17

Client: Merit Energy

Project: ECT (Merit Energy Hartland 36 9,21,17)

Sample ID: MW-15dd

Collection Date: 9/21/2017 04:00 PM

Work Order: 17091361

Lab ID: 17091361-01

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D			
Sulfolane	48		10	µg/L	1	9/28/2017 04:54 AM
Surr: 2,4,6-Tribromophenol	0		32-92	%REC	1	9/28/2017 04:54 AM
Surr: 2-Fluorobiphenyl	40.0		34-98	%REC	1	9/28/2017 04:54 AM
Surr: 2-Fluorophenol	0		23-55	%REC	1	9/28/2017 04:54 AM
Surr: 4-Terphenyl-d14	71.1		50-111	%REC	1	9/28/2017 04:54 AM
Surr: Nitrobenzene-d5	42.5		32-89	%REC	1	9/28/2017 04:54 AM
Surr: Phenol-d6	0		10-35	%REC	1	9/28/2017 04:54 AM

Prep: SW3510 9/26/17 17:14

Analyst: RM

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

Client: Merit Energy
Project: ECT (Merit Energy Hartland 36 9,21,17)
Work Order: 17091361

Case Narrative

Batch 107962 SLCSDW1-107962 The RPD between the LCS and LCSD for Sulfolane was outside of the control limit. The sample results should be considered estimated for this analyte.

Client: Merit Energy

QC BATCH REPORT

Work Order: 17091361

Project: ECT (Merit Energy Hartland 36 9,21,17)

Batch ID: **107962** Instrument ID: **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-107962-107962				Units: µg/L		Analysis Date: 9/28/2017 04:01 AM			
Client ID:		Run ID: SVMS8_170927A				SeqNo: 4663779		Prep Date: 9/26/2017		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>	ND	0									
<i>Surr: 2-Fluorobiphenyl</i>	21.56	0	50	0	43.1	34-98	0				
<i>Surr: 2-Fluorophenol</i>	ND	0									
<i>Surr: 4-Terphenyl-d14</i>	39.53	0	50	0	79.1	50-111	0				
<i>Surr: Nitrobenzene-d5</i>	24.65	0	50	0	49.3	32-89	0				
<i>Surr: Phenol-d6</i>	ND	0									

LCS		Sample ID: SLCSW1-107962-107962				Units: µg/L		Analysis Date: 9/28/2017 04:18 AM			
Client ID:		Run ID: SVMS8_170927A				SeqNo: 4663780		Prep Date: 9/26/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	46.37	10	100	0	46.4	30-100	0				
<i>Surr: 2-Fluorobiphenyl</i>	18.39	0	50	0	36.8	34-98	0				
<i>Surr: 4-Terphenyl-d14</i>	35.86	0	50	0	71.7	50-111	0				
<i>Surr: Nitrobenzene-d5</i>	22.36	0	50	0	44.7	32-89	0				

LCSD		Sample ID: SLCSDW1-107962-107962				Units: µg/L		Analysis Date: 9/28/2017 04:36 AM			
Client ID:		Run ID: SVMS8_170927A				SeqNo: 4663781		Prep Date: 9/26/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	62.97	10	100	0	63	30-100	46.37	30.4	30	R	
<i>Surr: 2-Fluorobiphenyl</i>	30.23	0	50	0	60.5	34-98	18.39	48.7	40	R	
<i>Surr: 4-Terphenyl-d14</i>	40.96	0	50	0	81.9	50-111	35.86	13.3	40		
<i>Surr: Nitrobenzene-d5</i>	29.99	0	50	0	60	32-89	22.36	29.1	40		

The following samples were analyzed in this batch: 17091361-01A

Client: Merit Energy
Project: ECT (Merit Energy Hartland 36 9,21,17)
WorkOrder: 17091361

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-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
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: **22-Sep-17 10:00**

Work Order: **17091361**

Received by: **KRW**

Checklist completed by K eith Wierenga 22-Sep-17
eSignature Date

Reviewed by: Gary Byar 24-Sep-17
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>4.6/4.6 C</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>9/22/2017 2:50:27 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:



Environmental

Chain of Custody Form

Page 1 of 1

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: <u>Gay Byars</u>		Work Order #: <u>17091361</u>																		
Customer Information		Project Information		Parameter/Method Request for Analysis																
Purchase Order		Project Name	<u>Merit Energy #36</u>	<u>Sulfolane</u>																
Work Order		Project Number		B																
Company Name	<u>ECT, Inc.</u>	Bill To Company		C																
Send Report To	<u>Jeremy Lewandowski</u>	Invoice Attn.		D																
Address		Address		E																
		Address		F																
City/State/Zip	<u>Traverse City, MI</u>	City/State/Zip		G																
Phone	<u>231-946-8200</u>	Phone		H																
Fax		Fax		I																
e-Mail Address	<u>jlewandowski@ect.com</u>	e-Mail Address		J																
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold			
1	<u>MW-1500</u>	<u>9/21/17</u>	<u>1600</u>	<u>EW</u>	<u>-</u>	<u>2</u>	X													
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
Sampler(s): Please Print & Sign <u>Jason Buttolone</u>		Shipment Method: <u>UPS</u>		Required Turnaround Time: <input checked="" type="checkbox"/> STD 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				Other: _____											Results Due Date: <u>Std. turn</u>	
Relinquished by: <u>Jason Buttolone</u>		Date: <u>9/21/17</u>	Time: <u>1800</u>	Received by: <u>UPS</u>		Notes: <u>46°C</u>														
Relinquished by: <u>UPS</u>		Date: <u>9/22/17</u>	Time: <u>1000</u>	Received by (Laboratory): <u>[Signature]</u>		Cooler Temp. _____														
Logged by (Laboratory): <u>Kew</u>		Date: <u>9/22/17</u>	Time: <u>1445</u>	Checked by (Laboratory): <u>GRS</u>		QC Package: (Check Box Below)														
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035		<input type="checkbox"/> Level II: Standard QC <input type="checkbox"/> Level III: Std QC + Raw Data <input type="checkbox"/> Level IV: SW846 CLP-Like Other: _____																		

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

PHS

Copyright 2011 by ALS Group

2699273684

Benton Harbor ECT

12 LBS

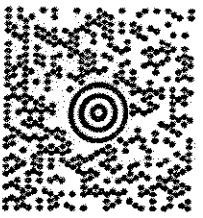
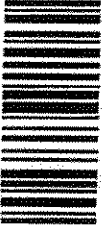
1 U F 1

FROM:
KRIS HILL
(269) 927-3366 1
ECT, INC.
376 W MAIN ST
BENTON HARBOR MI 49022-3651

04:02:10 p.m. 09-21-2017

1/1

MI 495 9-04



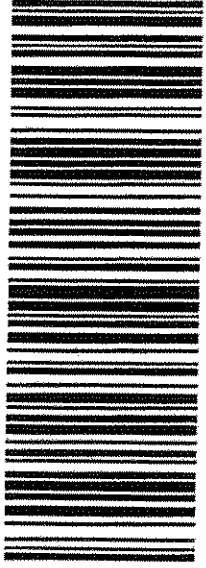
SHIP TO:

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

UPS NEXT DAY AIR

1

TRACKING #: 1Z 43E 137 01 4123 6147



REF 1:13-0685-2000

BILLING: P/P



04-Jan-2018

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

Re: **ECT (Merit Hartland 12-4-17)**

Work Order: **17121314**

Dear Sean,

ALS Environmental received 21 samples on 21-Dec-2017 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 industry accepted practices and Quality Control 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 36.

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 Ave Holland, Michigan 49424 | 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 Hartland 12-4-17)
Work Order: 17121314

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>
17121314-01	MW-18	Water		12/19/2017 10:10	12/21/2017 10:00	<input type="checkbox"/>
17121314-02	MW-2D	Water		12/19/2017 09:50	12/21/2017 10:00	<input type="checkbox"/>
17121314-03	MW-2	Water		12/19/2017 10:50	12/21/2017 10:00	<input type="checkbox"/>
17121314-04	MW-3d	Water		12/19/2017 10:05	12/21/2017 10:00	<input type="checkbox"/>
17121314-05	MW-3	Water		12/19/2017 11:00	12/21/2017 10:00	<input type="checkbox"/>
17121314-06	MW-11	Water		12/19/2017 11:20	12/21/2017 10:00	<input type="checkbox"/>
17121314-07	MW-23D	Water		12/19/2017 12:00	12/21/2017 10:00	<input type="checkbox"/>
17121314-08	MW-20S	Water		12/19/2017 12:30	12/21/2017 10:00	<input type="checkbox"/>
17121314-09	MW-19DD	Water		12/19/2017 12:30	12/21/2017 10:00	<input type="checkbox"/>
17121314-10	MW-15DD	Water		12/19/2017 13:22	12/21/2017 10:00	<input type="checkbox"/>
17121314-11	MW-15DD DUP	Water		12/19/2017 13:22	12/21/2017 10:00	<input type="checkbox"/>
17121314-12	MW-19D	Water		12/19/2017 13:45	12/21/2017 10:00	<input type="checkbox"/>
17121314-13	MW-20d	Water		12/19/2017 13:45	12/21/2017 10:00	<input type="checkbox"/>
17121314-14	MW-14d	Water		12/19/2017 14:50	12/21/2017 10:00	<input type="checkbox"/>
17121314-15	MW-14d dup	Water		12/19/2017 14:50	12/21/2017 10:00	<input type="checkbox"/>
17121314-16	MW-15	Water		12/19/2017 14:15	12/21/2017 10:00	<input type="checkbox"/>
17121314-17	MW-15D	Water		12/19/2017 15:10	12/21/2017 10:00	<input type="checkbox"/>
17121314-18	MW-19S	Water		12/19/2017 15:15	12/21/2017 10:00	<input type="checkbox"/>
17121314-19	MW-22D	Water		12/19/2017 16:15	12/21/2017 10:00	<input type="checkbox"/>
17121314-20	MW-7D	Water		12/19/2017 16:20	12/21/2017 10:00	<input type="checkbox"/>
17121314-21	MW-14S	Water		12/19/2017 16:15	12/21/2017 10:00	<input type="checkbox"/>

ALS Group, USA

Date: 04-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12-4-17)
Sample ID: MW-18
Collection Date: 12/19/2017 10:10 AM

Work Order: 17121314
Lab ID: 17121314-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D			Analyst: RM
Sulfolane	660		10	µg/L	1	12/28/2017 11:07 PM
Surr: 2-Fluorobiphenyl	48.2		34-98	%REC	1	12/28/2017 11:07 PM
Surr: 4-Terphenyl-d14	87.1		50-111	%REC	1	12/28/2017 11:07 PM
Surr: Nitrobenzene-d5	43.0		32-89	%REC	1	12/28/2017 11:07 PM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	37	x	1.0	mg/L	1	12/22/2017 02:30 PM

Prep: SW3510 12/22/17 14:34

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

ALS Group, USA

Date: 04-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12-4-17)
Sample ID: MW-2D
Collection Date: 12/19/2017 09:50 AM

Work Order: 17121314
Lab ID: 17121314-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 12/22/17 14:34		Analyst: RM
Sulfolane	ND		10	µg/L	1	12/28/2017 11:27 PM
Surr: 2-Fluorobiphenyl	42.9		34-98	%REC	1	12/28/2017 11:27 PM
Surr: 4-Terphenyl-d14	69.0		50-111	%REC	1	12/28/2017 11:27 PM
Surr: Nitrobenzene-d5	42.6		32-89	%REC	1	12/28/2017 11:27 PM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	21	x	1.0	mg/L	1	12/22/2017 02:30 PM

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

ALS Group, USA

Date: 04-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12-4-17)
Sample ID: MW-2
Collection Date: 12/19/2017 10:50 AM

Work Order: 17121314
Lab ID: 17121314-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 12/22/17 14:34		Analyst: RM
Sulfolane	ND		10	µg/L	1	12/28/2017 11:46 PM
Surr: 2-Fluorobiphenyl	46.2		34-98	%REC	1	12/28/2017 11:46 PM
Surr: 4-Terphenyl-d14	73.6		50-111	%REC	1	12/28/2017 11:46 PM
Surr: Nitrobenzene-d5	46.3		32-89	%REC	1	12/28/2017 11:46 PM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	16	x	1.0	mg/L	1	12/22/2017 02:30 PM

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

ALS Group, USA

Date: 04-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12-4-17)
Sample ID: MW-3d
Collection Date: 12/19/2017 10:05 AM

Work Order: 17121314
Lab ID: 17121314-04
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 12/22/17 14:34		Analyst: RM
Sulfolane	ND		10	µg/L	1	12/29/2017 12:06 AM
Surr: 2-Fluorobiphenyl	42.6		34-98	%REC	1	12/29/2017 12:06 AM
Surr: 4-Terphenyl-d14	81.4		50-111	%REC	1	12/29/2017 12:06 AM
Surr: Nitrobenzene-d5	42.2		32-89	%REC	1	12/29/2017 12:06 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	27	x	1.0	mg/L	1	12/22/2017 02:30 PM

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

ALS Group, USA

Date: 04-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12-4-17)
Sample ID: MW-3
Collection Date: 12/19/2017 11:00 AM

Work Order: 17121314
Lab ID: 17121314-05
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 12/22/17 14:34		Analyst: RM
Sulfolane	ND		10	µg/L	1	12/29/2017 12:25 AM
Surr: 2-Fluorobiphenyl	38.8		34-98	%REC	1	12/29/2017 12:25 AM
Surr: 4-Terphenyl-d14	60.4		50-111	%REC	1	12/29/2017 12:25 AM
Surr: Nitrobenzene-d5	37.7		32-89	%REC	1	12/29/2017 12:25 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	41	x	1.0	mg/L	1	12/22/2017 02:30 PM

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

ALS Group, USA

Date: 04-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12-4-17)
Sample ID: MW-11
Collection Date: 12/19/2017 11:20 AM

Work Order: 17121314
Lab ID: 17121314-06
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 12/22/17 14:34		Analyst: RM
Sulfolane	ND		10	µg/L	1	12/29/2017 12:45 AM
Surr: 2-Fluorobiphenyl	42.7		34-98	%REC	1	12/29/2017 12:45 AM
Surr: 4-Terphenyl-d14	62.1		50-111	%REC	1	12/29/2017 12:45 AM
Surr: Nitrobenzene-d5	39.5		32-89	%REC	1	12/29/2017 12:45 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	20	x	1.0	mg/L	1	12/22/2017 02:30 PM

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

ALS Group, USA

Date: 04-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12-4-17)
Sample ID: MW-23D
Collection Date: 12/19/2017 12:00 PM

Work Order: 17121314
Lab ID: 17121314-07
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 12/22/17 14:34		Analyst: RM
Sulfolane	ND		10	µg/L	1	12/29/2017 01:04 AM
Surr: 2-Fluorobiphenyl	57.1		34-98	%REC	1	12/29/2017 01:04 AM
Surr: 4-Terphenyl-d14	130	S	50-111	%REC	1	12/29/2017 01:04 AM
Surr: Nitrobenzene-d5	53.4		32-89	%REC	1	12/29/2017 01:04 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	20	x	2.0	mg/L	2	12/22/2017 02:30 PM

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

ALS Group, USA

Date: 04-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12-4-17)
Sample ID: MW-20S
Collection Date: 12/19/2017 12:30 PM

Work Order: 17121314
Lab ID: 17121314-08
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D			Analyst: RM
Sulfolane	49		10	µg/L	1	12/29/2017 01:24 AM
<i>Surr: 2-Fluorobiphenyl</i>	45.1		34-98	%REC	1	12/29/2017 01:24 AM
<i>Surr: 4-Terphenyl-d14</i>	102		50-111	%REC	1	12/29/2017 01:24 AM
<i>Surr: Nitrobenzene-d5</i>	42.9		32-89	%REC	1	12/29/2017 01:24 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	45	x	1.0	mg/L	1	12/22/2017 02:30 PM

Prep: SW3510 12/22/17 14:34

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

ALS Group, USA

Date: 04-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12-4-17)
Sample ID: MW-19DD
Collection Date: 12/19/2017 12:30 PM

Work Order: 17121314
Lab ID: 17121314-09
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 12/22/17 14:34		Analyst: RM
Sulfolane	ND		10	µg/L	1	12/29/2017 01:43 AM
Surr: 2-Fluorobiphenyl	49.4		34-98	%REC	1	12/29/2017 01:43 AM
Surr: 4-Terphenyl-d14	113	S	50-111	%REC	1	12/29/2017 01:43 AM
Surr: Nitrobenzene-d5	46.9		32-89	%REC	1	12/29/2017 01:43 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	22	x	1.0	mg/L	1	12/22/2017 02:30 PM

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

ALS Group, USA

Date: 04-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12-4-17)
Sample ID: MW-15DD
Collection Date: 12/19/2017 01:22 PM

Work Order: 17121314
Lab ID: 17121314-10
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 12/22/17 14:34		Analyst: RM
Sulfolane	ND		10	µg/L	1	12/29/2017 02:03 AM
Surr: 2-Fluorobiphenyl	49.9		34-98	%REC	1	12/29/2017 02:03 AM
Surr: 4-Terphenyl-d14	52.6		50-111	%REC	1	12/29/2017 02:03 AM
Surr: Nitrobenzene-d5	46.9		32-89	%REC	1	12/29/2017 02:03 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	37	x	1.0	mg/L	1	12/22/2017 02:30 PM

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

ALS Group, USA

Date: 04-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12-4-17)
Sample ID: MW-15DD DUP
Collection Date: 12/19/2017 01:22 PM

Work Order: 17121314
Lab ID: 17121314-11
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 12/22/17 14:34		Analyst: RM
Sulfolane	ND		10	µg/L	1	12/29/2017 02:22 AM
Surr: 2-Fluorobiphenyl	43.4		34-98	%REC	1	12/29/2017 02:22 AM
Surr: 4-Terphenyl-d14	47.3	S	50-111	%REC	1	12/29/2017 02:22 AM
Surr: Nitrobenzene-d5	41.0		32-89	%REC	1	12/29/2017 02:22 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	37	x	1.0	mg/L	1	12/22/2017 02:30 PM

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

ALS Group, USA

Date: 04-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12-4-17)
Sample ID: MW-19D
Collection Date: 12/19/2017 01:45 PM

Work Order: 17121314
Lab ID: 17121314-12
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 12/22/17 14:34		Analyst: RM
Sulfolane	3,200		500	µg/L	50	1/2/2018 04:07 PM
Surr: 2-Fluorobiphenyl	49.8		34-98	%REC	1	12/29/2017 02:42 AM
Surr: 4-Terphenyl-d14	79.7		50-111	%REC	1	12/29/2017 02:42 AM
Surr: Nitrobenzene-d5	45.7		32-89	%REC	1	12/29/2017 02:42 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	73	x	1.0	mg/L	1	12/22/2017 02:30 PM

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

ALS Group, USA

Date: 04-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12-4-17)
Sample ID: MW-20d
Collection Date: 12/19/2017 01:45 PM

Work Order: 17121314
Lab ID: 17121314-13
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 12/22/17 14:34	Analyst: RM
Sulfolane	12,000		500	µg/L	50	1/2/2018 04:27 PM
Surr: 2-Fluorobiphenyl	52.6		34-98	%REC	1	12/29/2017 03:01 AM
Surr: 4-Terphenyl-d14	87.4		50-111	%REC	1	12/29/2017 03:01 AM
Surr: Nitrobenzene-d5	43.9		32-89	%REC	1	12/29/2017 03:01 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	43	x	1.0	mg/L	1	12/22/2017 02:30 PM

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

ALS Group, USA

Date: 04-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12-4-17)
Sample ID: MW-14d
Collection Date: 12/19/2017 02:50 PM

Work Order: 17121314
Lab ID: 17121314-14
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 12/22/17 14:34	Analyst: RM
Sulfolane	7,100		500	µg/L	50	1/2/2018 04:46 PM
Surr: 2-Fluorobiphenyl	69.1		34-98	%REC	1	12/29/2017 03:21 AM
Surr: 4-Terphenyl-d14	104		50-111	%REC	1	12/29/2017 03:21 AM
Surr: Nitrobenzene-d5	67.7		32-89	%REC	1	12/29/2017 03:21 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	39	x	1.0	mg/L	1	12/22/2017 02:30 PM

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

ALS Group, USA

Date: 04-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12-4-17)
Sample ID: MW-14d dup
Collection Date: 12/19/2017 02:50 PM

Work Order: 17121314
Lab ID: 17121314-15
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 12/22/17 14:34	Analyst: RM
Sulfolane	6,800		500	µg/L	50	1/2/2018 05:06 PM
Surr: 2-Fluorobiphenyl	52.4		34-98	%REC	1	12/29/2017 03:40 AM
Surr: 4-Terphenyl-d14	60.5		50-111	%REC	1	12/29/2017 03:40 AM
Surr: Nitrobenzene-d5	49.3		32-89	%REC	1	12/29/2017 03:40 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	39	x	1.0	mg/L	1	12/22/2017 02:30 PM

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

Client: Merit Energy
Project: ECT (Merit Hartland 12-4-17)
Sample ID: MW-15
Collection Date: 12/19/2017 02:15 PM

Work Order: 17121314
Lab ID: 17121314-16
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 12/22/17 14:34		Analyst: RM
Sulfolane	ND		10	µg/L	1	12/29/2017 04:00 AM
Surr: 2-Fluorobiphenyl	54.5		34-98	%REC	1	12/29/2017 04:00 AM
Surr: 4-Terphenyl-d14	65.0		50-111	%REC	1	12/29/2017 04:00 AM
Surr: Nitrobenzene-d5	53.9		32-89	%REC	1	12/29/2017 04:00 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	14	x	1.0	mg/L	1	12/22/2017 02:30 PM

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

ALS Group, USA

Date: 04-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12-4-17)
Sample ID: MW-15D
Collection Date: 12/19/2017 03:10 PM

Work Order: 17121314
Lab ID: 17121314-17
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 12/22/17 14:34		Analyst: RM
Sulfolane	ND		10	µg/L	1	12/29/2017 04:19 AM
Surr: 2-Fluorobiphenyl	65.6		34-98	%REC	1	12/29/2017 04:19 AM
Surr: 4-Terphenyl-d14	66.4		50-111	%REC	1	12/29/2017 04:19 AM
Surr: Nitrobenzene-d5	62.7		32-89	%REC	1	12/29/2017 04:19 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	46	x	1.0	mg/L	1	12/22/2017 02:30 PM

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

ALS Group, USA

Date: 04-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12-4-17)
Sample ID: MW-19S
Collection Date: 12/19/2017 03:15 PM

Work Order: 17121314
Lab ID: 17121314-18
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 12/22/17 14:34		Analyst: RM
Sulfolane	ND		10	µg/L	1	12/29/2017 04:39 AM
Surr: 2-Fluorobiphenyl	59.0		34-98	%REC	1	12/29/2017 04:39 AM
Surr: 4-Terphenyl-d14	63.1		50-111	%REC	1	12/29/2017 04:39 AM
Surr: Nitrobenzene-d5	57.2		32-89	%REC	1	12/29/2017 04:39 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	44	x	1.0	mg/L	1	12/22/2017 02:30 PM

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

ALS Group, USA

Date: 04-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12-4-17)
Sample ID: MW-22D
Collection Date: 12/19/2017 04:15 PM

Work Order: 17121314
Lab ID: 17121314-19
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 12/22/17 14:34		Analyst: RM
Sulfolane	ND		10	µg/L	1	12/29/2017 04:58 AM
Surr: 2-Fluorobiphenyl	43.6		34-98	%REC	1	12/29/2017 04:58 AM
Surr: 4-Terphenyl-d14	50.4		50-111	%REC	1	12/29/2017 04:58 AM
Surr: Nitrobenzene-d5	41.4		32-89	%REC	1	12/29/2017 04:58 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	12	x	1.0	mg/L	1	12/22/2017 02:30 PM

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

ALS Group, USA

Date: 04-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12-4-17)
Sample ID: MW-7D
Collection Date: 12/19/2017 04:20 PM

Work Order: 17121314
Lab ID: 17121314-20
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 12/27/17 11:03		Analyst: RM
Sulfolane	4,100		500	µg/L	50	1/2/2018 05:25 PM
Surr: 2-Fluorobiphenyl	58.8		34-98	%REC	1	12/29/2017 05:18 AM
Surr: 4-Terphenyl-d14	59.0		50-111	%REC	1	12/29/2017 05:18 AM
Surr: Nitrobenzene-d5	56.8		32-89	%REC	1	12/29/2017 05:18 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	46	x	1.0	mg/L	1	12/22/2017 02:30 PM

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

ALS Group, USA

Date: 04-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12-4-17)
Sample ID: MW-14S
Collection Date: 12/19/2017 04:15 PM

Work Order: 17121314
Lab ID: 17121314-21
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 12/22/17 14:34		Analyst: RM
Sulfolane	100		10	µg/L	1	12/29/2017 05:37 AM
Surr: 2-Fluorobiphenyl	46.0		34-98	%REC	1	12/29/2017 05:37 AM
Surr: 4-Terphenyl-d14	47.7	S	50-111	%REC	1	12/29/2017 05:37 AM
Surr: Nitrobenzene-d5	42.2		32-89	%REC	1	12/29/2017 05:37 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	91	x	1.0	mg/L	1	12/22/2017 03:30 PM

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

Client: Merit Energy
Project: ECT (Merit Hartland 12-4-17)
Work Order: 17121314

Case Narrative

Batch 112194 Sample 17121314-07B One surrogate recovery for Sulfolane was above the upper control limits. The sample was non-detect, therefore, no qualification is needed. Client Sample ID: MW-23D

Batch 112194 Sample 17121314-09B One surrogate recovery for Sulfolane was above the upper control limits. The sample was non-detect, therefore, no qualification is needed. Client Sample ID: MW-19DD

Batch 112194 One surrogate recovery for Sulfolane was above the upper control limits. The sample was non-detect, therefore, no qualification is needed. Client Sample ID: MW-15DD
DUP

Batch 112194 Sample 17121314-21B One or more surrogate recovery for Sulfolane was below the lower control limits. The sample results may be biased low. Client Sample ID: MW-14S

Client: Merit Energy
Work Order: 17121314
Project: ECT (Merit Hartland 12-4-17)

QC BATCH REPORT

Batch ID: **112194** Instrument ID: **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-112194-112194				Units: µg/L		Analysis Date: 12/28/2017 06:44 P			
Client ID:		Run ID: SVMS8_171228A				SeqNo: 4836026		Prep Date: 12/22/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPC	RPD Limit	Qual	
Sulfolane	ND	10									
<i>Surr: 2-Fluorobiphenyl</i>	21.65	0	50	0	43.3	34-98	0				
<i>Surr: 4-Terphenyl-d14</i>	31.89	0	50	0	63.8	50-111	0				
<i>Surr: Nitrobenzene-d5</i>	21.38	0	50	0	42.8	32-89	0				

LCS		Sample ID: SLCSW1-112194-112194				Units: µg/L		Analysis Date: 12/28/2017 07:04 P			
Client ID:		Run ID: SVMS8_171228A				SeqNo: 4836027		Prep Date: 12/22/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPC	RPD Limit	Qual	
Sulfolane	30.43	10	100	0	30.4	30-100	0				
<i>Surr: 2-Fluorobiphenyl</i>	25.45	0	50	0	50.9	34-98	0				
<i>Surr: 4-Terphenyl-d14</i>	40.39	0	50	0	80.8	50-111	0				
<i>Surr: Nitrobenzene-d5</i>	25.59	0	50	0	51.2	32-89	0				

LCSD		Sample ID: SLCSDW1-112194-112194				Units: µg/L		Analysis Date: 12/28/2017 07:23 P			
Client ID:		Run ID: SVMS8_171228A				SeqNo: 4836028		Prep Date: 12/22/2017		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPC	RPD Limit	Qual	
Sulfolane	30.43	10	100	0	30.4	30-100	30.43	0	30		
<i>Surr: 2-Fluorobiphenyl</i>	20.2	0	50	0	40.4	34-98	25.45	23	40		
<i>Surr: 4-Terphenyl-d14</i>	36.61	0	50	0	73.2	50-111	40.39	9.82	40		
<i>Surr: Nitrobenzene-d5</i>	20.56	0	50	0	41.1	32-89	25.59	21.8	40		

The following samples were analyzed in this batch:

17121314-01B	17121314-02B	17121314-03B
17121314-04B	17121314-05B	17121314-06B
17121314-07B	17121314-08B	17121314-09B
17121314-10B	17121314-11B	17121314-12B
17121314-13B	17121314-14B	17121314-15B
17121314-16B	17121314-17B	17121314-18B
17121314-19B	17121314-21B	

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

Client: Merit Energy
 Work Order: 17121314
 Project: ECT (Merit Hartland 12-4-17)

QC BATCH REPORT

Batch ID: 112240 Instrument ID: SVMS8 Method: SW846 8270D

MBLK		Sample ID: SBLKW1-112240-112240			Units: µg/L			Analysis Date: 12/28/2017 08:22 P		
Client ID:		Run ID: SVMS8_171228A			SeqNo: 4836031			Prep Date: 12/27/2017		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-Fluorobiphenyl	22.36	0	50	0	44.7	34-98	0			
Surr: 4-Terphenyl-d14	27.16	0	50	0	54.3	50-111	0			
Surr: Nitrobenzene-d5	23.32	0	50	0	46.6	32-89	0			

LCS		Sample ID: SLCSW1-112240-112240			Units: µg/L			Analysis Date: 12/28/2017 08:41 P		
Client ID:		Run ID: SVMS8_171228A			SeqNo: 4836032			Prep Date: 12/27/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	32.64	10	100	0	32.6	30-100	0			
Surr: 2-Fluorobiphenyl	21.58	0	50	0	43.2	34-98	0			
Surr: 4-Terphenyl-d14	25.03	0	50	0	50.1	50-111	0			
Surr: Nitrobenzene-d5	22.8	0	50	0	45.6	32-89	0			

LCSD		Sample ID: SLCSW1-112240-112240			Units: µg/L			Analysis Date: 12/28/2017 09:01 P		
Client ID:		Run ID: SVMS8_171228A			SeqNo: 4836033			Prep Date: 12/27/2017		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	34.15	10	100	0	34.2	30-100	32.64	4.52	30	
Surr: 2-Fluorobiphenyl	24.35	0	50	0	48.7	34-98	21.58	12.1	40	
Surr: 4-Terphenyl-d14	27.42	0	50	0	54.8	50-111	25.03	9.11	40	
Surr: Nitrobenzene-d5	25.62	0	50	0	51.2	32-89	22.8	11.6	40	

The following samples were analyzed in this batch:

17121314-20B

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

Client: Merit Energy
 Work Order: 17121314
 Project: ECT (Merit Hartland 12-4-17)

QC BATCH REPORT

Batch ID: **R227116** Instrument ID: **GALLERY** Method: **A4500-SO4 E-11**

MBLK		Sample ID: MB-R227116-R227116				Units: mg/L		Analysis Date: 12/22/2017 02:30 P		
Client ID:		Run ID: GALLERY_171222A				SeqNo: 4826640		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	0.37	1.0								Jx

MS		Sample ID: 17121314-01A MS				Units: mg/L		Analysis Date: 12/22/2017 02:30 P		
Client ID: MW-18		Run ID: GALLERY_171222A				SeqNo: 4826643		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	84.43	1.0	50	37.21	94.4	75-125	0			x

MSD		Sample ID: 17121314-01A MSD				Units: mg/L		Analysis Date: 12/22/2017 02:30 P		
Client ID: MW-18		Run ID: GALLERY_171222A				SeqNo: 4826644		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	85.88	1.0	50	37.21	97.3	75-125	84.43	1.7	20	x

LCS1		Sample ID: LCS1-R227116				Units: mg/L		Analysis Date: 12/22/2017 02:30 P		
Client ID:		Run ID: GALLERY_171222A				SeqNo: 4826641		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	9.62	1.0	10	0	96.2	80-120	0			x

LCS2		Sample ID: LCS2-R227116				Units: mg/L		Analysis Date: 12/22/2017 02:30 P		
Client ID:		Run ID: GALLERY_171222A				SeqNo: 4826664		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	50.67	1.0	50	0	101	80-120	0			x

The following samples were analyzed in this batch:

17121314-01A	17121314-02A	17121314-03A
17121314-04A	17121314-05A	17121314-06A
17121314-07A	17121314-08A	17121314-09A
17121314-10A	17121314-11A	17121314-12A
17121314-13A	17121314-14A	17121314-15A
17121314-16A	17121314-17A	17121314-18A
17121314-19A	17121314-20A	

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

Client: Merit Energy
 Work Order: 17121314
 Project: ECT (Merit Hartland 12-4-17)

QC BATCH REPORT

Batch ID: **R227117** Instrument ID: **GALLERY** Method: **A4500-SO4 E-11**

MBLK		Sample ID: MB-R227117-R227117				Units: mg/L		Analysis Date: 12/22/2017 03:30 P		
Client ID:		Run ID: GALLERY_171222B				SeqNo: 4826665		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	0.288	1.0								Jx

MS		Sample ID: 17121445-15AMS				Units: mg/L		Analysis Date: 12/22/2017 03:30 P		
Client ID:		Run ID: GALLERY_171222B				SeqNo: 4826683		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	92.7	1.0	50	41.95	102	75-125	0			x

MSD		Sample ID: 17121445-15AMSD				Units: mg/L		Analysis Date: 12/22/2017 03:30 P		
Client ID:		Run ID: GALLERY_171222B				SeqNo: 4826684		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	92.41	1.0	50	41.95	101	75-125	92.7	0.313	20	x

LCS1		Sample ID: LCS1-R227117				Units: mg/L		Analysis Date: 12/22/2017 03:30 P		
Client ID:		Run ID: GALLERY_171222B				SeqNo: 4826666		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	10.2	1.0	10	0	102	80-120	0			x

LCS2		Sample ID: LCS2-R227117				Units: mg/L		Analysis Date: 12/22/2017 03:30 P		
Client ID:		Run ID: GALLERY_171222B				SeqNo: 4826689		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	51.59	1.0	50	0	103	80-120	0			x

The following samples were analyzed in this batch:

17121314-21A

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

Client: Merit Energy
Project: ECT (Merit Hartland 12-4-17)
WorkOrder: 17121314

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-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
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
mg/L	Milligrams per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **21-Dec-17 10:00**

Work Order: **17121314**

Received by: **KRW**

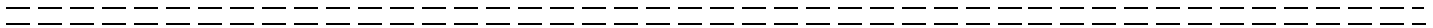
Checklist completed by K eith Wierenga 21-Dec-17
eSignature Date

Reviewed by: Gary Byar 21-Dec-17
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>3.0/3.0, 2.4/2.4, 3.6/3.6 C</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>12/21/2017 11:22:45 AM</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



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 3

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

ALS Project Manager: Gary Byar		ALS Work Order #: 17121314																	
Customer Information				Project Information				Parameter/Method Request for Analysis											
Purchase Order		Project Name	ECT - Merit Hartland 12-4-17	A	Sulfate														
Work Order		Project Number		B	Substance														
Company Name	ECT, Inc.	Bill To Company	ECT, Inc.	C															
Send Report To		Invoice Attn.		D															
Address	3125 Sovereign Drive, Suite 9A	Address	3125 Sovereign Drive, Suite 9A	E															
City/State/Zip	Lansing, MI 48911	City/State/Zip	Lansing, MI 48911	F															
Phone	(517) 272-9200	Phone	(517) 272-9200	G															
Fax		Fax		H															
e-Mail Address				I															
				J															
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold		
1	MW-18	12/19/17	10:10	W		2	X	X											
2	MW-2D	12/19/17	0950	W		1	X	X											
3	MW-2	12/19/17	1050	W		1	X	X											
4	MW-3d	12/19/17	1005	W		1	X	X											
5	MW-3	12/19/17	1000	W		1	X	X											
6	MW-11	12/19/17	11:20	W		1	X	X											
7	MW-23D	12/19/17	1200	W		1	X	X											
8	MW-20s	12/19/17	1230	W		1	X	X											
Sampler(s): Please Print & Sign <i>Jan Battalora</i>		Shipment Method: UPS		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 Battalora</i>		Date: 12/19/17	Time: 1820	Received by: <i>ECT storage</i>		Date: 12/19/17	Time: 1820	Notes: ALS Project: MERITENERGY - Misc											
Relinquished by: <i>ECT storage</i>		Date: 12/20/17	Time: 0915	Received by (Laboratory): <i>[Signature]</i>		Date: 12/21/17	Time: 1000	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)									
Logged by (Laboratory): <i>Kevin</i>		Date: 12/21/17	Time: 1105	Checked by (Laboratory): <i>GRB</i>				SP2	3.0°C	<input checked="" type="checkbox"/> Level II: Standard QC	<input type="checkbox"/> Level III: Raw Data								
								PU9	2.4°C	<input type="checkbox"/> TRRP LRC	<input type="checkbox"/> TRRP Level IV								
									3.6°C	<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.											



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Chain of Custody Form

Page 2 of 3

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	ECT - Merit Hartland 12-4-17			A	Sulfate										
Work Order		Project Number				B	Sulfate										
Company Name	ECT, Inc.	Bill To Company	ECT, Inc.			C											
Send Report To		Invoice Attn.				D											
Address	3125 Sovereign Drive, Suite 9A	Address	3125 Sovereign Drive, Suite 9A			E											
City/State/Zip	Lansing, MI 48911	City/State/Zip	Lansing, MI 48911			F											
Phone	(517) 272-9200	Phone	(517) 272-9200			G											
Fax		Fax				H											
e-Mail Address						I											
						J											
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
9	MW-19DD	12/19/17	12:30	W		2	X	X									
10	MW-15DD	12/19/17	1322	W		↓	X	X									
11	MW-15DD Dup	12/19/17	1322	W			X	X									
12	MW-19B	12/19/17	13:45	W			X	X									
13	MW-20d	12/19/17	1345	W			X	X									
14	MW-14d	12/19/17	1450	W			X	X									
15	MW-14d dup	12/19/17	1450	W			X	X									
16	MW-15	12/19/17	1415	W		↓	X	X									
Sampler(s): Please Print & Sign		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 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>Jan B...</i>	12/19/17	1820	ECT <i>old stamp</i>	12/19/17	1820	ALS Project: MERITENERGY - Misc											
Relinquished by:	Date:	Time:	Received by (Laboratory):	Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)									
<i>ECT STORAGE</i>	12/20/17	0915	<i>[Signature]</i>	12/21/17	1000			<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>Kew</i>	12/21/17	1105	<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.											



RETURN SAMPLES TO:
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 (Cell) 231.944.3459

Chain of Custody Form

Page 3 of 3

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

ALS Project Manager: Gary Byar ALS Work Order #: 17121314

Customer Information		Project Information		Parameter/Method Request for Analysis											
Purchase Order		Project Name	ECT - Merit Hartland 12-4-17	A	Sulfolane										
Work Order		Project Number		B	Sulfate										
Company Name	ECT, Inc.	Bill To Company	ECT, Inc.	C											
Send Report To		Invoice Attn.		D											
Address	3125 Sovereign Drive, Suite 9A	Address	3125 Sovereign Drive, Suite 9A	E											
				F											
City/State/Zip	Lansing, MI 48911	City/State/Zip	Lansing, MI 48911	G											
Phone	(517) 272-9200	Phone	(517) 272-9200	H											
Fax		Fax		I											
e-Mail Address				J											

No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
17	MW-15D	12/19/17	15:00	W		2	X	X									
18	MW-19S	12/19/17	15:15	W		↓	X	X									
19	MW-22D	12/19/17	16:15	W		↓	X	X									
20	MW-7D	12/19/17	16:20	W		↓	X	X									
21	MW-14S	12/19/17	16:15	W		↓	X	X									

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

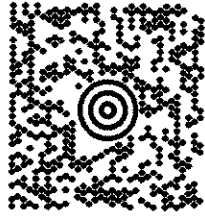
Relinquished by: <i>Jason Bartholomeo</i>	Date: 12/19/17	Time: 1620	Received by: <i>ECT cold storage</i>	Date: 12/19/17	Time: 1820	Notes: ALS Project: MERITENERGY - Misc
Relinquished by: <i>ECT STORAGE</i>	Date: 12/20/17	Time: 0915	Received by (Laboratory): <i>[Signature]</i>	Date: 12/21/17	Time: 1000	ALS Cooler ID: Cooler Temp: QC Package: (Check Box Below)
Logged by (Laboratory): <i>Kew</i>	Date: 12/21/17	Time: 1105	Checked by (Laboratory): <i>[Signature]</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.

50 LBS

2 OF 8

MI 495 9-04



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

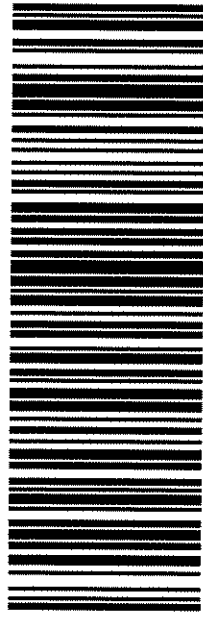
SHIP TO:

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

UPS NEXT DAY AIR

1

TRACKING #: 1Z V54 9W4 01 5209 0399



BILLING: 3RD PARTY

48

WS 20.0.20 Xerox WorkCentre 93.0A 10/2017

Fold here and place in label pouch

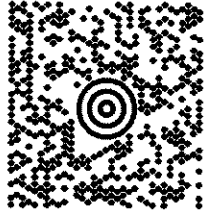
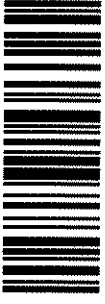
QUALITY ENVIRONMENTAL CONTAINERS
QEC
 800-255-3950 • 304-255-3900

CUSTODY SEAL
 DATE 07/20/17
 SIGNATURE [Handwritten Signature]

3 OF 8

50 LBS

MI 495 9-04



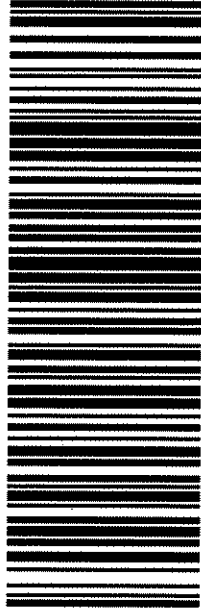
FROM:
LISA ZUBER
(517) 272-9200
ECT, INC.
3125 SOVEREIGN DRIVE
LANSING MI 48911-4240

SHIP TO:

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

UPS NEXT DAY AIR 1

TRACKING #: 1Z V54 9W4 01 5120 6006



BILLING: 3RD PARTY

WS 20.0.20 Xerox WorkCent 93.0A 10/2017

Fold here and place in label pouch

GUSTODY SEAL

DATE 12/20/2017

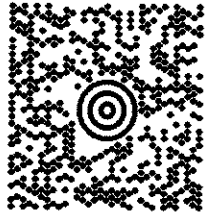
SIGNATURE [Signature]

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

1 OF 8

50 LBS

MI 495 9-04



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

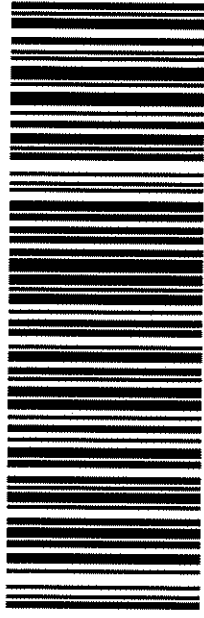
SHIP TO:

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

UPS NEXT DAY AIR

1

TRACKING #: 1Z V54 9W4 01 5266 1585



REF 1:130685, 2000

BILLING: 3RD PARTY

WS 20.0.20 Xerox WorkCentre 93.0A 10/2017

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CUSTODY SEAL
 DATE 11/13/2017
 SIGNATURE [Handwritten Signature]



05-Jan-2018

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

Re: **ECT (Merit Hartland 12.20.17)**

Work Order: **17121445**

Dear Sean,

ALS Environmental received 20 samples on 22-Dec-2017 10:30 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 industry accepted practices and Quality Control 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 33.

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 Ave Holland, Michigan 49424 | 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 Hartland 12.20.17)
Work Order: 17121445

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>
17121445-01	MW-21d	Water		12/20/2017 10:15	12/22/2017 10:30	<input type="checkbox"/>
17121445-02	MW-7	Water		12/20/2017 10:25	12/22/2017 10:30	<input type="checkbox"/>
17121445-03	MW-7 DUP	Water		12/20/2017 10:25	12/22/2017 10:30	<input type="checkbox"/>
17121445-04	MW-1	Water		12/20/2017 10:28	12/22/2017 10:30	<input type="checkbox"/>
17121445-05	MW-10	Water		12/20/2017 11:50	12/22/2017 10:30	<input type="checkbox"/>
17121445-06	MW-17d	Water		12/20/2017 11:35	12/22/2017 10:30	<input type="checkbox"/>
17121445-07	MW-16d	Water		12/20/2017 11:21	12/22/2017 10:30	<input type="checkbox"/>
17121445-08	MW-16s	Water		12/20/2017 12:07	12/22/2017 10:30	<input type="checkbox"/>
17121445-09	MW-5	Water		12/20/2017 13:58	12/22/2017 10:30	<input type="checkbox"/>
17121445-10	MW-9	Water		12/20/2017 14:05	12/22/2017 10:30	<input type="checkbox"/>
17121445-11	MW-8	Water		12/20/2017 12:50	12/22/2017 10:30	<input type="checkbox"/>
17121445-12	MW-17s	Water		12/20/2017 12:45	12/22/2017 10:30	<input type="checkbox"/>
17121445-13	MW-13d	Water		12/20/2017 14:00	12/22/2017 10:30	<input type="checkbox"/>
17121445-14	MW-4	Water		12/20/2017 15:05	12/22/2017 10:30	<input type="checkbox"/>
17121445-15	MW-6	Water		12/20/2017 14:53	12/22/2017 10:30	<input type="checkbox"/>
17121445-16	MW-13	Water		12/20/2017 15:00	12/22/2017 10:30	<input type="checkbox"/>
17121445-17	Field Blank	Water		12/20/2017 15:35	12/22/2017 10:30	<input type="checkbox"/>
17121445-18	MW-12s	Water		12/20/2017 15:50	12/22/2017 10:30	<input type="checkbox"/>
17121445-19	MW-12d	Water		12/20/2017 16:00	12/22/2017 10:30	<input type="checkbox"/>
17121445-20	MW-6D	Water		12/20/2017 15:57	12/22/2017 10:30	<input type="checkbox"/>

ALS Group, USA

Date: 05-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12.20.17)
Sample ID: MW-21d
Collection Date: 12/20/2017 10:15 AM

Work Order: 17121445
Lab ID: 17121445-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 12/27/17	Analyst: RM
Sulfolane	ND		10	µg/L	1	12/29/2017 05:57 AM
Surr: 2-Fluorobiphenyl	37.6		34-98	%REC	1	12/29/2017 05:57 AM
Surr: 4-Terphenyl-d14	55.4		50-111	%REC	1	12/29/2017 05:57 AM
Surr: Nitrobenzene-d5	36.8		32-89	%REC	1	12/29/2017 05:57 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	22	x	1.0	mg/L	1	12/22/2017 03:30 PM

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

ALS Group, USA

Date: 05-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12.20.17)
Sample ID: MW-7
Collection Date: 12/20/2017 10:25 AM

Work Order: 17121445
Lab ID: 17121445-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 12/27/17	Analyst: RM
Sulfolane	ND		10	µg/L	1	12/29/2017 06:16 AM
Surr: 2-Fluorobiphenyl	37.0		34-98	%REC	1	12/29/2017 06:16 AM
Surr: 4-Terphenyl-d14	50.6		50-111	%REC	1	12/29/2017 06:16 AM
Surr: Nitrobenzene-d5	39.5		32-89	%REC	1	12/29/2017 06:16 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	46	x	1.0	mg/L	1	12/22/2017 03:30 PM

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

ALS Group, USA

Date: 05-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12.20.17)
Sample ID: MW-7 DUP
Collection Date: 12/20/2017 10:25 AM

Work Order: 17121445
Lab ID: 17121445-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 12/27/17	Analyst: RM
Sulfolane	ND		10	µg/L	1	12/29/2017 06:36 AM
Surr: 2-Fluorobiphenyl	43.3		34-98	%REC	1	12/29/2017 06:36 AM
Surr: 4-Terphenyl-d14	70.2		50-111	%REC	1	12/29/2017 06:36 AM
Surr: Nitrobenzene-d5	45.4		32-89	%REC	1	12/29/2017 06:36 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	45	x	1.0	mg/L	1	12/22/2017 03:30 PM

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

ALS Group, USA

Date: 05-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12.20.17)
Sample ID: MW-1
Collection Date: 12/20/2017 10:28 AM

Work Order: 17121445
Lab ID: 17121445-04
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 12/27/17	Analyst: RM
Sulfolane	ND		10	µg/L	1	12/29/2017 06:55 AM
Surr: 2-Fluorobiphenyl	44.7		34-98	%REC	1	12/29/2017 06:55 AM
Surr: 4-Terphenyl-d14	49.7	S	50-111	%REC	1	12/29/2017 06:55 AM
Surr: Nitrobenzene-d5	44.5		32-89	%REC	1	12/29/2017 06:55 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	6.4	x	1.0	mg/L	1	12/22/2017 03:30 PM

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

ALS Group, USA

Date: 05-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12.20.17)
Sample ID: MW-10
Collection Date: 12/20/2017 11:50 AM

Work Order: 17121445
Lab ID: 17121445-05
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 12/27/17	Analyst: RM
Sulfolane	ND		10	µg/L	1	12/29/2017 07:15 AM
Surr: 2-Fluorobiphenyl	53.3		34-98	%REC	1	12/29/2017 07:15 AM
Surr: 4-Terphenyl-d14	68.5		50-111	%REC	1	12/29/2017 07:15 AM
Surr: Nitrobenzene-d5	52.6		32-89	%REC	1	12/29/2017 07:15 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	36	x	1.0	mg/L	1	12/22/2017 03:30 PM

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

ALS Group, USA

Date: 05-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12.20.17)
Sample ID: MW-17d
Collection Date: 12/20/2017 11:35 AM

Work Order: 17121445
Lab ID: 17121445-06
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 12/27/17	Analyst: RM
Sulfolane	51		10	µg/L	1	12/29/2017 07:34 AM
Surr: 2-Fluorobiphenyl	45.4		34-98	%REC	1	12/29/2017 07:34 AM
Surr: 4-Terphenyl-d14	62.4		50-111	%REC	1	12/29/2017 07:34 AM
Surr: Nitrobenzene-d5	44.8		32-89	%REC	1	12/29/2017 07:34 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	33	x	1.0	mg/L	1	12/22/2017 03:30 PM

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

ALS Group, USA

Date: 05-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12.20.17)
Sample ID: MW-16d
Collection Date: 12/20/2017 11:21 AM

Work Order: 17121445
Lab ID: 17121445-07
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 12/27/17	Analyst: RM
Sulfolane	ND		10	µg/L	1	12/29/2017 07:54 AM
Surr: 2-Fluorobiphenyl	53.2		34-98	%REC	1	12/29/2017 07:54 AM
Surr: 4-Terphenyl-d14	59.8		50-111	%REC	1	12/29/2017 07:54 AM
Surr: Nitrobenzene-d5	53.8		32-89	%REC	1	12/29/2017 07:54 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	24	x	1.0	mg/L	1	12/22/2017 03:30 PM

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

ALS Group, USA

Date: 05-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12.20.17)
Sample ID: MW-16s
Collection Date: 12/20/2017 12:07 PM

Work Order: 17121445
Lab ID: 17121445-08
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 12/27/17	Analyst: RM
Sulfolane	ND		10	µg/L	1	12/29/2017 08:14 AM
Surr: 2-Fluorobiphenyl	40.7		34-98	%REC	1	12/29/2017 08:14 AM
Surr: 4-Terphenyl-d14	50.2		50-111	%REC	1	12/29/2017 08:14 AM
Surr: Nitrobenzene-d5	41.4		32-89	%REC	1	12/29/2017 08:14 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	16	x	1.0	mg/L	1	12/22/2017 03:30 PM

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

ALS Group, USA

Date: 05-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12.20.17)
Sample ID: MW-5
Collection Date: 12/20/2017 01:58 PM

Work Order: 17121445
Lab ID: 17121445-09
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 12/27/17	Analyst: RM
Sulfolane	ND		10	µg/L	1	12/29/2017 08:33 AM
Surr: 2-Fluorobiphenyl	58.7		34-98	%REC	1	12/29/2017 08:33 AM
Surr: 4-Terphenyl-d14	73.6		50-111	%REC	1	12/29/2017 08:33 AM
Surr: Nitrobenzene-d5	57.5		32-89	%REC	1	12/29/2017 08:33 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	24	x	1.0	mg/L	1	12/22/2017 03:30 PM

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

ALS Group, USA

Date: 05-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12.20.17)
Sample ID: MW-9
Collection Date: 12/20/2017 02:05 PM

Work Order: 17121445
Lab ID: 17121445-10
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 12/27/17	Analyst: RM
Sulfolane	ND		10	µg/L	1	12/29/2017 08:53 AM
Surr: 2-Fluorobiphenyl	43.7		34-98	%REC	1	12/29/2017 08:53 AM
Surr: 4-Terphenyl-d14	67.7		50-111	%REC	1	12/29/2017 08:53 AM
Surr: Nitrobenzene-d5	46.3		32-89	%REC	1	12/29/2017 08:53 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	21	x	1.0	mg/L	1	12/22/2017 03:30 PM

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

ALS Group, USA

Date: 05-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12.20.17)
Sample ID: MW-8
Collection Date: 12/20/2017 12:50 PM

Work Order: 17121445
Lab ID: 17121445-11
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 12/27/17	Analyst: RM
Sulfolane	ND		10	µg/L	1	12/29/2017 10:00 AM
Surr: 2-Fluorobiphenyl	53.6		34-98	%REC	1	12/29/2017 10:00 AM
Surr: 4-Terphenyl-d14	64.3		50-111	%REC	1	12/29/2017 10:00 AM
Surr: Nitrobenzene-d5	51.9		32-89	%REC	1	12/29/2017 10:00 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	7.9	x	1.0	mg/L	1	12/22/2017 03:30 PM

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

ALS Group, USA

Date: 05-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12.20.17)
Sample ID: MW-17s
Collection Date: 12/20/2017 12:45 PM

Work Order: 17121445
Lab ID: 17121445-12
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 12/27/17	Analyst: RM
Sulfolane	2,400		500	µg/L	50	1/2/2018 05:45 PM
Surr: 2-Fluorobiphenyl	55.8		34-98	%REC	1	12/29/2017 10:19 AM
Surr: 4-Terphenyl-d14	59.1		50-111	%REC	1	12/29/2017 10:19 AM
Surr: Nitrobenzene-d5	50.8		32-89	%REC	1	12/29/2017 10:19 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	49	x	1.0	mg/L	1	12/22/2017 03:30 PM

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

ALS Group, USA

Date: 05-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12.20.17)
Sample ID: MW-13d
Collection Date: 12/20/2017 02:00 PM

Work Order: 17121445
Lab ID: 17121445-13
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 12/27/17	Analyst: RM
Sulfolane	480		10	µg/L	1	12/29/2017 10:39 AM
Surr: 2-Fluorobiphenyl	47.6		34-98	%REC	1	12/29/2017 10:39 AM
Surr: 4-Terphenyl-d14	67.2		50-111	%REC	1	12/29/2017 10:39 AM
Surr: Nitrobenzene-d5	46.9		32-89	%REC	1	12/29/2017 10:39 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	240	x	4.0	mg/L	4	12/22/2017 03:30 PM

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

ALS Group, USA

Date: 05-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12.20.17)
Sample ID: MW-4
Collection Date: 12/20/2017 03:05 PM

Work Order: 17121445
Lab ID: 17121445-14
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 12/27/17	Analyst: RM
Sulfolane	ND		10	µg/L	1	12/29/2017 10:58 AM
Surr: 2-Fluorobiphenyl	43.9		34-98	%REC	1	12/29/2017 10:58 AM
Surr: 4-Terphenyl-d14	58.3		50-111	%REC	1	12/29/2017 10:58 AM
Surr: Nitrobenzene-d5	45.6		32-89	%REC	1	12/29/2017 10:58 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	24	x	1.0	mg/L	1	12/22/2017 03:30 PM

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

ALS Group, USA

Date: 05-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12.20.17)
Sample ID: MW-6
Collection Date: 12/20/2017 02:53 PM

Work Order: 17121445
Lab ID: 17121445-15
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 12/27/17	Analyst: RM
Sulfolane	ND		10	µg/L	1	12/28/2017 10:48 PM
Surr: 2-Fluorobiphenyl	47.1		34-98	%REC	1	12/28/2017 10:48 PM
Surr: 4-Terphenyl-d14	55.3		50-111	%REC	1	12/28/2017 10:48 PM
Surr: Nitrobenzene-d5	46.9		32-89	%REC	1	12/28/2017 10:48 PM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	42	x	1.0	mg/L	1	12/22/2017 03:30 PM

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

ALS Group, USA

Date: 05-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12.20.17)
Sample ID: MW-13
Collection Date: 12/20/2017 03:00 PM

Work Order: 17121445
Lab ID: 17121445-16
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 12/27/17	Analyst: RM
Sulfolane	ND		10	µg/L	1	12/29/2017 11:18 AM
Surr: 2-Fluorobiphenyl	37.2		34-98	%REC	1	12/29/2017 11:18 AM
Surr: 4-Terphenyl-d14	57.3		50-111	%REC	1	12/29/2017 11:18 AM
Surr: Nitrobenzene-d5	39.5		32-89	%REC	1	12/29/2017 11:18 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	80	x	1.0	mg/L	1	12/22/2017 03:30 PM

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

Client: Merit Energy
Project: ECT (Merit Hartland 12.20.17)
Sample ID: Field Blank
Collection Date: 12/20/2017 03:35 PM

Work Order: 17121445
Lab ID: 17121445-17
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 12/27/17	Analyst: RM
Sulfolane	ND		10	µg/L	1	12/29/2017 11:37 AM
Surr: 2-Fluorobiphenyl	47.8		34-98	%REC	1	12/29/2017 11:37 AM
Surr: 4-Terphenyl-d14	54.2		50-111	%REC	1	12/29/2017 11:37 AM
Surr: Nitrobenzene-d5	48.1		32-89	%REC	1	12/29/2017 11:37 AM

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

ALS Group, USA

Date: 05-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12.20.17)
Sample ID: MW-12s
Collection Date: 12/20/2017 03:50 PM

Work Order: 17121445
Lab ID: 17121445-18
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 12/27/17	Analyst: RM
Sulfolane	ND		10	µg/L	1	12/29/2017 11:56 AM
Surr: 2-Fluorobiphenyl	45.5		34-98	%REC	1	12/29/2017 11:56 AM
Surr: 4-Terphenyl-d14	59.3		50-111	%REC	1	12/29/2017 11:56 AM
Surr: Nitrobenzene-d5	49.4		32-89	%REC	1	12/29/2017 11:56 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	19	x	1.0	mg/L	1	12/22/2017 03:30 PM

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

ALS Group, USA

Date: 05-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12.20.17)
Sample ID: MW-12d
Collection Date: 12/20/2017 04:00 PM

Work Order: 17121445
Lab ID: 17121445-19
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 12/27/17	Analyst: RM
Sulfolane	ND		10	µg/L	1	12/29/2017 12:16 PM
Surr: 2-Fluorobiphenyl	41.4		34-98	%REC	1	12/29/2017 12:16 PM
Surr: 4-Terphenyl-d14	54.2		50-111	%REC	1	12/29/2017 12:16 PM
Surr: Nitrobenzene-d5	40.9		32-89	%REC	1	12/29/2017 12:16 PM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	32	x	1.0	mg/L	1	12/22/2017 03:30 PM

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

ALS Group, USA

Date: 05-Jan-18

Client: Merit Energy
Project: ECT (Merit Hartland 12.20.17)
Sample ID: MW-6D
Collection Date: 12/20/2017 03:57 PM

Work Order: 17121445
Lab ID: 17121445-20
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 12/27/17	Analyst: RM
Sulfolane	ND		10	µg/L	1	12/29/2017 12:35 PM
Surr: 2-Fluorobiphenyl	44.8		34-98	%REC	1	12/29/2017 12:35 PM
Surr: 4-Terphenyl-d14	48.4	S	50-111	%REC	1	12/29/2017 12:35 PM
Surr: Nitrobenzene-d5	47.2		32-89	%REC	1	12/29/2017 12:35 PM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	19	x	1.0	mg/L	1	12/22/2017 03:30 PM

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

Client: Merit Energy
Project: ECT (Merit Hartland 12.20.17)
Work Order: 17121445

Case Narrative

Batch 112247 Sample 17121445-15B MS The matrix spike recovery for Sulfolane Surrogate 4-Terphenyl-d14 was outside of the control limit. However, the matrix spike duplicate recovery and the RPD between the MS and MSD were in control. No qualification is required for this analyte. Client Sample ID: MW-6

Client: Merit Energy
 Work Order: 17121445
 Project: ECT (Merit Hartland 12.20.17)

QC BATCH REPORT

Batch ID: 112247 Instrument ID SVMS8 Method: SW846 8270D

MBLK		Sample ID: SBLKW1-112247-112247				Units: µg/L		Analysis Date: 12/28/2017 07:43 PM		
Client ID:		Run ID: SVMS8_171228A		SeqNo: 4836029		Prep Date: 12/27/2017		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-Fluorobiphenyl	29.64	0	50	0	59.3	34-98	0			
Surr: 4-Terphenyl-d14	33.46	0	50	0	66.9	50-111	0			
Surr: Nitrobenzene-d5	28.39	0	50	0	56.8	32-89	0			

LCS		Sample ID: SLCSW1-112247-112247				Units: µg/L		Analysis Date: 12/28/2017 08:02 PM		
Client ID:		Run ID: SVMS8_171228A		SeqNo: 4836030		Prep Date: 12/27/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	34.15	10	100	0	34.2	30-100	0			
Surr: 2-Fluorobiphenyl	23.47	0	50	0	46.9	34-98	0			
Surr: 4-Terphenyl-d14	30.28	0	50	0	60.6	50-111	0			
Surr: Nitrobenzene-d5	25.66	0	50	0	51.3	32-89	0			

MS		Sample ID: 17121445-15B MS				Units: µg/L		Analysis Date: 12/28/2017 10:09 PM		
Client ID: MW-6		Run ID: SVMS8_171228A		SeqNo: 4836034		Prep Date: 12/27/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	32.85	10	100	0	32.8	30-100	0			
Surr: 2-Fluorobiphenyl	21.34	0	50	0	42.7	34-98	0			
Surr: 4-Terphenyl-d14	24.13	0	50	0	48.3	50-111	0			S
Surr: Nitrobenzene-d5	21.14	0	50	0	42.3	32-89	0			

MSD		Sample ID: 17121445-15B MSD				Units: µg/L		Analysis Date: 12/28/2017 10:28 PM		
Client ID: MW-6		Run ID: SVMS8_171228A		SeqNo: 4836035		Prep Date: 12/27/2017		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	30.95	10	100	0	31	30-100	32.85	5.96	30	
Surr: 2-Fluorobiphenyl	21.06	0	50	0	42.1	34-98	21.34	1.32	40	
Surr: 4-Terphenyl-d14	32.05	0	50	0	64.1	50-111	24.13	28.2	40	
Surr: Nitrobenzene-d5	20.62	0	50	0	41.2	32-89	21.14	2.49	40	

The following samples were analyzed in this batch:

17121445-01B	17121445-02B	17121445-03B
17121445-04B	17121445-05B	17121445-06B
17121445-07B	17121445-08B	17121445-09B
17121445-10B	17121445-11B	17121445-12B
17121445-13B	17121445-14B	17121445-15B
17121445-16B	17121445-17A	17121445-18B
17121445-19B	17121445-20B	

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

Client: Merit Energy
 Work Order: 17121445
 Project: ECT (Merit Hartland 12.20.17)

QC BATCH REPORT

Batch ID: **R227117** Instrument ID **GALLERY** Method: **A4500-SO4 E-11**

MBLK		Sample ID: MB-R227117-R227117				Units: mg/L		Analysis Date: 12/22/2017 03:30 PM			
Client ID:		Run ID: GALLERY_171222B		SeqNo: 4826665		Prep Date:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfate	0.288	1.0								Jx	

MS		Sample ID: 17121445-15AMS				Units: mg/L		Analysis Date: 12/22/2017 03:30 PM			
Client ID: MW-6		Run ID: GALLERY_171222B		SeqNo: 4826683		Prep Date:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfate	92.7	1.0	50	41.95	102	75-125	0			x	

MSD		Sample ID: 17121445-15AMSD				Units: mg/L		Analysis Date: 12/22/2017 03:30 PM			
Client ID: MW-6		Run ID: GALLERY_171222B		SeqNo: 4826684		Prep Date:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfate	92.41	1.0	50	41.95	101	75-125	92.7	0.313	20	x	

LCS1		Sample ID: LCS1-R227117				Units: mg/L		Analysis Date: 12/22/2017 03:30 PM			
Client ID:		Run ID: GALLERY_171222B		SeqNo: 4826666		Prep Date:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfate	10.2	1.0	10	0	102	80-120	0			x	

LCS2		Sample ID: LCS2-R227117				Units: mg/L		Analysis Date: 12/22/2017 03:30 PM			
Client ID:		Run ID: GALLERY_171222B		SeqNo: 4826689		Prep Date:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfate	51.59	1.0	50	0	103	80-120	0			x	

The following samples were analyzed in this batch:

17121445-01A	17121445-02A	17121445-03A
17121445-04A	17121445-05A	17121445-06A
17121445-07A	17121445-08A	17121445-09A
17121445-10A	17121445-11A	17121445-12A
17121445-13A	17121445-14A	17121445-15A
17121445-16A	17121445-18A	17121445-19A
17121445-20A		

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

Client: Merit Energy
Project: ECT (Merit Hartland 12.20.17)
WorkOrder: 17121445

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-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
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
mg/L	Milligrams per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **22-Dec-17 10:30**

Work Order: **17121445**

Received by: **KRW**

Checklist completed by Keith Wierenga 22-Dec-17
eSignature Date

Reviewed by: Gary Byar 22-Dec-17
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, 4.2/4.2, 4.6/4.6 C</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>12/22/2017 12:39:07 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:



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

Chain of Custody Form

Page 1 of 3

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

ALS Project Manager: Gary Byar ALS Work Order #: 17121445

Customer Information		Project Information		Parameter/Method Request for Analysis											
Purchase Order		Project Name	ECT - Merit Hartland 12-4-17	A	Sulfate										
Work Order		Project Number		B	Sulfone										
Company Name	ECT, Inc.	Bill To Company	ECT, Inc.	C											
Send Report To		Invoice Attn.		D											
Address	3125 Sovereign Drive, Suite 9A	Address	3125 Sovereign Drive, Suite 9A	E											
City/State/Zip	Lansing, MI 48911	City/State/Zip	Lansing, MI 48911	F											
Phone	(517) 272-9200	Phone	(517) 272-9200	G											
Fax		Fax		H											
e-Mail Address				I											
				J											

No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW-2/d	12/20/17	1015	W	-	2	X	X									
2	MW-7		1025				X	X									
3	MW-7dup		1025				X	X									
4	MW-1		1028				X	X									
5	MW-10		1150				X	X									
6	MW-17d		1135				X	X									
7	MW-16d		1121				X	X									
8	MW-16s		1207				X	X									

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

Relinquished by: <i>Jason Bartholomew</i>	Date: 12/20/17	Time: 1910	Received by: <i>ECT 10/3 Storage</i>	Date:	Time:	Notes: ALS Project: MERITENERGY - Misc																				
Relinquished by: UPS	Date: 12/22/17	Time: 1030	Received by (Laboratory): <i>[Signature]</i>	Date:	Time:	<table border="1"> <tr> <td>ALS Cooler ID</td> <td>Cooler Temp</td> <td colspan="2">QC Package: (Check Box Below)</td> </tr> <tr> <td>SR2</td> <td>3.6°C</td> <td><input checked="" type="checkbox"/> Level II: Standard QC</td> <td><input type="checkbox"/> Level III: Raw Data</td> </tr> <tr> <td>PH9</td> <td>4.2°C</td> <td><input type="checkbox"/> TRRP LRC</td> <td><input type="checkbox"/> TRRP Level IV</td> </tr> <tr> <td></td> <td>4.6°C</td> <td colspan="2"><input type="checkbox"/> Level IV: SW846 Methods/CLP like</td> </tr> <tr> <td colspan="4"><input type="checkbox"/> Other: _____</td> </tr> </table>	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)		SR2	3.6°C	<input checked="" type="checkbox"/> Level II: Standard QC	<input type="checkbox"/> Level III: Raw Data	PH9	4.2°C	<input type="checkbox"/> TRRP LRC	<input type="checkbox"/> TRRP Level IV		4.6°C	<input type="checkbox"/> Level IV: SW846 Methods/CLP like		<input type="checkbox"/> Other: _____			
ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)																								
SR2	3.6°C	<input checked="" type="checkbox"/> Level II: Standard QC	<input type="checkbox"/> Level III: Raw Data																							
PH9	4.2°C	<input type="checkbox"/> TRRP LRC	<input type="checkbox"/> TRRP Level IV																							
	4.6°C	<input type="checkbox"/> Level IV: SW846 Methods/CLP like																								
<input type="checkbox"/> Other: _____																										
Logged by (Laboratory): <i>Ken</i>	Date: 12/22/17	Time: 1215	Checked by (Laboratory): <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.



RETURN SAMPLES TO:
 ALS Environmental
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Chain of Custody Form

Page 2 of 3

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

ALS Project Manager: Gary Byar ALS Work Order #: 7171445

Customer Information		Project Information		Parameter/Method Request for Analysis											
Purchase Order		Project Name	ECT - Merit Hartland 12-4-17	A	Sulfate										
Work Order		Project Number		B	SULFOLANE										
Company Name	ECT, Inc.	Bill To Company	ECT, Inc.	C											
Send Report To		Invoice Attn.		D											
Address	3125 Sovereign Drive, Suite 9A	Address	3125 Sovereign Drive, Suite 9A	E											
City/State/Zip	Lansing, MI 48911	City/State/Zip	Lansing, MI 48911	F											
Phone	(517) 272-9200	Phone	(517) 272-9200	G											
Fax		Fax		H											
e-Mail Address				I											
				J											

No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
9	MW-5	12/20/17	1358	W	-	2	X	X	X								
10	MW-9	12/20/17	14:05	W	-	2	Y	X	X								
11	MW-8		1250	W	-	2	X	X	X								
12	MW-17s		1245	W	-	2	X	X	X								
13	MW-13d		1400	W	-	2	X	X	X								
14	MW-4		15:05	W	-	2	X	X									
15	MW-6	12/20/17	1453	W	-	2	X	X									
16	MW-6 MS	12/20/17	1453	W	-	2	X	X									

Sample(s): Please Print & Sign *Jason Bartholomew* Shipment Method: UPS 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: *Jason Bartholomew* Date: 12/20/17 Time: 1910 Received by: *ECT storage* Date: 12/20/17 Time: 1910 Notes: ALS Project: MERITENERGY - Misc

Relinquished by: *UPS* Date: 12/22/17 Time: 1030 Received by (Laboratory): *[Signature]* Date: Time: ALS Cooler ID: Cooler Temp: QC Package: (Check Box Below) Level II: Standard QC Level III: Raw Data

Logged by (Laboratory): *KEV* Date: 12/22/17 Time: 1215 Checked by (Laboratory): *[Signature]* Date: Time: 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.



RETURN SAMPLES TO:
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 Traverse City, Michigan 49686
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 (Cell) 231.944.3459

Chain of Custody Form

Page 3 of 3

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	ECT - Merit Hartland 12-4-17			A	Sulfolane										
Work Order		Project Number				B	SULFATE										
Company Name	ECT, inc.	Bill To Company	ECT, inc.			C											
Send Report To		Invoice Attn.				D											
Address	3125 Sovereign Drive, Suite 9A	Address	3125 Sovereign Drive, Suite 9A			E											
City/State/Zip	Lansing, MI 48911	City/State/Zip	Lansing, MI 48911			F											
Phone	(517) 272-9200	Phone	(517) 272-9200			G											
Fax		Fax				H											
e-Mail Address						I											
						J											
No.	Sample Description	Date	Time	Matrix	Pres. Key Numbers	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
15	MW-6 MSD	12/20/17	1453	W	-	2	X	X									
16	MW-13		1500	W	-	2	X	X									
17	Field Blank		1535	W	-	1	X										
18	MW-12s	12/20/17	15:50	W	-	2	X	X									
19	MW-12d	12/20	1600	W	-	2	X	X									
20	MW-6d	12/20/17	1557	W	-	2	X	X									
Sampler(s): Please Print & Sign		Shipment Method: UPS			Required Turnaround Time: (Check Box)					Results Due Date:							
<i>[Signature]</i>					<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>		12/20/17	1910	ECT cold storage		12/20/17	1910	ALS Project: MERITENERGY - Misc									
Relinquished by:		Date:	Time:	Received by (Laboratory):		Date:	Time:	ALS Cooler ID	Cooler Temp	QC Package: (Check Box Below)							
UPS		12/22/17	1030	<i>[Signature]</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:							
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):													
Ken		12/22/17	1215	<i>[Signature]</i>													

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

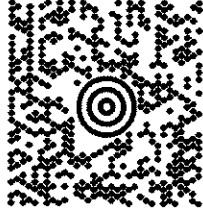
Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS.

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

50 LBS

5 OF 8

MI 495 9-04



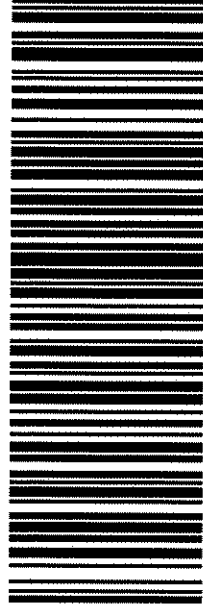
SHIP TO:

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

UPS NEXT DAY AIR

1

TRACKING #: 1Z V54 9W4 01 5123 3629



BILLING: 3RD PARTY

WS 20.0.20 Xerox WorkCenter 93.0A 10/2017

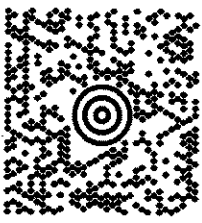
Fold here and place in label pouch

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

50 LBS

4 OF 8

MI 495 9-04

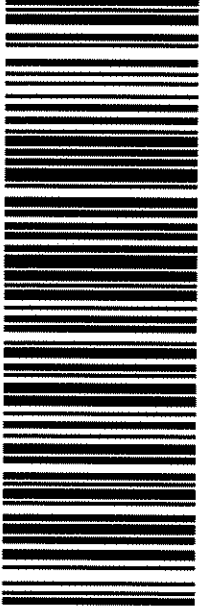


SHIP TO:

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

UPS NEXT DAY AIR 1

TRACKING #: 1Z V54 9W4 01 5291 2410



BILLING: 3RD PARTY

WS 20.0.20 Xerox WorkCent 93.DA 10/2017

Fold here and place in label pouch

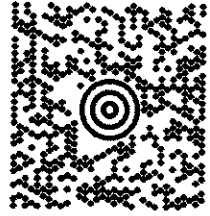
6 OF 8

50 LBS

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

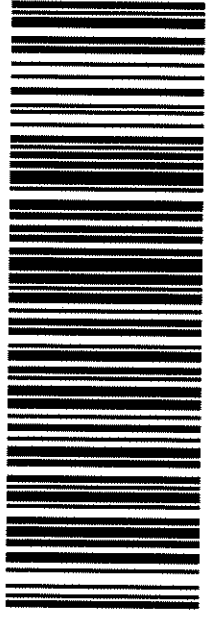


MI 495 9-04



UPS NEXT DAY AIR 1

TRACKING #: 1Z V54 9W4 01 5291 3633



BILLING: 3RD PARTY

WS 20.0.20 Xerox WorkCentre 95.0A 10/2017

Fold here and place in label pouch



02-Feb-2018

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

Re: **Merit Energy (Hartland 36 Gas Plant)**

Work Order: **18011293**

Dear Sean,

ALS Environmental received 9 samples on 26-Jan-2018 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 industry accepted practices and Quality Control 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 Ave Holland, Michigan 49424 | 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: Merit Energy (Hartland 36 Gas Plant)
Work Order: 18011293

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>
18011293-01	MW-20S	Water		1/25/2018 10:45	1/26/2018 10:00	<input type="checkbox"/>
18011293-02	MW-19D	Water		1/25/2018 11:05	1/26/2018 10:00	<input type="checkbox"/>
18011293-03	MW-20D	Water		1/25/2018 11:37	1/26/2018 10:00	<input type="checkbox"/>
18011293-04	MW-18	Water		1/25/2018 12:05	1/26/2018 10:00	<input type="checkbox"/>
18011293-05	MW-17D	Water		1/25/2018 12:51	1/26/2018 10:00	<input type="checkbox"/>
18011293-06	MW-13D	Water		1/25/2018 13:10	1/26/2018 10:00	<input type="checkbox"/>
18011293-07	MW-17S	Water		1/25/2018 13:33	1/26/2018 10:00	<input type="checkbox"/>
18011293-08	MW-14D	Water		1/25/2018 14:05	1/26/2018 10:00	<input type="checkbox"/>
18011293-09	MW-14S	Water		1/25/2018 14:33	1/26/2018 10:00	<input type="checkbox"/>

ALS Group, USA

Date: 02-Feb-18

Client: Merit Energy

Project: Merit Energy (Hartland 36 Gas Plant)

Work Order: 18011293

Sample ID: MW-20S

Lab ID: 18011293-01

Collection Date: 1/25/2018 10:45 AM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 1/31/18	Analyst: RM
Sulfolane	ND		10	µg/L	1	1/31/2018 06:51 PM
Surr: 2-Fluorobiphenyl	51.6		34-98	%REC	1	1/31/2018 06:51 PM
Surr: 4-Terphenyl-d14	59.5		50-111	%REC	1	1/31/2018 06:51 PM
Surr: Nitrobenzene-d5	52.8		32-89	%REC	1	1/31/2018 06:51 PM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	45	x	1.0	mg/L	1	1/30/2018 01:30 PM

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

ALS Group, USA

Date: 02-Feb-18

Client: Merit Energy

Project: Merit Energy (Hartland 36 Gas Plant)

Work Order: 18011293

Sample ID: MW-19D

Lab ID: 18011293-02

Collection Date: 1/25/2018 11:05 AM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 1/31/18	Analyst: RM
Sulfolane	ND		10	µg/L	1	1/31/2018 07:11 PM
Surr: 2-Fluorobiphenyl	55.5		34-98	%REC	1	1/31/2018 07:11 PM
Surr: 4-Terphenyl-d14	62.0		50-111	%REC	1	1/31/2018 07:11 PM
Surr: Nitrobenzene-d5	53.6		32-89	%REC	1	1/31/2018 07:11 PM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	74	x	1.0	mg/L	1	1/30/2018 01:30 PM

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

ALS Group, USA

Date: 02-Feb-18

Client: Merit Energy

Project: Merit Energy (Hartland 36 Gas Plant)

Work Order: 18011293

Sample ID: MW-20D

Lab ID: 18011293-03

Collection Date: 1/25/2018 11:37 AM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 1/31/18	Analyst: RM
Sulfolane	10,000		500	µg/L	50	2/1/2018 10:11 PM
Surr: 2-Fluorobiphenyl	74.0		34-98	%REC	1	1/31/2018 07:30 PM
Surr: 4-Terphenyl-d14	71.8		50-111	%REC	1	1/31/2018 07:30 PM
Surr: Nitrobenzene-d5	71.9		32-89	%REC	1	1/31/2018 07:30 PM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	41	x	1.0	mg/L	1	1/30/2018 01:30 PM

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

ALS Group, USA

Date: 02-Feb-18

Client: Merit Energy

Project: Merit Energy (Hartland 36 Gas Plant)

Work Order: 18011293

Sample ID: MW-18

Lab ID: 18011293-04

Collection Date: 1/25/2018 12:05 PM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 1/31/18	Analyst: RM
Sulfolane	2,300		200	µg/L	20	2/1/2018 10:30 PM
Surr: 2-Fluorobiphenyl	55.2		34-98	%REC	1	1/31/2018 07:50 PM
Surr: 4-Terphenyl-d14	70.0		50-111	%REC	1	1/31/2018 07:50 PM
Surr: Nitrobenzene-d5	52.5		32-89	%REC	1	1/31/2018 07:50 PM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	34	x	1.0	mg/L	1	1/30/2018 01:30 PM

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

ALS Group, USA

Date: 02-Feb-18

Client: Merit Energy

Project: Merit Energy (Hartland 36 Gas Plant)

Work Order: 18011293

Sample ID: MW-17D

Lab ID: 18011293-05

Collection Date: 1/25/2018 12:51 PM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 1/31/18	Analyst: RM
Sulfolane	ND		10	µg/L	1	1/31/2018 08:10 PM
Surr: 2-Fluorobiphenyl	42.5		34-98	%REC	1	1/31/2018 08:10 PM
Surr: 4-Terphenyl-d14	58.2		50-111	%REC	1	1/31/2018 08:10 PM
Surr: Nitrobenzene-d5	46.4		32-89	%REC	1	1/31/2018 08:10 PM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	38	x	1.0	mg/L	1	1/30/2018 01:30 PM

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

ALS Group, USA

Date: 02-Feb-18

Client: Merit Energy

Project: Merit Energy (Hartland 36 Gas Plant)

Work Order: 18011293

Sample ID: MW-13D

Lab ID: 18011293-06

Collection Date: 1/25/2018 01:10 PM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 1/31/18	Analyst: RM
Sulfolane	400		10	µg/L	1	1/31/2018 08:30 PM
Surr: 2-Fluorobiphenyl	50.9		34-98	%REC	1	1/31/2018 08:30 PM
Surr: 4-Terphenyl-d14	62.2		50-111	%REC	1	1/31/2018 08:30 PM
Surr: Nitrobenzene-d5	50.2		32-89	%REC	1	1/31/2018 08:30 PM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	240	x	4.0	mg/L	4	1/30/2018 01:30 PM

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

ALS Group, USA

Date: 02-Feb-18

Client: Merit Energy

Project: Merit Energy (Hartland 36 Gas Plant)

Work Order: 18011293

Sample ID: MW-17S

Lab ID: 18011293-07

Collection Date: 1/25/2018 01:33 PM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 1/31/18	Analyst: RM
Sulfolane	510		10	µg/L	1	1/31/2018 08:49 PM
Surr: 2-Fluorobiphenyl	52.2		34-98	%REC	1	1/31/2018 08:49 PM
Surr: 4-Terphenyl-d14	67.3		50-111	%REC	1	1/31/2018 08:49 PM
Surr: Nitrobenzene-d5	54.2		32-89	%REC	1	1/31/2018 08:49 PM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	53	x	1.0	mg/L	1	1/30/2018 01:30 PM

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

ALS Group, USA

Date: 02-Feb-18

Client: Merit Energy

Project: Merit Energy (Hartland 36 Gas Plant)

Work Order: 18011293

Sample ID: MW-14D

Lab ID: 18011293-08

Collection Date: 1/25/2018 02:05 PM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 1/31/18	Analyst: RM
Sulfolane	5,400		200	µg/L	20	2/1/2018 10:50 PM
Surr: 2-Fluorobiphenyl	60.9		34-98	%REC	1	1/31/2018 09:09 PM
Surr: 4-Terphenyl-d14	63.1		50-111	%REC	1	1/31/2018 09:09 PM
Surr: Nitrobenzene-d5	57.1		32-89	%REC	1	1/31/2018 09:09 PM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	44	x	1.0	mg/L	1	1/30/2018 01:30 PM

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

ALS Group, USA

Date: 02-Feb-18

Client: Merit Energy

Project: Merit Energy (Hartland 36 Gas Plant)

Work Order: 18011293

Sample ID: MW-14S

Lab ID: 18011293-09

Collection Date: 1/25/2018 02:33 PM

Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 1/31/18	Analyst: RM
Sulfolane	85		10	µg/L	1	1/31/2018 09:29 PM
Surr: 2-Fluorobiphenyl	56.0		34-98	%REC	1	1/31/2018 09:29 PM
Surr: 4-Terphenyl-d14	72.9		50-111	%REC	1	1/31/2018 09:29 PM
Surr: Nitrobenzene-d5	56.3		32-89	%REC	1	1/31/2018 09:29 PM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	56	x	1.0	mg/L	1	1/30/2018 01:30 PM

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

Client: Merit Energy
Project: Merit Energy (Hartland 36 Gas Plant)
Work Order: 18011293

Case Narrative

Batch R229087 The MS/MSD data for Sulfate is not related to this projects sample. No data requires qualification.

Client: Merit Energy
Work Order: 18011293
Project: Merit Energy (Hartland 36 Gas Plant)

QC BATCH REPORT

Batch ID: **113614** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-113614-113614				Units: µg/L		Analysis Date: 1/31/2018 05:52 PM			
Client ID:		Run ID: SVMS8_180131A				SeqNo: 4873329		Prep Date: 1/31/2018		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-Fluorobiphenyl</i>	25.12	0	50	0	50.2	34-98	0				
<i>Surr: 4-Terphenyl-d14</i>	31.92	0	50	0	63.8	50-111	0				
<i>Surr: Nitrobenzene-d5</i>	27.79	0	50	0	55.6	32-89	0				

LCS		Sample ID: SLCSW1-113614-113614				Units: µg/L		Analysis Date: 1/31/2018 06:12 PM			
Client ID:		Run ID: SVMS8_180131A				SeqNo: 4873330		Prep Date: 1/31/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	58.75	10	100	0	58.8	30-100	0				
<i>Surr: 2-Fluorobiphenyl</i>	29.82	0	50	0	59.6	34-98	0				
<i>Surr: 4-Terphenyl-d14</i>	34.21	0	50	0	68.4	50-111	0				
<i>Surr: Nitrobenzene-d5</i>	32.29	0	50	0	64.6	32-89	0				

LCSD		Sample ID: SLCSDW1-113614-113614				Units: µg/L		Analysis Date: 1/31/2018 06:31 PM			
Client ID:		Run ID: SVMS8_180131A				SeqNo: 4873331		Prep Date: 1/31/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfolane	48.15	10	100	0	48.2	30-100	58.75	19.8	30		
<i>Surr: 2-Fluorobiphenyl</i>	23.34	0	50	0	46.7	34-98	29.82	24.4	40		
<i>Surr: 4-Terphenyl-d14</i>	31.74	0	50	0	63.5	50-111	34.21	7.49	40		
<i>Surr: Nitrobenzene-d5</i>	25.08	0	50	0	50.2	32-89	32.29	25.1	40		

The following samples were analyzed in this batch:

18011293-01B	18011293-02B	18011293-03B
18011293-04B	18011293-05B	18011293-06B
18011293-07B	18011293-08B	18011293-09B

Client: Merit Energy
 Work Order: 18011293
 Project: Merit Energy (Hartland 36 Gas Plant)

QC BATCH REPORT

Batch ID: **R229087** Instrument ID **GALLERY** Method: **A4500-SO4 E-11**

MBLK	Sample ID: MB-R229087-R229087				Units: mg/L			Analysis Date: 1/30/2018 01:30 PM		
Client ID:	Run ID: GALLERY_180130A			SeqNo: 4869537		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Sulfate 0.287 1.0 Jx

MS	Sample ID: 18011271-03AMS				Units: mg/L			Analysis Date: 1/30/2018 01:30 PM		
Client ID:	Run ID: GALLERY_180130A			SeqNo: 4869541		Prep Date:		DF: 4		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Sulfate 200 4.0 50 173.6 52.8 75-125 0 Sx

MSD	Sample ID: 18011271-03AMSD				Units: mg/L			Analysis Date: 1/30/2018 01:30 PM		
Client ID:	Run ID: GALLERY_180130A			SeqNo: 4869542		Prep Date:		DF: 4		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Sulfate 213.5 4.0 50 173.6 79.8 75-125 200 6.54 20 x

LCS1	Sample ID: LCS1-R229087				Units: mg/L			Analysis Date: 1/30/2018 01:30 PM		
Client ID:	Run ID: GALLERY_180130A			SeqNo: 4869538		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Sulfate 9.888 1.0 10 0 98.9 80-120 0 x

LCS2	Sample ID: LCS2-R229087				Units: mg/L			Analysis Date: 1/30/2018 01:30 PM		
Client ID:	Run ID: GALLERY_180130A			SeqNo: 4869561		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Sulfate 51.29 1.0 50 0 103 80-120 0 x

The following samples were analyzed in this batch:

18011293-01A	18011293-02A	18011293-03A
18011293-04A	18011293-05A	18011293-06A
18011293-07A	18011293-08A	18011293-09A

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

Client: Merit Energy
Project: Merit Energy (Hartland 36 Gas Plant)
WorkOrder: 18011293

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-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
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
mg/L	Milligrams per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **26-Jan-18 10:00**

Work Order: **18011293**

Received by: **KRW**

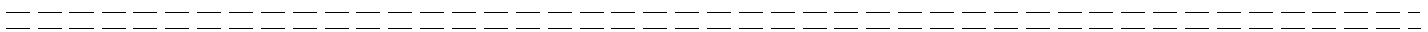
Checklist completed by Keith Wierenga 26-Jan-18
eSignature Date

Reviewed by: Gary Byar 29-Jan-18
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 C</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>1/26/2018 10:39:52 AM</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		ALS Project Manager: Gary Byar	ALS Work Order #: 18011293
Purchase Order		Project Name	Harland 36 Gas Plant	A	Sulfolane (1) Amber Liter
Work Order		Project Number		B	Sulfate (1) 125 p
Company Name	ECT, Inc.	Bill To Company	MEC	C	
Sent 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
1	MW-205	1/25/18	1045	W	-	2	X	X									
2	MW-19D	1/25/18	11:05	W	-	2	X	X									
3	MW-200	1/25/18	1137	W	-	2	X	X									
4	MW-18	1/25/18	12:05	W	-	2	X	X									
5	MW-17D	1/25/18	1251	W	-	2	X	X									
6	MW-13D	1/25/18	13:10	W	-	2	X	X									
7	MW-17S	1/25/18	1333	W	-	2	X	X									
8	MW-14D	1/25/18	14:05	W	-	2	X	X									
9	MW-14S	1/25/18	1433	W	-	2	X	X									

Sampler(s): Please Print & Sign Caitie J Simon		Shipments 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: Caitie J Simon		Date: 1/25/18	Time: 1545	Received by: UPS		Date:	Time:	Notes: ALS Project: MERITENERGY - Misc		
Relinquished by: UPS		Date: 1/26/18	Time: 1000	Received by (Laboratory): [Signature]		Date:	Time:	ALS Cooler ID: SR2 PH9	Cooler Temp: 30°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): Ke		Date: 1/26/18	Time: 1035	Checked by (Laboratory): GRB		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.

50 LBS

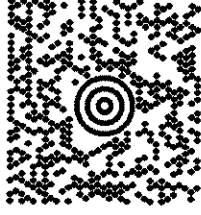
1 OF 1

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

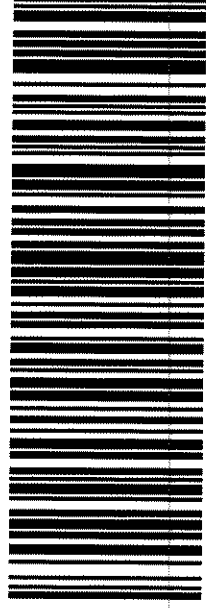
MI 495 9-04



UPS NEXT DAY AIR

1

TRACKING #: 1Z V54 9W4 01 5062 1836



REF 1:130685, 2000

BILLING: 3RD PARTY

WS 20.0.20 Xerox WorkCent 97.0A 01/2018

Fold here and place in label pouch



08-Mar-2018

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

Re: **Merit (Hartland #36)**

Work Order: **1803012**

Dear Sean,

ALS Environmental received 10 samples on 01-Mar-2018 09:45 AM for the analyses presented in the following report.

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

Sample results are compliant with industry accepted practices and Quality Control 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:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager

Report of Laboratory Analysis

Certificate No: MI: 0022

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: Merit (Hartland #36)
Work Order: 1803012

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>
1803012-01	MW-17d	Water		2/27/2018 10:15	3/1/2018 09:45	<input type="checkbox"/>
1803012-02	MW-7D	Water		2/27/2018 10:20	3/1/2018 09:45	<input type="checkbox"/>
1803012-03	MW-17S	Water		2/27/2018 11:05	3/1/2018 09:45	<input type="checkbox"/>
1803012-04	MW-19D	Water		2/27/2018 11:20	3/1/2018 09:45	<input type="checkbox"/>
1803012-05	MW-18	Water		2/27/2018 12:25	3/1/2018 09:45	<input type="checkbox"/>
1803012-06	MW-20d	Water		2/27/2018 12:10	3/1/2018 09:45	<input type="checkbox"/>
1803012-07	MW-20s	Water		2/27/2018 13:00	3/1/2018 09:45	<input type="checkbox"/>
1803012-08	MW-13D	Water		2/27/2018 13:20	3/1/2018 09:45	<input type="checkbox"/>
1803012-09	MW-14S	Water		2/27/2018 14:15	3/1/2018 09:45	<input type="checkbox"/>
1803012-10	MW-14d	Water		2/27/2018 14:30	3/1/2018 09:45	<input type="checkbox"/>

ALS Group, USA

Date: 08-Mar-18

Client: Merit Energy
Project: Merit (Hartland #36)
Sample ID: MW-17d
Collection Date: 2/27/2018 10:15 AM

Work Order: 1803012
Lab ID: 1803012-01
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D			Analyst: RM
Sulfolane	ND		10	µg/L	1	3/5/2018 08:40 PM
Surr: 2-Fluorobiphenyl	41.3		34-98	%REC	1	3/5/2018 08:40 PM
Surr: 4-Terphenyl-d14	77.2		50-111	%REC	1	3/5/2018 08:40 PM
Surr: Nitrobenzene-d5	50.7		32-89	%REC	1	3/5/2018 08:40 PM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	38		1.0	mg/L	1	3/1/2018 04:00 PM

Prep: SW3510 3/2/18 14:26

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

ALS Group, USA

Date: 08-Mar-18

Client: Merit Energy
Project: Merit (Hartland #36)
Sample ID: MW-7D
Collection Date: 2/27/2018 10:20 AM

Work Order: 1803012
Lab ID: 1803012-02
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D			Analyst: RM
Sulfolane	1,200		100	µg/L	10	3/6/2018 06:44 PM
Surr: 2-Fluorobiphenyl	74.5		34-98	%REC	1	3/5/2018 09:00 PM
Surr: 4-Terphenyl-d14	93.5		50-111	%REC	1	3/5/2018 09:00 PM
Surr: Nitrobenzene-d5	77.4		32-89	%REC	1	3/5/2018 09:00 PM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	96		4.0	mg/L	4	3/1/2018 04:00 PM

Prep: SW3510 3/2/18 14:26

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

Client: Merit Energy
Project: Merit (Hartland #36)
Sample ID: MW-17S
Collection Date: 2/27/2018 11:05 AM

Work Order: 1803012
Lab ID: 1803012-03
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D			
					Prep: SW3510 3/2/18 14:26	Analyst: RM
Sulfolane	460		10	µg/L	1	3/5/2018 09:21 PM
<i>Surr: 2-Fluorobiphenyl</i>	57.5		34-98	%REC	1	3/5/2018 09:21 PM
<i>Surr: 4-Terphenyl-d14</i>	86.4		50-111	%REC	1	3/5/2018 09:21 PM
<i>Surr: Nitrobenzene-d5</i>	59.0		32-89	%REC	1	3/5/2018 09:21 PM
SULFATE			A4500-SO4 E-11			
Sulfate	53		1.0	mg/L	1	Analyst: STP 3/1/2018 04:00 PM

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

ALS Group, USA

Date: 08-Mar-18

Client: Merit Energy
 Project: Merit (Hartland #36)
 Sample ID: MW-19D
 Collection Date: 2/27/2018 11:20 AM

Work Order: 1803012
 Lab ID: 1803012-04
 Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D			
					Prep: SW3510 3/2/18 14:26	Analyst: RM
Sulfolane	ND		10	µg/L	1	3/5/2018 09:42 PM
Surr: 2-Fluorobiphenyl	60.6		34-98	%REC	1	3/5/2018 09:42 PM
Surr: 4-Terphenyl-d14	74.9		50-111	%REC	1	3/5/2018 09:42 PM
Surr: Nitrobenzene-d5	65.8		32-89	%REC	1	3/5/2018 09:42 PM
SULFATE			A4500-SO4 E-11			
Sulfate	51		1.0	mg/L	1	3/1/2018 04:00 PM

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

ALS Group, USA

Date: 08-Mar-18

Client: Merit Energy
Project: Merit (Hartland #36)
Sample ID: MW-18
Collection Date: 2/27/2018 12:25 PM

Work Order: 1803012
Lab ID: 1803012-05
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D			Analyst: RM
Sulfolane	2,000		100	µg/L	10	3/6/2018 07:04 PM
Surr: 2-Fluorobiphenyl	77.0		34-98	%REC	1	3/5/2018 10:03 PM
Surr: 4-Terphenyl-d14	79.2		50-111	%REC	1	3/5/2018 10:03 PM
Surr: Nitrobenzene-d5	79.7		32-89	%REC	1	3/5/2018 10:03 PM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	33		1.0	mg/L	1	3/1/2018 04:00 PM

Prep: SW3510 3/2/18 14:26

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

Client: Merit Energy
Project: Merit (Hartland #36)
Sample ID: MW-20d
Collection Date: 2/27/2018 12:10 PM

Work Order: 1803012
Lab ID: 1803012-06
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D			
					Prep: SW3510 3/2/18 14:26	Analyst: RM
Sulfolane	9,300		500	µg/L	50	3/6/2018 07:25 PM
Surr: 2-Fluorobiphenyl	58.2		34-98	%REC	1	3/5/2018 10:24 PM
Surr: 4-Terphenyl-d14	79.2		50-111	%REC	1	3/5/2018 10:24 PM
Surr: Nitrobenzene-d5	54.0		32-89	%REC	50	3/6/2018 07:25 PM
Surr: Nitrobenzene-d5	60.8		32-89	%REC	1	3/5/2018 10:24 PM
SULFATE			A4500-SO4 E-11			
Sulfate	46		1.0	mg/L	1	Analyst: STP 3/1/2018 04:00 PM

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

ALS Group, USA

Date: 08-Mar-18

Client: Merit Energy
 Project: Merit (Hartland #36)
 Sample ID: MW-20s
 Collection Date: 2/27/2018 01:00 PM

Work Order: 1803012
 Lab ID: 1803012-07
 Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D			
					Prep: SW3510 3/2/18 14:26	Analyst: RM
Sulfolane	ND		10	µg/L	1	3/5/2018 10:45 PM
Surr: 2-Fluorobiphenyl	69.0		34-98	%REC	1	3/5/2018 10:45 PM
Surr: 4-Terphenyl-d14	86.0		50-111	%REC	1	3/5/2018 10:45 PM
Surr: Nitrobenzene-d5	77.1		32-89	%REC	1	3/5/2018 10:45 PM
SULFATE			A4500-SO4 E-11			
Sulfate	52		1.0	mg/L	1	Analyst: STP 3/1/2018 04:00 PM

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

ALS Group, USA

Date: 08-Mar-18

Client: Merit Energy
Project: Merit (Hartland #36)
Sample ID: MW-13D
Collection Date: 2/27/2018 01:20 PM

Work Order: 1803012
Lab ID: 1803012-08
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D			
					Prep: SW3510 3/2/18 14:26	Analyst: RM
Sulfolane	ND		10	µg/L	1	3/5/2018 11:06 PM
<i>Surr: 2-Fluorobiphenyl</i>	56.8		34-98	%REC	1	3/5/2018 11:06 PM
<i>Surr: 4-Terphenyl-d14</i>	72.9		50-111	%REC	1	3/5/2018 11:06 PM
<i>Surr: Nitrobenzene-d5</i>	66.0		32-89	%REC	1	3/5/2018 11:06 PM
SULFATE			A4500-SO4 E-11			
Sulfate	210		4.0	mg/L	4	Analyst: STP 3/1/2018 04:00 PM

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

ALS Group, USA

Date: 08-Mar-18

Client: Merit Energy
Project: Merit (Hartland #36)
Sample ID: MW-14S
Collection Date: 2/27/2018 02:15 PM

Work Order: 1803012
Lab ID: 1803012-09
Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D			
					Prep: SW3510 3/2/18 14:26	Analyst: RM
Sulfolane	ND		10	µg/L	1	3/5/2018 11:27 PM
<i>Surr: 2-Fluorobiphenyl</i>	55.7		34-98	%REC	1	3/5/2018 11:27 PM
<i>Surr: 4-Terphenyl-d14</i>	82.4		50-111	%REC	1	3/5/2018 11:27 PM
<i>Surr: Nitrobenzene-d5</i>	63.6		32-89	%REC	1	3/5/2018 11:27 PM
SULFATE			A4500-SO4 E-11			
Sulfate	110		4.0	mg/L	4	Analyst: STP 3/1/2018 04:00 PM

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

ALS Group, USA

Date: 08-Mar-18

Client: Merit Energy
 Project: Merit (Hartland #36)
 Sample ID: MW-14d
 Collection Date: 2/27/2018 02:30 PM

Work Order: 1803012
 Lab ID: 1803012-10
 Matrix: WATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D			Analyst: RM
Sulfolane	4,000		100	µg/L	10	3/6/2018 07:46 PM
Surr: 2-Fluorobiphenyl	63.5		34-98	%REC	1	3/5/2018 11:48 PM
Surr: 4-Terphenyl-d14	71.7		50-111	%REC	1	3/5/2018 11:48 PM
Surr: Nitrobenzene-d5	65.5		32-89	%REC	1	3/5/2018 11:48 PM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	48		1.0	mg/L	1	3/1/2018 04:00 PM

Prep: SW3510 3/2/18 14:26

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

Client: Merit Energy
 Work Order: 1803012
 Project: Merit (Hartland #36)

QC BATCH REPORT

Batch ID: 114951 Instrument ID: SVMS8 Method: SW846 8270D

MBLK		Sample ID: SBLKW1-114951-114951				Units: µg/L		Analysis Date: 3/5/2018 07:37 PM		
Client ID:		Run ID: SVMS8_180305A				SeqNo: 4924010		Prep Date: 3/2/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPC	RPD Limit	Qual
Sulfolane	ND	10								
Surr: 2-Fluorobiphenyl	20.08	0	50	0	40.2	34-98	0			
Surr: 4-Terphenyl-d14	29.78	0	50	0	59.6	50-111	0			
Surr: Nitrobenzene-d5	25.81	0	50	0	51.6	32-89	0			

LCS		Sample ID: SLCSW1-114951-114951				Units: µg/L		Analysis Date: 3/5/2018 07:58 PM		
Client ID:		Run ID: SVMS8_180305A				SeqNo: 4924011		Prep Date: 3/2/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPC	RPD Limit	Qual
Sulfolane	51.8	10	100	0	51.8	30-100	0			
Surr: 2-Fluorobiphenyl	25.5	0	50	0	51	34-98	0			
Surr: 4-Terphenyl-d14	39.72	0	50	0	79.4	50-111	0			
Surr: Nitrobenzene-d5	35.89	0	50	0	71.8	32-89	0			

LCSD		Sample ID: SLCSDW1-114951-114951				Units: µg/L		Analysis Date: 3/5/2018 08:19 PM		
Client ID:		Run ID: SVMS8_180305A				SeqNo: 4924012		Prep Date: 3/2/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPC	RPD Limit	Qual
Sulfolane	43.38	10	100	0	43.4	30-100	51.8	17.7	30	
Surr: 2-Fluorobiphenyl	21.72	0	50	0	43.4	34-98	25.5	16	40	
Surr: 4-Terphenyl-d14	41.5	0	50	0	83	50-111	39.72	4.38	40	
Surr: Nitrobenzene-d5	26.66	0	50	0	53.3	32-89	35.89	29.5	40	

The following samples were analyzed in this batch:

1803012-01A	1803012-02A	1803012-03A
1803012-04A	1803012-05A	1803012-06A
1803012-07A	1803012-08A	1803012-09A
1803012-10A		

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

Client: Merit Energy
 Work Order: 1803012
 Project: Merit (Hartland #36)

QC BATCH REPORT

Batch ID: **R230895** Instrument ID: **GALLERY** Method: **A4500-SO4 E-11**

MBLK	Sample ID: MB-R230895-R230895				Units: mg/L			Analysis Date: 3/1/2018 04:00 PM		
Client ID:	Run ID: GALLERY_180301A				SeqNo: 4915908		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Sulfate ND 1.0

MS	Sample ID: 1803031-01AMS				Units: mg/L			Analysis Date: 3/1/2018 04:00 PM		
Client ID:	Run ID: GALLERY_180301A				SeqNo: 4915923		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Sulfate 51.12 1.0 50 4.042 94.2 75-125 0

MSD	Sample ID: 1803031-01AMSD				Units: mg/L			Analysis Date: 3/1/2018 04:00 PM		
Client ID:	Run ID: GALLERY_180301A				SeqNo: 4915924		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Sulfate 49.38 1.0 50 4.042 90.7 75-125 51.12 3.46 20

LCS1	Sample ID: LCS1-R230895				Units: mg/L			Analysis Date: 3/1/2018 04:00 PM		
Client ID:	Run ID: GALLERY_180301A				SeqNo: 4915909		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Sulfate 10.49 1.0 10 0 105 80-120 0

LCS2	Sample ID: LCS2-R230895				Units: mg/L			Analysis Date: 3/1/2018 04:00 PM		
Client ID:	Run ID: GALLERY_180301A				SeqNo: 4915932		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Sulfate 52.61 1.0 50 0 105 80-120 0

The following samples were analyzed in this batch:

1803012-01B	1803012-02B	1803012-03B
1803012-04B	1803012-05B	1803012-06B
1803012-07B	1803012-08B	1803012-09B
1803012-10B		

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

Client: Merit Energy
Project: Merit (Hartland #36)
WorkOrder: 1803012

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-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
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
mg/L	Milligrams per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **01-Mar-18 09:45**

Work Order: **1803012**

Received by: **DS**

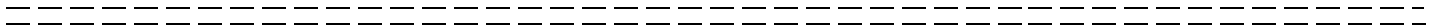
Checklist completed by Diane Shaw 01-Mar-18
eSignature Date

Reviewed by: Gary Byar 01-Mar-18
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>4.0/4.0, 4.4/4.4 c</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>3/1/2018 10:20:26 AM</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



Cincinnati, OH
+1 513 733 5336

Fort Collins, CO
+1 970 490 1511

Everett, WA
+1 425 356 2600

Holland, MI
+1 616 399 6070

Chain of Custody Form

Page 1 of 1

COC ID: 39256

Houston, TX
+1 281 530 5656

Middletown, PA
+1 717 944 5541

Spring City, PA
+1 610 948 4903

Salt Lake City, UT
+1 801 266 7700

South Charleston, WV
+1 304 356 3168

York, PA
+1 717 505 5280

ALS Project Manager: Gary Byer ALS Work Order #: 1803012

Customer Information		Project Information		Parameter/Method Request for Analysis												
Purchase Order		Project Name	<u>Merit Hasland #36</u>	A	<u>Sulfone</u>											
Work Order		Project Number	<u>1306805, 2000</u>	B	<u>Sulfate</u>											
Company Name	<u>ECT, Inc</u>	Bill To Company	<u>Merit Energy</u>	C												
Send Report To	<u>Jeremy Levandovski</u>	Invoice Attn	<u>Sean Crawley</u>	D												
Address	<u>Traverse City office</u>	Address		E												
City/State/Zip	<u>Traverse City, MI</u>	City/State/Zip		F												
Phone		Phone		G												
Fax		Fax		H												
e-Mail Address	<u>jlevandovski@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>MW-17d</u>	<u>2/27/18</u>	<u>10:15</u>	<u>water</u>	<u>-</u>	<u>2</u>	<u>XX</u>										
2	<u>MW-7D</u>	<u>2/27/18</u>	<u>10:20</u>	<u>water</u>	<u>-</u>	<u>2</u>	<u>X</u>	<u>X</u>									
3	<u>MW-17s</u>	<u>2/27/18</u>	<u>11:05</u>	<u>water</u>	<u>-</u>	<u>2</u>	<u>XX</u>										
4	<u>MW-19D</u>	<u>2/27/18</u>	<u>11:20</u>	<u>water</u>	<u>-</u>	<u>2</u>	<u>X</u>	<u>X</u>									
5	<u>MW-18</u>	<u>2/27/18</u>	<u>12:25</u>	<u>water</u>	<u>-</u>	<u>2</u>	<u>X</u>	<u>X</u>									
6	<u>MW-20d</u>	<u>2/27/18</u>	<u>12:10</u>	<u>water</u>	<u>-</u>	<u>2</u>	<u>X</u>	<u>X</u>									
7	<u>MW-20s</u>	<u>2/27/18</u>	<u>13:00</u>	<u>water</u>	<u>-</u>	<u>2</u>	<u>XX</u>										
8	<u>MW-13D</u>	<u>2/27/18</u>	<u>13:20</u>	<u>water</u>	<u>-</u>	<u>2</u>	<u>X</u>	<u>X</u>									
9	<u>MW-14S</u>	<u>2/27/18</u>	<u>14:15</u>	<u>water</u>	<u>-</u>	<u>2</u>	<u>X</u>	<u>X</u>									
10	<u>MW-14d</u>	<u>2/27/18</u>	<u>14:30</u>	<u>water</u>	<u>-</u>	<u>2</u>	<u>X</u>	<u>X</u>									

Sampler(s) Please Print & Sign <u>Sean Crawley</u>		Shipment Method <u>UPS cooler</u>		Turnaround Time in Business Days (BD) <input type="checkbox"/> 10 BD <input checked="" type="checkbox"/> 5 BD <input type="checkbox"/> 3 BD <input type="checkbox"/> 2 BD <input type="checkbox"/> 1 BD				Results Due Date:	
Relinquished by: <u>Sean Crawley</u>	Date: <u>2/27/18</u>	Time: <u>1720</u>	Received by: <u>ECT cold storage</u>		Notes:				
Relinquished by: <u>UPS</u>	Date: <u>3/1/18</u>	Time: <u>0945</u>	Received by (Laboratory): <u>[Signature]</u>		Cooler ID: <u>SR2</u>	Cooler Temp: <u>4.4°C</u>	QC Package: (Check One Box Below)		
Logged by (Laboratory): <u>DFS</u>	Date: <u>3/1/18</u>	Time: <u>1015</u>	Checked by (Laboratory): <u>[Signature]</u>		<u>pH 10</u>	<u>4.0°C</u>	<input type="checkbox"/> Level II Std QC	<input type="checkbox"/> TRRP Checklist	
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 9-5035						<input type="checkbox"/> Level III Std QC/Raw Data		<input type="checkbox"/> TRRP Level IV	
						<input type="checkbox"/> Level IV SW846/CLP		<input type="checkbox"/> Other _____	
						<input type="checkbox"/> Other _____			

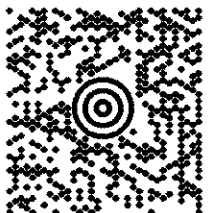
Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

50 LBS

1 OF 1

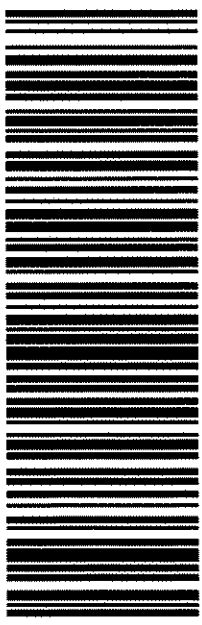
FROM:
LISA ZUBER
(517) 272-9200
ECT, INC.
3125 SOVEREIGN DRIVE
LANSING MI 48911-4240

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



MI 495 9-04


UPS NEXT DAY AIR **1**
TRACKING #: 1Z V54 9W4 01 5145 0037



REF 1:130685, 2000

BILLING: 3RD PARTY

Fold here and place in label pouch

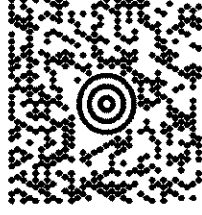
50 LBS 1 OF 1

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

SHIP TO:

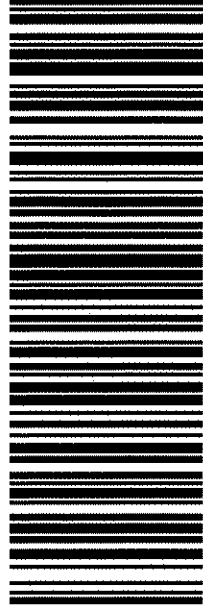
SAMPLE RECEIVING
(616) 399-6070
ALS ENVIRONMENTAL
3352 128TH AVENUE
HOLLAND MI 49424-9263

MI 495 9-04



UPS NEXT DAY AIR 1

TRACKING #: 1Z V54 9W4 01 5180 6457



REF 1:130685, 2000

BILLING: 3RD PARTY

WS 21 0.16 Xerox WorkCent 97.0A 01/2018

Field ~~XXXXXXXXXXXX~~ in label pouch



05-Apr-2018

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

Re: **Merit Energy (Hartland 3.28.18)**

Work Order: **18031771**

Dear Sean,

ALS Environmental received 22 samples on 29-Mar-2018 09:30 AM for the analyses presented in the following report.

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

Sample results are compliant with industry accepted practices and Quality Control 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 34.

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

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager



Certificate No: MI: 0022

Report of Laboratory Analysis

ADDRESS 3352 128th Ave Holland, Michigan 49424 | 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: Merit Energy (Hartland 3.28.18)
Work Order: 18031771

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>
18031771-01	MW-14s	Groundwater		3/28/2018 10:45	3/29/2018 09:30	<input type="checkbox"/>
18031771-02	MW-10	Groundwater		3/28/2018 10:40	3/29/2018 09:30	<input type="checkbox"/>
18031771-03	MW-2d	Groundwater		3/28/2018 11:00	3/29/2018 09:30	<input type="checkbox"/>
18031771-04	MW-8	Groundwater		3/28/2018 11:40	3/29/2018 09:30	<input type="checkbox"/>
18031771-05	MW-2	Groundwater		3/28/2018 11:40	3/29/2018 09:30	<input type="checkbox"/>
18031771-06	MW-14d	Groundwater		3/28/2018 11:50	3/29/2018 09:30	<input type="checkbox"/>
18031771-07	MW-14d dup	Groundwater		3/28/2018 11:50	3/29/2018 09:30	<input type="checkbox"/>
18031771-08	MW-23d	Groundwater		3/28/2018 12:30	3/29/2018 09:30	<input type="checkbox"/>
18031771-09	MW-7S	Groundwater		3/28/2018 12:35	3/29/2018 09:30	<input type="checkbox"/>
18031771-10	MW-13S	Groundwater		3/28/2018 13:10	3/29/2018 09:30	<input type="checkbox"/>
18031771-11	MW-15	Groundwater		3/28/2018 13:20	3/29/2018 09:30	<input type="checkbox"/>
18031771-12	MW-7D	Groundwater		3/28/2018 13:45	3/29/2018 09:30	<input type="checkbox"/>
18031771-13	MW-15d	Groundwater		3/28/2018 14:05	3/29/2018 09:30	<input type="checkbox"/>
18031771-14	MW-13d	Groundwater		3/28/2018 13:55	3/29/2018 09:30	<input type="checkbox"/>
18031771-15	Field Blank #1	Groundwater		3/28/2018 14:45	3/29/2018 09:30	<input type="checkbox"/>
18031771-16	MW-19DD	Groundwater		3/28/2018 14:40	3/29/2018 09:30	<input type="checkbox"/>
18031771-17	MW-21d	Groundwater		3/28/2018 15:05	3/29/2018 09:30	<input type="checkbox"/>
18031771-18	MW-15dd	Groundwater		3/28/2018 15:20	3/29/2018 09:30	<input type="checkbox"/>
18031771-19	MW-19D	Groundwater		3/28/2018 16:00	3/29/2018 09:30	<input type="checkbox"/>
18031771-20	MW-20s	Groundwater		3/28/2018 16:15	3/29/2018 09:30	<input type="checkbox"/>
18031771-21	MW-20s dup	Groundwater		3/28/2018 16:15	3/29/2018 09:30	<input type="checkbox"/>
18031771-22	MW-19S	Groundwater		3/28/2018 17:05	3/29/2018 09:30	<input type="checkbox"/>

ALS Group, USA

Date: 05-Apr-18

Client: Merit Energy

Project: Merit Energy (Hartland 3.28.18)

Work Order: 18031771

Sample ID: MW-14s

Lab ID: 18031771-01

Collection Date: 3/28/2018 10:45 AM

Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 4/2/18	Analyst: RM
Sulfolane	ND		10	µg/L	1	4/3/2018 08:58 PM
Surr: 2-Fluorobiphenyl	50.0		34-98	%REC	1	4/3/2018 08:58 PM
Surr: 4-Terphenyl-d14	78.7		50-111	%REC	1	4/3/2018 08:58 PM
Surr: Nitrobenzene-d5	52.6		32-89	%REC	1	4/3/2018 08:58 PM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	120	x	4.0	mg/L	4	3/29/2018 04:00 PM

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

ALS Group, USA

Date: 05-Apr-18

Client: Merit Energy

Project: Merit Energy (Hartland 3.28.18)

Work Order: 18031771

Sample ID: MW-10

Lab ID: 18031771-02

Collection Date: 3/28/2018 10:40 AM

Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 4/2/18	Analyst: RM
Sulfolane	ND		10	µg/L	1	4/3/2018 09:19 PM
Surr: 2-Fluorobiphenyl	48.7		34-98	%REC	1	4/3/2018 09:19 PM
Surr: 4-Terphenyl-d14	55.3		50-111	%REC	1	4/3/2018 09:19 PM
Surr: Nitrobenzene-d5	56.3		32-89	%REC	1	4/3/2018 09:19 PM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	48	x	1.0	mg/L	1	3/29/2018 04:00 PM

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

ALS Group, USA

Date: 05-Apr-18

Client: Merit Energy

Project: Merit Energy (Hartland 3.28.18)

Sample ID: MW-2d

Collection Date: 3/28/2018 11:00 AM

Work Order: 18031771

Lab ID: 18031771-03

Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 4/2/18	Analyst: RM
Sulfolane	ND		10	µg/L	1	4/3/2018 09:40 PM
Surr: 2-Fluorobiphenyl	53.3		34-98	%REC	1	4/3/2018 09:40 PM
Surr: 4-Terphenyl-d14	82.4		50-111	%REC	1	4/3/2018 09:40 PM
Surr: Nitrobenzene-d5	58.5		32-89	%REC	1	4/3/2018 09:40 PM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	17	x	1.0	mg/L	1	3/29/2018 04:00 PM

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

ALS Group, USA

Date: 05-Apr-18

Client: Merit Energy

Project: Merit Energy (Hartland 3.28.18)

Work Order: 18031771

Sample ID: MW-8

Lab ID: 18031771-04

Collection Date: 3/28/2018 11:40 AM

Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 4/2/18	Analyst: RM
Sulfolane	ND		10	µg/L	1	4/3/2018 10:00 PM
Surr: 2-Fluorobiphenyl	50.4		34-98	%REC	1	4/3/2018 10:00 PM
Surr: 4-Terphenyl-d14	64.4		50-111	%REC	1	4/3/2018 10:00 PM
Surr: Nitrobenzene-d5	56.5		32-89	%REC	1	4/3/2018 10:00 PM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	12	x	1.0	mg/L	1	3/29/2018 04:00 PM

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

ALS Group, USA

Date: 05-Apr-18

Client: Merit Energy

Project: Merit Energy (Hartland 3.28.18)

Work Order: 18031771

Sample ID: MW-2

Lab ID: 18031771-05

Collection Date: 3/28/2018 11:40 AM

Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 4/2/18	Analyst: RM
Sulfolane	ND		10	µg/L	1	4/3/2018 10:21 PM
Surr: 2-Fluorobiphenyl	44.9		34-98	%REC	1	4/3/2018 10:21 PM
Surr: 4-Terphenyl-d14	72.1		50-111	%REC	1	4/3/2018 10:21 PM
Surr: Nitrobenzene-d5	50.5		32-89	%REC	1	4/3/2018 10:21 PM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	14	x	1.0	mg/L	1	3/29/2018 04:00 PM

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

ALS Group, USA

Date: 05-Apr-18

Client: Merit Energy

Project: Merit Energy (Hartland 3.28.18)

Work Order: 18031771

Sample ID: MW-14d

Lab ID: 18031771-06

Collection Date: 3/28/2018 11:50 AM

Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 4/2/18	Analyst: RM
Sulfolane	3,000		200	µg/L	20	4/4/2018 12:07 PM
Surr: 2-Fluorobiphenyl	45.6		34-98	%REC	1	4/3/2018 10:42 PM
Surr: 4-Terphenyl-d14	59.3		50-111	%REC	1	4/3/2018 10:42 PM
Surr: Nitrobenzene-d5	44.4		32-89	%REC	1	4/3/2018 10:42 PM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	50	x	1.0	mg/L	1	3/29/2018 04:00 PM

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

ALS Group, USA

Date: 05-Apr-18

Client: Merit Energy

Project: Merit Energy (Hartland 3.28.18)

Sample ID: MW-14d dup

Collection Date: 3/28/2018 11:50 AM

Work Order: 18031771

Lab ID: 18031771-07

Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 4/2/18	Analyst: RM
Sulfolane	5,100		200	µg/L	20	4/4/2018 12:27 PM
Surr: 2-Fluorobiphenyl	60.3		34-98	%REC	1	4/3/2018 11:02 PM
Surr: 4-Terphenyl-d14	85.3		50-111	%REC	1	4/3/2018 11:02 PM
Surr: Nitrobenzene-d5	62.3		32-89	%REC	1	4/3/2018 11:02 PM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	51	x	1.0	mg/L	1	3/29/2018 04:00 PM

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

ALS Group, USA

Date: 05-Apr-18

Client: Merit Energy

Project: Merit Energy (Hartland 3.28.18)

Sample ID: MW-23d

Collection Date: 3/28/2018 12:30 PM

Work Order: 18031771

Lab ID: 18031771-08

Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 4/2/18	Analyst: RM
Sulfolane	ND		10	µg/L	1	4/3/2018 11:23 PM
Surr: 2-Fluorobiphenyl	59.1		34-98	%REC	1	4/3/2018 11:23 PM
Surr: 4-Terphenyl-d14	72.7		50-111	%REC	1	4/3/2018 11:23 PM
Surr: Nitrobenzene-d5	66.9		32-89	%REC	1	4/3/2018 11:23 PM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	19	x	1.0	mg/L	1	3/29/2018 04:00 PM

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

ALS Group, USA

Date: 05-Apr-18

Client: Merit Energy

Project: Merit Energy (Hartland 3.28.18)

Work Order: 18031771

Sample ID: MW-7S

Lab ID: 18031771-09

Collection Date: 3/28/2018 12:35 PM

Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 4/2/18	Analyst: RM
Sulfolane	ND		10	µg/L	1	4/3/2018 11:43 PM
Surr: 2-Fluorobiphenyl	52.6		34-98	%REC	1	4/3/2018 11:43 PM
Surr: 4-Terphenyl-d14	77.5		50-111	%REC	1	4/3/2018 11:43 PM
Surr: Nitrobenzene-d5	58.0		32-89	%REC	1	4/3/2018 11:43 PM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	31	x	1.0	mg/L	1	3/29/2018 04:00 PM

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

ALS Group, USA

Date: 05-Apr-18

Client: Merit Energy

Project: Merit Energy (Hartland 3.28.18)

Sample ID: MW-13S

Collection Date: 3/28/2018 01:10 PM

Work Order: 18031771

Lab ID: 18031771-10

Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 4/2/18	Analyst: RM
Sulfolane	ND		10	µg/L	1	4/4/2018 12:04 AM
Surr: 2-Fluorobiphenyl	54.4		34-98	%REC	1	4/4/2018 12:04 AM
Surr: 4-Terphenyl-d14	68.5		50-111	%REC	1	4/4/2018 12:04 AM
Surr: Nitrobenzene-d5	60.8		32-89	%REC	1	4/4/2018 12:04 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	63	x	1.0	mg/L	1	3/29/2018 04:00 PM

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

ALS Group, USA

Date: 05-Apr-18

Client: Merit Energy

Project: Merit Energy (Hartland 3.28.18)

Work Order: 18031771

Sample ID: MW-15

Lab ID: 18031771-11

Collection Date: 3/28/2018 01:20 PM

Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 4/2/18	Analyst: RM
Sulfolane	ND		10	µg/L	1	4/4/2018 12:24 AM
Surr: 2-Fluorobiphenyl	46.4		34-98	%REC	1	4/4/2018 12:24 AM
Surr: 4-Terphenyl-d14	70.8		50-111	%REC	1	4/4/2018 12:24 AM
Surr: Nitrobenzene-d5	53.3		32-89	%REC	1	4/4/2018 12:24 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	16	x	1.0	mg/L	1	3/29/2018 04:00 PM

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

ALS Group, USA

Date: 05-Apr-18

Client: Merit Energy

Project: Merit Energy (Hartland 3.28.18)

Work Order: 18031771

Sample ID: MW-7D

Lab ID: 18031771-12

Collection Date: 3/28/2018 01:45 PM

Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 4/2/18	Analyst: RM
Sulfolane	820		10	µg/L	1	4/4/2018 12:45 AM
Surr: 2-Fluorobiphenyl	54.8		34-98	%REC	1	4/4/2018 12:45 AM
Surr: 4-Terphenyl-d14	59.0		50-111	%REC	1	4/4/2018 12:45 AM
Surr: Nitrobenzene-d5	59.3		32-89	%REC	1	4/4/2018 12:45 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	81	x	1.0	mg/L	1	3/29/2018 04:00 PM

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

ALS Group, USA

Date: 05-Apr-18

Client: Merit Energy

Project: Merit Energy (Hartland 3.28.18)

Sample ID: MW-15d

Collection Date: 3/28/2018 02:05 PM

Work Order: 18031771

Lab ID: 18031771-13

Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 4/2/18	Analyst: RM
Sulfolane	ND		10	µg/L	1	4/4/2018 01:06 AM
Surr: 2-Fluorobiphenyl	56.5		34-98	%REC	1	4/4/2018 01:06 AM
Surr: 4-Terphenyl-d14	67.8		50-111	%REC	1	4/4/2018 01:06 AM
Surr: Nitrobenzene-d5	62.7		32-89	%REC	1	4/4/2018 01:06 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	29	x	1.0	mg/L	1	3/29/2018 04:00 PM

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

ALS Group, USA

Date: 05-Apr-18

Client: Merit Energy

Project: Merit Energy (Hartland 3.28.18)

Sample ID: MW-13d

Collection Date: 3/28/2018 01:55 PM

Work Order: 18031771

Lab ID: 18031771-14

Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 4/2/18	Analyst: RM
Sulfolane	ND		10	µg/L	1	4/4/2018 01:26 AM
Surr: 2-Fluorobiphenyl	53.1		34-98	%REC	1	4/4/2018 01:26 AM
Surr: 4-Terphenyl-d14	73.8		50-111	%REC	1	4/4/2018 01:26 AM
Surr: Nitrobenzene-d5	56.1		32-89	%REC	1	4/4/2018 01:26 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	220	x	4.0	mg/L	4	3/29/2018 04:00 PM

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

ALS Group, USA

Date: 05-Apr-18

Client: Merit Energy

Project: Merit Energy (Hartland 3.28.18)

Work Order: 18031771

Sample ID: Field Blank #1

Lab ID: 18031771-15

Collection Date: 3/28/2018 02:45 PM

Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 4/2/18	Analyst: RM
Sulfolane	ND		10	µg/L	1	4/4/2018 01:47 AM
Surr: 2-Fluorobiphenyl	65.4		34-98	%REC	1	4/4/2018 01:47 AM
Surr: 4-Terphenyl-d14	79.7		50-111	%REC	1	4/4/2018 01:47 AM
Surr: Nitrobenzene-d5	68.1		32-89	%REC	1	4/4/2018 01:47 AM

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

ALS Group, USA

Date: 05-Apr-18

Client: Merit Energy

Project: Merit Energy (Hartland 3.28.18)

Work Order: 18031771

Sample ID: MW-19DD

Lab ID: 18031771-16

Collection Date: 3/28/2018 02:40 PM

Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 4/2/18	Analyst: RM
Sulfolane	ND		10	µg/L	1	4/4/2018 02:07 AM
Surr: 2-Fluorobiphenyl	47.2		34-98	%REC	1	4/4/2018 02:07 AM
Surr: 4-Terphenyl-d14	62.3		50-111	%REC	1	4/4/2018 02:07 AM
Surr: Nitrobenzene-d5	52.9		32-89	%REC	1	4/4/2018 02:07 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	26	x	1.0	mg/L	1	3/29/2018 08:00 PM

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

ALS Group, USA

Date: 05-Apr-18

Client: Merit Energy

Project: Merit Energy (Hartland 3.28.18)

Work Order: 18031771

Sample ID: MW-21d

Lab ID: 18031771-17

Collection Date: 3/28/2018 03:05 PM

Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 4/2/18	Analyst: RM
Sulfolane	ND		10	µg/L	1	4/4/2018 02:28 AM
Surr: 2-Fluorobiphenyl	55.5		34-98	%REC	1	4/4/2018 02:28 AM
Surr: 4-Terphenyl-d14	58.4		50-111	%REC	1	4/4/2018 02:28 AM
Surr: Nitrobenzene-d5	61.3		32-89	%REC	1	4/4/2018 02:28 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	22	x	1.0	mg/L	1	3/29/2018 08:00 PM

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

ALS Group, USA

Date: 05-Apr-18

Client: Merit Energy

Project: Merit Energy (Hartland 3.28.18)

Work Order: 18031771

Sample ID: MW-15dd

Lab ID: 18031771-18

Collection Date: 3/28/2018 03:20 PM

Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 4/2/18	Analyst: RM
Sulfolane	ND		10	µg/L	1	4/4/2018 02:48 AM
Surr: 2-Fluorobiphenyl	51.7		34-98	%REC	1	4/4/2018 02:48 AM
Surr: 4-Terphenyl-d14	56.8		50-111	%REC	1	4/4/2018 02:48 AM
Surr: Nitrobenzene-d5	59.6		32-89	%REC	1	4/4/2018 02:48 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	37	x	1.0	mg/L	1	3/29/2018 08:00 PM

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

ALS Group, USA

Date: 05-Apr-18

Client: Merit Energy

Project: Merit Energy (Hartland 3.28.18)

Work Order: 18031771

Sample ID: MW-19D

Lab ID: 18031771-19

Collection Date: 3/28/2018 04:00 PM

Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 4/2/18	Analyst: RM
Sulfolane	290		10	µg/L	1	4/4/2018 03:09 AM
Surr: 2-Fluorobiphenyl	48.8		34-98	%REC	1	4/4/2018 03:09 AM
Surr: 4-Terphenyl-d14	70.1		50-111	%REC	1	4/4/2018 03:09 AM
Surr: Nitrobenzene-d5	55.0		32-89	%REC	1	4/4/2018 03:09 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	54	x	1.0	mg/L	1	3/29/2018 08:00 PM

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

ALS Group, USA

Date: 05-Apr-18

Client: Merit Energy

Project: Merit Energy (Hartland 3.28.18)

Work Order: 18031771

Sample ID: MW-20s

Lab ID: 18031771-20

Collection Date: 3/28/2018 04:15 PM

Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 4/2/18	Analyst: RM
Sulfolane	ND		10	µg/L	1	4/4/2018 03:30 AM
Surr: 2-Fluorobiphenyl	58.0		34-98	%REC	1	4/4/2018 03:30 AM
Surr: 4-Terphenyl-d14	72.7		50-111	%REC	1	4/4/2018 03:30 AM
Surr: Nitrobenzene-d5	62.4		32-89	%REC	1	4/4/2018 03:30 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	57	x	1.0	mg/L	1	3/29/2018 08:00 PM

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

ALS Group, USA

Date: 05-Apr-18

Client: Merit Energy

Project: Merit Energy (Hartland 3.28.18)

Work Order: 18031771

Sample ID: MW-20s dup

Lab ID: 18031771-21

Collection Date: 3/28/2018 04:15 PM

Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 4/3/18	Analyst: RM
Sulfolane	ND		10	µg/L	1	4/4/2018 03:50 AM
Surr: 2-Fluorobiphenyl	45.9		34-98	%REC	1	4/4/2018 03:50 AM
Surr: 4-Terphenyl-d14	55.2		50-111	%REC	1	4/4/2018 03:50 AM
Surr: Nitrobenzene-d5	53.9		32-89	%REC	1	4/4/2018 03:50 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	58	x	1.0	mg/L	1	3/29/2018 08:00 PM

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

ALS Group, USA

Date: 05-Apr-18

Client: Merit Energy

Project: Merit Energy (Hartland 3.28.18)

Sample ID: MW-19S

Collection Date: 3/28/2018 05:05 PM

Work Order: 18031771

Lab ID: 18031771-22

Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D		Prep: SW3510 / 4/3/18	Analyst: RM
Sulfolane	ND		10	µg/L	1	4/4/2018 04:11 AM
Surr: 2-Fluorobiphenyl	52.4		34-98	%REC	1	4/4/2018 04:11 AM
Surr: 4-Terphenyl-d14	65.1		50-111	%REC	1	4/4/2018 04:11 AM
Surr: Nitrobenzene-d5	57.9		32-89	%REC	1	4/4/2018 04:11 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	43	x	1.0	mg/L	1	3/29/2018 08:00 PM

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

Client: Merit Energy
Project: Merit Energy (Hartland 3.28.18)
Work Order: 18031771

Case Narrative

Batch R232740 The MS/MSD data for Sulfate is not related to this projects sample. No data requires qualification.

Batch 116266 The Recovery in the the Method Blank for Sulfolane was out of control limits. Results in the Parent sample may be biased low for this analyte.

Client: Merit Energy
Work Order: 18031771
Project: Merit Energy (Hartland 3.28.18)

QC BATCH REPORT

Batch ID: **116212** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-116212-116212				Units: µg/L		Analysis Date: 4/3/2018 06:05 PM		
Client ID:		Run ID: SVMS8_180403A				SeqNo: 4965934		Prep Date: 4/2/2018		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-Fluorobiphenyl</i>	25.37	0	50	0	50.7	34-98	0			
<i>Surr: 4-Terphenyl-d14</i>	36.1	0	50	0	72.2	50-111	0			
<i>Surr: Nitrobenzene-d5</i>	28.86	0	50	0	57.7	32-89	0			

LCS		Sample ID: SLCSW1-116212-116212				Units: µg/L		Analysis Date: 4/3/2018 06:25 PM		
Client ID:		Run ID: SVMS8_180403A				SeqNo: 4965935		Prep Date: 4/2/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	41.51	10	100	0	41.5	30-100	0			
<i>Surr: 2-Fluorobiphenyl</i>	30.92	0	50	0	61.8	34-98	0			
<i>Surr: 4-Terphenyl-d14</i>	35.46	0	50	0	70.9	50-111	0			
<i>Surr: Nitrobenzene-d5</i>	35.61	0	50	0	71.2	32-89	0			

LCSD		Sample ID: SLCSDW1-116212-116212				Units: µg/L		Analysis Date: 4/3/2018 06:46 PM		
Client ID:		Run ID: SVMS8_180403A				SeqNo: 4965936		Prep Date: 4/2/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	46.17	10	100	0	46.2	30-100	41.51	10.6	30	
<i>Surr: 2-Fluorobiphenyl</i>	31.47	0	50	0	62.9	34-98	30.92	1.76	40	
<i>Surr: 4-Terphenyl-d14</i>	39.31	0	50	0	78.6	50-111	35.46	10.3	40	
<i>Surr: Nitrobenzene-d5</i>	35.25	0	50	0	70.5	32-89	35.61	1.02	40	

The following samples were analyzed in this batch:

18031771-01A	18031771-02A	18031771-03A
18031771-04A	18031771-05A	18031771-06A
18031771-07A	18031771-08A	18031771-09A
18031771-10A	18031771-11A	18031771-12A
18031771-13A	18031771-14A	18031771-15A
18031771-16A	18031771-17A	18031771-18A
18031771-19A	18031771-20A	

Client: Merit Energy
 Work Order: 18031771
 Project: Merit Energy (Hartland 3.28.18)

QC BATCH REPORT

Batch ID: **116266** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-116266-116266				Units: µg/L		Analysis Date: 4/3/2018 07:07 PM		
Client ID:		Run ID: SVMS8_180403A		SeqNo: 4965937		Prep Date: 4/3/2018		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-Fluorobiphenyl</i>	24.92	0	50	0	49.8	34-98	0			
<i>Surr: 4-Terphenyl-d14</i>	23.86	0	50	0	47.7	50-111	0			S
<i>Surr: Nitrobenzene-d5</i>	29.16	0	50	0	58.3	32-89	0			

LCS		Sample ID: SLCSW1-116266-116266				Units: µg/L		Analysis Date: 4/3/2018 07:27 PM		
Client ID:		Run ID: SVMS8_180403A		SeqNo: 4965938		Prep Date: 4/3/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	39.1	10	100	0	39.1	30-100	0			
<i>Surr: 2-Fluorobiphenyl</i>	25.99	0	50	0	52	34-98	0			
<i>Surr: 4-Terphenyl-d14</i>	30.14	0	50	0	60.3	50-111	0			
<i>Surr: Nitrobenzene-d5</i>	30.6	0	50	0	61.2	32-89	0			

LCSD		Sample ID: SLCSDW1-116266-116266				Units: µg/L		Analysis Date: 4/3/2018 07:48 PM		
Client ID:		Run ID: SVMS8_180403A		SeqNo: 4965939		Prep Date: 4/3/2018		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	35.13	10	100	0	35.1	30-100	39.1	10.7	30	
<i>Surr: 2-Fluorobiphenyl</i>	21.15	0	50	0	42.3	34-98	25.99	20.5	40	
<i>Surr: 4-Terphenyl-d14</i>	30.49	0	50	0	61	50-111	30.14	1.15	40	
<i>Surr: Nitrobenzene-d5</i>	24.02	0	50	0	48	32-89	30.6	24.1	40	

The following samples were analyzed in this batch: | 18031771-21A | 18031771-22A |

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

Client: Merit Energy
 Work Order: 18031771
 Project: Merit Energy (Hartland 3.28.18)

QC BATCH REPORT

Batch ID: **R232740** Instrument ID **GALLERY** Method: **A4500-SO4 E-11**

MBLK		Sample ID: MB-R232740-R232740				Units: mg/L		Analysis Date: 3/29/2018 04:00 PM		
Client ID:		Run ID: GALLERY_180329A		SeqNo: 4957645		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	0.3297	1.0								Jx

MS		Sample ID: 18031639-01DMS				Units: mg/L		Analysis Date: 3/29/2018 04:00 PM		
Client ID:		Run ID: GALLERY_180329A		SeqNo: 4957649		Prep Date:		DF: 10		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	907	10	50	906.6	0.8	75-125	0			SOx

MSD		Sample ID: 18031639-01DMSD				Units: mg/L		Analysis Date: 3/29/2018 04:00 PM		
Client ID:		Run ID: GALLERY_180329A		SeqNo: 4957650		Prep Date:		DF: 10		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	939.4	10	50	906.6	65.6	75-125	907	3.51	20	SOx

DUP		Sample ID: 18031698-07ADUP				Units: mg/L		Analysis Date: 3/29/2018 04:00 PM		
Client ID:		Run ID: GALLERY_180329A		SeqNo: 4957670		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	11.37	1.0	0	0	0		11.41	0.386	20	x

LCS1		Sample ID: LCS1-R232740				Units: mg/L		Analysis Date: 3/29/2018 04:00 PM		
Client ID:		Run ID: GALLERY_180329A		SeqNo: 4957646		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	10.61	1.0	10	0	106	80-120	0			x

LCS2		Sample ID: LCS2-R232740				Units: mg/L		Analysis Date: 3/29/2018 04:00 PM		
Client ID:		Run ID: GALLERY_180329A		SeqNo: 4957669		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	57.35	1.0	50	0	115	80-120	0			x

The following samples were analyzed in this batch:

18031771-01B	18031771-02B	18031771-03B
18031771-04B	18031771-05B	18031771-06B
18031771-07B	18031771-08B	18031771-09B
18031771-10B	18031771-11B	18031771-12B
18031771-13B	18031771-14B	

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

Client: Merit Energy
 Work Order: 18031771
 Project: Merit Energy (Hartland 3.28.18)

QC BATCH REPORT

Batch ID: **R232741** Instrument ID **GALLERY** Method: **A4500-SO4 E-11**

MBLK		Sample ID: MB-R232741-R232741				Units: mg/L		Analysis Date: 3/29/2018 08:00 PM			
Client ID:		Run ID: GALLERY_180329B				SeqNo: 4957679		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfate	0.2953	1.0								Jx	

MS		Sample ID: 18031771-16BMS				Units: mg/L		Analysis Date: 3/29/2018 08:00 PM			
Client ID: MW-19DD		Run ID: GALLERY_180329B				SeqNo: 4957682		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfate	73.79	1.0	50	26.49	94.6	75-125		0		x	

MSD		Sample ID: 18031771-16BMSD				Units: mg/L		Analysis Date: 3/29/2018 08:00 PM			
Client ID: MW-19DD		Run ID: GALLERY_180329B				SeqNo: 4957683		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfate	74.13	1.0	50	26.49	95.3	75-125	73.79	0.46	20	x	

LCS1		Sample ID: LCS1-R232741				Units: mg/L		Analysis Date: 3/29/2018 08:00 PM			
Client ID:		Run ID: GALLERY_180329B				SeqNo: 4957680		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfate	10.75	1.0	10	0	107	80-120		0		x	

LCS2		Sample ID: LCS2-R232741				Units: mg/L		Analysis Date: 3/29/2018 08:00 PM			
Client ID:		Run ID: GALLERY_180329B				SeqNo: 4957695		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfate	59.05	1.0	50	0	118	80-120		0		x	

The following samples were analyzed in this batch:

18031771-16B	18031771-17B	18031771-18B
18031771-19B	18031771-20B	18031771-21B
18031771-22B		

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

Client: Merit Energy
Project: Merit Energy (Hartland 3.28.18)
WorkOrder: 18031771

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-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
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
mg/L	Milligrams per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **29-Mar-18 09:30**

Work Order: **18031771**

Received by: **DS**

Checklist completed by Diane Shaw 29-Mar-18
eSignature Date

Reviewed by: Gary Byar 29-Mar-18
eSignature Date

Matrices: Groundwater

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, 3.6/3.6, 4.0/4.0 c SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 3/29/2018 12:46:56 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:



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COC ID: 39338

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York, PA
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ALS Project Manager: Gary Byart ALS Work Order #: 18031771

Customer Information		Project Information		Parameter/Method Request for Analysis												
Purchase Order		Project Name	Merit - Hartland	A	Sulfolane											
Work Order		Project Number	130685, 2000	B	Sulfate											
Company Name	ECT, Inc.	Bill To Company	Merit Energy	C												
Send Report To	Jeremy Lelandowski	Invoice Attn	Sean Craven	D												
Address	ECT office Troy, MI	Address		E												
City/State/Zip	Troy, MI	City/State/Zip		F												
Phone		Phone		G												
Fax		Fax		H												
e-Mail Address	jlelandowski@ectinc.com	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	MW-14s	3/28/18	10:45	EW	-	2	X	X									
2	MW-10	3/28/18	10:40	GW	-	2	X	X									
3	MW-2d	3/28/18	11:00	GW	-	2	X	X									
4	MW-8	3/28/18	11:40	GW	-	2	X	X									
5	MW-2	3/28/18	11:40	GW	-	2	X	X									
6	MW-14d	3/28/18	11:50	EW	-	2	X	X									
7	MW-14d dup	3/28/18	11:50	EW	-	2	X	X									
8	MW-23d	3/28/18	12:30	GW	-	2	X	X									
9	MW-7S	3/28/18	12:35	GW	-	2	X	X									
10	MW-13S	3/28/18	13:10	EW	-	2	X	X									

Sampler(s) Please Print & Sign Jason B. Anderson		Shipment Method UPS	Turnaround Time in Business Days (BD) <input type="checkbox"/> 10 BD <input checked="" type="checkbox"/> 5 BD <input type="checkbox"/> 3 BD <input type="checkbox"/> 2 BD <input type="checkbox"/> 1 BD	Other _____	Results Due Date:
---	--	------------------------	--	-------------	-------------------

Relinquished by: Jason B. Anderson	Date: 3/28/18	Time: 1740	Received by: UPS	Notes:
Relinquished by: UPS	Date: 3/29/18	Time: 0930	Received by (Laboratory): D. J. Q. L.	QC Package: (Check One Box Below)
Logged by (Laboratory): DFS	Date: 3/29/18	Time: 1230	Checked by (Laboratory): GRB	<input type="checkbox"/> Level II Std QC <input type="checkbox"/> Level III Std QC/Raw Date <input type="checkbox"/> Level IV SW846/CLP <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 9-5035				Cooler ID: SR2 Cooler Temp: 3.6°C 3.6°C 4.0°C



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ALS Project Manager: Gary Byan ALS Work Order #: 8031771

Customer Information		Project Information		Parameter/Method Request for Analysis												
Purchase Order		Project Name	Merit Hartland	A	sulfolane											
Work Order		Project Number	130685-2000	B	sulfate											
Company Name	ECT, Inc.	Bill To Company	Merit Energy	C												
Send Report To	Jeremy Lewandowski	Invoice Attn	Sean Craven	D												
Address	Traverse City office	Address		E												
				F												
City/State/Zip	Traverse City, MI	City/State/Zip		G												
Phone		Phone		H												
Fax		Fax		I												
e-Mail Address	j.lewandowski@ectinc.com	e-Mail Address		J												

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
11	MW-15	3/28/18	13:20	GW	-	2	X	X									
12	MW-7D	3/28/18	13:45	GW	-	2	X	X									
13	MW-15d	3/28/18	14:05	GW	-	2	X	X									
14	MW-13d	3/28/18	13:55	GW	-	2	X	X									
15	Field Blank#1	3/28/18	14:45	GW	-	1	X										
16	MW-19DD	3/28/18	14:40	GW	-	2	X	X									
17	MW-21d	3/28/18	15:05	GW	-	2	X	X									
18	MW-15 dd	3/28/18	15:20	GW	-	2	X	X									
19	MW-19D	3/28/18	16:00	GW	-	2	X	X									
20	MW-2DS	3/28/18	16:15	GW	-	2	X	X									

Sampler(s) Please Print & Sign <u>Jason Bartholomew</u>		Shipment Method UPS		Turnaround Time in Business Days (BD) <input checked="" type="checkbox"/> 10 BD <input checked="" type="checkbox"/> 5 BD <input type="checkbox"/> 3 BD <input type="checkbox"/> 2 BD <input type="checkbox"/> 1 BD				Results Due Date:			
Relinquished by: <u>Jason Bartholomew</u>	Date: 3/28/18	Time: 1740	Received by: <u>UPS</u>	Notes:							
Relinquished by: UPS	Date: 3/29/18	Time: 0930	Received by (Laboratory): <u>GRB</u>	Cooler ID	Cooler Temp	QC Package: (Check One Box Below)					
Logged by (Laboratory): DFS	Date: 3/29/18	Time: 1230	Checked by (Laborator): <u>GRB</u>	SP2	3.6°C	<input type="checkbox"/> Level II Std QC	<input type="checkbox"/> TRRP Checklist				
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 9-5035					3.6°C	<input type="checkbox"/> Level III Std QC/Raw Date	<input type="checkbox"/> TRRP Level IV				
					4.6°C	<input type="checkbox"/> Level IV SW846/CLP					
						<input type="checkbox"/> Other					

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
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South Charleston, WV
+1 304 356 3168

York, PA
+1 717 505 5280

ALS Project Manager: Gary Byar

ALS Work Order #: 1803771

Customer Information		Project Information		Parameter/Method Request for Analysis												
Purchase Order		Project Name	<u>Merit-Hartland</u>	A	<u>Sulfolane</u>											
Work Order		Project Number	<u>130685, 2000</u>	B	<u>Sulfate</u>											
Company Name	<u>ECT, Inc.</u>	Bill To Company	<u>Merit Energy</u>	C												
Send Report To	<u>Jeremy Lewandowski</u>	Invoice Attn	<u>Sean Craven</u>	D												
Address	<u>Troyese City, MT</u>	Address		E												
City/State/Zip		City/State/Zip		F												
Phone		Phone		G												
Fax		Fax		H												
e-Mail Address	<u>jlewandowski@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
21	<u>MW-203 dup</u>	<u>3/28/18</u>	<u>1615</u>	<u>GW</u>	<u>-</u>	<u>2</u>	<u>X</u>	<u>X</u>									
22	<u>MW-195</u>	<u>3/28/18</u>	<u>17:05</u>	<u>GW</u>	<u>-</u>	<u>2</u>	<u>X</u>	<u>X</u>									
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign <u>Jason Bartholomei</u>		Shipment Method <u>UPS</u>		Turnaround Time in Business Days (BD) <input type="checkbox"/> 10 BD <input checked="" type="checkbox"/> 5 BD <input type="checkbox"/> 3 BD <input type="checkbox"/> 2 BD <input type="checkbox"/> 1 BD					Results Due Date:	
Relinquished by: <u>Jason Bartholomei</u>	Date: <u>3/28/18</u>	Time: <u>1740</u>	Received by: <u>UPS</u>		Notes:					
Relinquished by: <u>UPS</u>	Date: <u>3/29/18</u>	Time: <u>0930</u>	Received by (Laboratory): <u>[Signature]</u>		Cooler ID	Cooler Temp	QC Package: (Check One Box Below)			
Logged by (Laboratory): <u>DFS</u>	Date: <u>3/29/18</u>	Time: <u>1230</u>	Checked by (Laboratory): <u>[Signature]</u>		<u>SD2</u>	<u>3.6°C</u>	<input type="checkbox"/> Level II Std QC	<input type="checkbox"/> TRRP Checklist		
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 9-5035					<u>3.6°C</u>	<u>4.0°C</u>	<input type="checkbox"/> Level III Std QC/Raw Date	<input type="checkbox"/> TRRP Level IV		
							<input type="checkbox"/> Level IV SW846/CLP			
							<input type="checkbox"/> Other			

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06-Apr-2018

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

Re: **Merit (Hartland 3.29.18)**

Work Order: **18031883**

Dear Sean,

ALS Environmental received 20 samples on 30-Mar-2018 10:00 AM for the analyses presented in the following report.

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

Sample results are compliant with industry accepted practices and Quality Control 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 30.

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

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

Gary Byar

Electronically approved by: Gary Byar

Gary Byar
Project Manager

Report of Laboratory Analysis

Certificate No: MI: 0022

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: Merit (Hartland 3.29.18)
 Work Order: 18031883

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>
18031883-01	MW-20d	Groundwater		3/29/2018 09:20	3/30/2018 10:00	<input type="checkbox"/>
18031883-02	MW-9	Groundwater		3/29/2018 09:25	3/30/2018 10:00	<input type="checkbox"/>
18031883-03	MW-22d	Groundwater		3/29/2018 09:40	3/30/2018 10:00	<input type="checkbox"/>
18031883-04	MW-11	Groundwater		3/29/2018 10:25	3/30/2018 10:00	<input type="checkbox"/>
18031883-05	MW-1	Groundwater		3/29/2018 10:25	3/30/2018 10:00	<input type="checkbox"/>
18031883-06	MW-3d	Groundwater		3/29/2018 10:45	3/30/2018 10:00	<input type="checkbox"/>
18031883-07	MW-16	Groundwater		3/29/2018 11:15	3/30/2018 10:00	<input type="checkbox"/>
18031883-08	MW-18	Groundwater		3/29/2018 11:25	3/30/2018 10:00	<input type="checkbox"/>
18031883-09	MW-16d	Groundwater		3/29/2018 12:00	3/30/2018 10:00	<input type="checkbox"/>
18031883-10	MW-3	Groundwater		3/29/2018 11:40	3/30/2018 10:00	<input type="checkbox"/>
18031883-11	MW-4	Groundwater		3/29/2018 12:35	3/30/2018 10:00	<input type="checkbox"/>
18031883-12	MW-17d	Groundwater		3/29/2018 12:45	3/30/2018 10:00	<input type="checkbox"/>
18031883-13	MW-5	Groundwater		3/29/2018 12:50	3/30/2018 10:00	<input type="checkbox"/>
18031883-14	MW-12s	Groundwater		3/29/2018 13:35	3/30/2018 10:00	<input type="checkbox"/>
18031883-15	MW-17s	Groundwater		3/29/2018 13:35	3/30/2018 10:00	<input type="checkbox"/>
18031883-16	MW-17s dup	Groundwater		3/29/2018 13:35	3/30/2018 10:00	<input type="checkbox"/>
18031883-17	MW-6	Groundwater		3/29/2018 13:50	3/30/2018 10:00	<input type="checkbox"/>
18031883-18	MW-6d	Groundwater		3/29/2018 14:45	3/30/2018 10:00	<input type="checkbox"/>
18031883-19	Field Blank #2	Groundwater		3/29/2018 14:15	3/30/2018 10:00	<input type="checkbox"/>
18031883-20	MW-12d	Groundwater		3/29/2018 14:45	3/30/2018 10:00	<input type="checkbox"/>

ALS Group, USA

Date: 06-Apr-18

Client: Merit Energy
Project: Merit (Hartland 3.29.18)
Sample ID: MW-20d
Collection Date: 3/29/2018 09:20 AM

Work Order: 18031883
Lab ID: 18031883-01
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 4/3/18 12:01		Analyst: RM
Sulfolane	10,000		500	µg/L	50	4/4/2018 12:48 PM
Surr: 2-Fluorobiphenyl	62.8		34-98	%REC	1	4/4/2018 04:31 AM
Surr: 4-Terphenyl-d14	63.7		50-111	%REC	1	4/4/2018 04:31 AM
Surr: Nitrobenzene-d5	69.0		32-89	%REC	1	4/4/2018 04:31 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	51	x	1.0	mg/L	1	4/3/2018 12:30 PM

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

ALS Group, USA

Date: 06-Apr-18

Client: Merit Energy
Project: Merit (Hartland 3.29.18)
Sample ID: MW-9
Collection Date: 3/29/2018 09:25 AM

Work Order: 18031883
Lab ID: 18031883-02
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 4/3/18 12:01		Analyst: RM
Sulfolane	ND		10	µg/L	1	4/4/2018 04:52 AM
Surr: 2-Fluorobiphenyl	49.0		34-98	%REC	1	4/4/2018 04:52 AM
Surr: 4-Terphenyl-d14	64.0		50-111	%REC	1	4/4/2018 04:52 AM
Surr: Nitrobenzene-d5	54.8		32-89	%REC	1	4/4/2018 04:52 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	26	x	1.0	mg/L	1	4/3/2018 12:30 PM

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

ALS Group, USA

Date: 06-Apr-18

Client: Merit Energy
Project: Merit (Hartland 3.29.18)
Sample ID: MW-22d
Collection Date: 3/29/2018 09:40 AM

Work Order: 18031883
Lab ID: 18031883-03
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D			
					Prep: SW3510 4/3/18 12:01	Analyst: RM
Sulfolane	ND		10	µg/L	1	4/4/2018 05:12 AM
Surr: 2-Fluorobiphenyl	40.5		34-98	%REC	1	4/4/2018 05:12 AM
Surr: 4-Terphenyl-d14	53.1		50-111	%REC	1	4/4/2018 05:12 AM
Surr: Nitrobenzene-d5	46.5		32-89	%REC	1	4/4/2018 05:12 AM
SULFATE			A4500-SO4 E-11			
Sulfate	9.4	x	1.0	mg/L	1	Analyst: STP 4/3/2018 12:30 PM

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

ALS Group, USA

Date: 06-Apr-18

Client: Merit Energy
Project: Merit (Hartland 3.29.18)
Sample ID: MW-11
Collection Date: 3/29/2018 10:25 AM

Work Order: 18031883
Lab ID: 18031883-04
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 4/3/18 12:01		Analyst: RM
Sulfolane	ND		10	µg/L	1	4/4/2018 05:33 AM
Surr: 2-Fluorobiphenyl	42.0		34-98	%REC	1	4/4/2018 05:33 AM
Surr: 4-Terphenyl-d14	56.8		50-111	%REC	1	4/4/2018 05:33 AM
Surr: Nitrobenzene-d5	48.6		32-89	%REC	1	4/4/2018 05:33 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	16	x	1.0	mg/L	1	4/3/2018 12:30 PM

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

ALS Group, USA

Date: 06-Apr-18

Client: Merit Energy
Project: Merit (Hartland 3.29.18)
Sample ID: MW-1
Collection Date: 3/29/2018 10:25 AM

Work Order: 18031883
Lab ID: 18031883-05
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 4/3/18 12:01		Analyst: RM
Sulfolane	ND		10	µg/L	1	4/4/2018 05:53 AM
Surr: 2-Fluorobiphenyl	50.2		34-98	%REC	1	4/4/2018 05:53 AM
Surr: 4-Terphenyl-d14	53.9		50-111	%REC	1	4/4/2018 05:53 AM
Surr: Nitrobenzene-d5	58.1		32-89	%REC	1	4/4/2018 05:53 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	5.0	x	1.0	mg/L	1	4/3/2018 12:30 PM

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

ALS Group, USA

Date: 06-Apr-18

Client: Merit Energy
Project: Merit (Hartland 3.29.18)
Sample ID: MW-3d
Collection Date: 3/29/2018 10:45 AM

Work Order: 18031883
Lab ID: 18031883-06
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D			Analyst: RM
Sulfolane	ND		10	µg/L	1	4/4/2018 06:14 AM
Surr: 2-Fluorobiphenyl	50.8		34-98	%REC	1	4/4/2018 06:14 AM
Surr: 4-Terphenyl-d14	61.1		50-111	%REC	1	4/4/2018 06:14 AM
Surr: Nitrobenzene-d5	59.2		32-89	%REC	1	4/4/2018 06:14 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	30	x	1.0	mg/L	1	4/3/2018 12:30 PM

Prep: SW3510 4/3/18 12:01

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

ALS Group, USA

Date: 06-Apr-18

Client: Merit Energy
Project: Merit (Hartland 3.29.18)
Sample ID: MW-16
Collection Date: 3/29/2018 11:15 AM

Work Order: 18031883
Lab ID: 18031883-07
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 4/3/18 12:01		Analyst: RM
Sulfolane	ND		10	µg/L	1	4/4/2018 06:35 AM
Surr: 2-Fluorobiphenyl	58.8		34-98	%REC	1	4/4/2018 06:35 AM
Surr: 4-Terphenyl-d14	61.5		50-111	%REC	1	4/4/2018 06:35 AM
Surr: Nitrobenzene-d5	63.8		32-89	%REC	1	4/4/2018 06:35 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	19	x	1.0	mg/L	1	4/3/2018 12:30 PM

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

ALS Group, USA

Date: 06-Apr-18

Client: Merit Energy
Project: Merit (Hartland 3.29.18)
Sample ID: MW-18
Collection Date: 3/29/2018 11:25 AM

Work Order: 18031883
Lab ID: 18031883-08
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 4/3/18 12:01		Analyst: RM
Sulfolane	980		10	µg/L	1	4/4/2018 06:55 AM
Surr: 2-Fluorobiphenyl	50.7		34-98	%REC	1	4/4/2018 06:55 AM
Surr: 4-Terphenyl-d14	55.6		50-111	%REC	1	4/4/2018 06:55 AM
Surr: Nitrobenzene-d5	54.6		32-89	%REC	1	4/4/2018 06:55 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	34	x	1.0	mg/L	1	4/3/2018 12:30 PM

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

ALS Group, USA

Date: 06-Apr-18

Client: Merit Energy
Project: Merit (Hartland 3.29.18)
Sample ID: MW-16d
Collection Date: 3/29/2018 12:00 PM

Work Order: 18031883
Lab ID: 18031883-09
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 4/3/18 12:01		Analyst: RM
Sulfolane	ND		10	µg/L	1	4/4/2018 07:16 AM
Surr: 2-Fluorobiphenyl	48.5		34-98	%REC	1	4/4/2018 07:16 AM
Surr: 4-Terphenyl-d14	53.8		50-111	%REC	1	4/4/2018 07:16 AM
Surr: Nitrobenzene-d5	56.1		32-89	%REC	1	4/4/2018 07:16 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	25	x	1.0	mg/L	1	4/3/2018 12:30 PM

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

ALS Group, USA

Date: 06-Apr-18

Client: Merit Energy
Project: Merit (Hartland 3.29.18)
Sample ID: MW-3
Collection Date: 3/29/2018 11:40 AM

Work Order: 18031883
Lab ID: 18031883-10
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D			Analyst: RM
Sulfolane	ND		10	µg/L	1	4/4/2018 07:36 AM
Surr: 2-Fluorobiphenyl	55.8		34-98	%REC	1	4/4/2018 07:36 AM
Surr: 4-Terphenyl-d14	61.0		50-111	%REC	1	4/4/2018 07:36 AM
Surr: Nitrobenzene-d5	60.8		32-89	%REC	1	4/4/2018 07:36 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	26	x	1.0	mg/L	1	4/3/2018 12:30 PM

Prep: SW3510 4/3/18 12:01

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

ALS Group, USA

Date: 06-Apr-18

Client: Merit Energy
Project: Merit (Hartland 3.29.18)
Sample ID: MW-4
Collection Date: 3/29/2018 12:35 PM

Work Order: 18031883
Lab ID: 18031883-11
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 4/3/18 12:01		Analyst: RM
Sulfolane	ND		10	µg/L	1	4/4/2018 07:57 AM
Surr: 2-Fluorobiphenyl	48.7		34-98	%REC	1	4/4/2018 07:57 AM
Surr: 4-Terphenyl-d14	55.1		50-111	%REC	1	4/4/2018 07:57 AM
Surr: Nitrobenzene-d5	54.6		32-89	%REC	1	4/4/2018 07:57 AM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	29	x	1.0	mg/L	1	4/3/2018 12:30 PM

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

ALS Group, USA

Date: 06-Apr-18

Client: Merit Energy
Project: Merit (Hartland 3.29.18)
Sample ID: MW-17d
Collection Date: 3/29/2018 12:45 PM

Work Order: 18031883
Lab ID: 18031883-12
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 4/4/18 12:51		Analyst: RM
Sulfolane	ND		10	µg/L	1	4/4/2018 03:11 PM
Surr: 2-Fluorobiphenyl	49.3		34-98	%REC	1	4/4/2018 03:11 PM
Surr: 4-Terphenyl-d14	63.5		50-111	%REC	1	4/4/2018 03:11 PM
Surr: Nitrobenzene-d5	54.3		32-89	%REC	1	4/4/2018 03:11 PM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	36	x	1.0	mg/L	1	4/3/2018 12:30 PM

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

ALS Group, USA

Date: 06-Apr-18

Client: Merit Energy
Project: Merit (Hartland 3.29.18)
Sample ID: MW-5
Collection Date: 3/29/2018 12:50 PM

Work Order: 18031883
Lab ID: 18031883-13
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D			
					Prep: SW3510 4/4/18 12:51	Analyst: RM
Sulfolane	ND		10	µg/L	1	4/4/2018 03:32 PM
Surr: 2-Fluorobiphenyl	46.0		34-98	%REC	1	4/4/2018 03:32 PM
Surr: 4-Terphenyl-d14	62.6		50-111	%REC	1	4/4/2018 03:32 PM
Surr: Nitrobenzene-d5	50.7		32-89	%REC	1	4/4/2018 03:32 PM
SULFATE			A4500-SO4 E-11			
Sulfate	24	x	1.0	mg/L	1	Analyst: STP 4/3/2018 12:30 PM

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

ALS Group, USA

Date: 06-Apr-18

Client: Merit Energy
Project: Merit (Hartland 3.29.18)
Sample ID: MW-12s
Collection Date: 3/29/2018 01:35 PM

Work Order: 18031883
Lab ID: 18031883-14
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 4/4/18 12:51		Analyst: RM
Sulfolane	ND		10	µg/L	1	4/4/2018 03:52 PM
Surr: 2-Fluorobiphenyl	45.4		34-98	%REC	1	4/4/2018 03:52 PM
Surr: 4-Terphenyl-d14	63.6		50-111	%REC	1	4/4/2018 03:52 PM
Surr: Nitrobenzene-d5	49.0		32-89	%REC	1	4/4/2018 03:52 PM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	18	x	1.0	mg/L	1	4/3/2018 12:30 PM

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

ALS Group, USA

Date: 06-Apr-18

Client: Merit Energy
Project: Merit (Hartland 3.29.18)
Sample ID: MW-17s
Collection Date: 3/29/2018 01:35 PM

Work Order: 18031883
Lab ID: 18031883-15
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D			Analyst: RM
Sulfolane	52		10	µg/L	1	4/4/2018 04:13 PM
Surr: 2-Fluorobiphenyl	45.1		34-98	%REC	1	4/4/2018 04:13 PM
Surr: 4-Terphenyl-d14	57.1		50-111	%REC	1	4/4/2018 04:13 PM
Surr: Nitrobenzene-d5	48.6		32-89	%REC	1	4/4/2018 04:13 PM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	58	x	1.0	mg/L	1	4/3/2018 12:30 PM

Prep: SW3510 4/4/18 12:51

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

Client: Merit Energy
Project: Merit (Hartland 3.29.18)
Sample ID: MW-17s dup
Collection Date: 3/29/2018 01:35 PM

Work Order: 18031883
Lab ID: 18031883-16
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 4/4/18 12:51		Analyst: RM
Sulfolane	52		10	µg/L	1	4/4/2018 04:34 PM
<i>Surr: 2-Fluorobiphenyl</i>	40.0		34-98	%REC	1	4/4/2018 04:34 PM
<i>Surr: 4-Terphenyl-d14</i>	52.2		50-111	%REC	1	4/4/2018 04:34 PM
<i>Surr: Nitrobenzene-d5</i>	45.0		32-89	%REC	1	4/4/2018 04:34 PM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	64	x	1.0	mg/L	1	4/3/2018 12:30 PM

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

ALS Group, USA

Date: 06-Apr-18

Client: Merit Energy
Project: Merit (Hartland 3.29.18)
Sample ID: MW-6
Collection Date: 3/29/2018 01:50 PM

Work Order: 18031883
Lab ID: 18031883-17
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D			
					Prep: SW3510 4/4/18 12:51	Analyst: RM
Sulfolane	ND		10	µg/L	1	4/4/2018 02:51 PM
Surr: 2-Fluorobiphenyl	45.4		34-98	%REC	1	4/4/2018 02:51 PM
Surr: 4-Terphenyl-d14	62.0		50-111	%REC	1	4/4/2018 02:51 PM
Surr: Nitrobenzene-d5	52.2		32-89	%REC	1	4/4/2018 02:51 PM
SULFATE			A4500-SO4 E-11			
Sulfate	41	x	2.0	mg/L	2	Analyst: STP 4/3/2018 12:30 PM

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

ALS Group, USA

Date: 06-Apr-18

Client: Merit Energy
Project: Merit (Hartland 3.29.18)
Sample ID: MW-6d
Collection Date: 3/29/2018 02:45 PM

Work Order: 18031883
Lab ID: 18031883-18
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D			
					Prep: SW3510 4/4/18 12:51	Analyst: RM
Sulfolane	ND		10	µg/L	1	4/4/2018 04:54 PM
Surr: 2-Fluorobiphenyl	52.0		34-98	%REC	1	4/4/2018 04:54 PM
Surr: 4-Terphenyl-d14	58.9		50-111	%REC	1	4/4/2018 04:54 PM
Surr: Nitrobenzene-d5	59.0		32-89	%REC	1	4/4/2018 04:54 PM
SULFATE			A4500-SO4 E-11			
Sulfate	20	x	1.0	mg/L	1	Analyst: STP 4/3/2018 12:30 PM

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

ALS Group, USA

Date: 06-Apr-18

Client: Merit Energy
Project: Merit (Hartland 3.29.18)
Sample ID: Field Blank #2
Collection Date: 3/29/2018 02:15 PM

Work Order: 18031883
Lab ID: 18031883-19
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 4/4/18 12:51	Analyst: RM	
Sulfolane	ND		10	µg/L	1	4/4/2018 05:15 PM
Surr: 2-Fluorobiphenyl	52.1		34-98	%REC	1	4/4/2018 05:15 PM
Surr: 4-Terphenyl-d14	66.0		50-111	%REC	1	4/4/2018 05:15 PM
Surr: Nitrobenzene-d5	58.3		32-89	%REC	1	4/4/2018 05:15 PM

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

ALS Group, USA

Date: 06-Apr-18

Client: Merit Energy
Project: Merit (Hartland 3.29.18)
Sample ID: MW-12d
Collection Date: 3/29/2018 02:45 PM

Work Order: 18031883
Lab ID: 18031883-20
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			SW846 8270D	Prep: SW3510 4/4/18 12:51		Analyst: RM
Sulfolane	ND		10	µg/L	1	4/4/2018 05:35 PM
Surr: 2-Fluorobiphenyl	40.4		34-98	%REC	1	4/4/2018 05:35 PM
Surr: 4-Terphenyl-d14	55.7		50-111	%REC	1	4/4/2018 05:35 PM
Surr: Nitrobenzene-d5	46.4		32-89	%REC	1	4/4/2018 05:35 PM
SULFATE			A4500-SO4 E-11			Analyst: STP
Sulfate	33	x	1.0	mg/L	1	4/3/2018 12:30 PM

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

Client: Merit Energy
 Work Order: 18031883
 Project: Merit (Hartland 3.29.18)

QC BATCH REPORT

Batch ID: **116266** Instrument ID: **SVMS8** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-116266-116266				Units: µg/L		Analysis Date: 4/3/2018 07:07 PM			
Client ID:		Run ID: SVMS8_180403A				SeqNo: 4965937		Prep Date: 4/3/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPC	RPD Limit	Qual	
Sulfolane	ND	10									
Surr: 2-Fluorobiphenyl	24.92	0	50	0	49.8	34-98	0				
Surr: 4-Terphenyl-d14	23.86	0	50	0	47.7	50-111	0			S	
Surr: Nitrobenzene-d5	29.16	0	50	0	58.3	32-89	0				

LCS		Sample ID: SLCSW1-116266-116266				Units: µg/L		Analysis Date: 4/3/2018 07:27 PM			
Client ID:		Run ID: SVMS8_180403A				SeqNo: 4965938		Prep Date: 4/3/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPC	RPD Limit	Qual	
Sulfolane	39.1	10	100	0	39.1	30-100	0				
Surr: 2-Fluorobiphenyl	25.99	0	50	0	52	34-98	0				
Surr: 4-Terphenyl-d14	30.14	0	50	0	60.3	50-111	0				
Surr: Nitrobenzene-d5	30.6	0	50	0	61.2	32-89	0				

LCSD		Sample ID: SLCSDW1-116266-116266				Units: µg/L		Analysis Date: 4/3/2018 07:48 PM			
Client ID:		Run ID: SVMS8_180403A				SeqNo: 4965939		Prep Date: 4/3/2018		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPC	RPD Limit	Qual	
Sulfolane	35.13	10	100	0	35.1	30-100	39.1	10.7	30		
Surr: 2-Fluorobiphenyl	21.15	0	50	0	42.3	34-98	25.99	20.5	40		
Surr: 4-Terphenyl-d14	30.49	0	50	0	61	50-111	30.14	1.15	40		
Surr: Nitrobenzene-d5	24.02	0	50	0	48	32-89	30.6	24.1	40		

The following samples were analyzed in this batch:

18031883-01A	18031883-02A	18031883-03A
18031883-04A	18031883-05A	18031883-06A
18031883-07A	18031883-08A	18031883-09A
18031883-10A	18031883-11A	

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

Client: Merit Energy
 Work Order: 18031883
 Project: Merit (Hartland 3.29.18)

QC BATCH REPORT

Batch ID: 116315 Instrument ID: SVMS8 Method: SW846 8270D

MBLK		Sample ID: SBLKW1-116315-116315				Units: µg/L		Analysis Date: 4/4/2018 01:29 PM		
Client ID:		Run ID: SVMS8_180404A				SeqNo: 4967888		Prep Date: 4/4/2018		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-Fluorobiphenyl	20.99	0	50	0	42	34-98	0			
Surr: 4-Terphenyl-d14	28.14	0	50	0	56.3	50-111	0			
Surr: Nitrobenzene-d5	24.6	0	50	0	49.2	32-89	0			

LCS		Sample ID: SLCSW1-116315-116315				Units: µg/L		Analysis Date: 4/4/2018 01:49 PM		
Client ID:		Run ID: SVMS8_180404A				SeqNo: 4967889		Prep Date: 4/4/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	42.77	10	100	0	42.8	30-100	0			
Surr: 2-Fluorobiphenyl	22.76	0	50	0	45.5	34-98	0			
Surr: 4-Terphenyl-d14	28.55	0	50	0	57.1	50-111	0			
Surr: Nitrobenzene-d5	27.09	0	50	0	54.2	32-89	0			

MS		Sample ID: 18031883-17A MS				Units: µg/L		Analysis Date: 4/4/2018 02:10 PM		
Client ID: MW-6		Run ID: SVMS8_180404A				SeqNo: 4967890		Prep Date: 4/4/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	37.4	10	100	0	37.4	30-100	0			
Surr: 2-Fluorobiphenyl	22.32	0	50	0	44.6	34-98	0			
Surr: 4-Terphenyl-d14	28.66	0	50	0	57.3	50-111	0			
Surr: Nitrobenzene-d5	25.2	0	50	0	50.4	32-89	0			

MSD		Sample ID: 18031883-17A MSD				Units: µg/L		Analysis Date: 4/4/2018 02:30 PM		
Client ID: MW-6		Run ID: SVMS8_180404A				SeqNo: 4967891		Prep Date: 4/4/2018		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	39.22	10	100	0	39.2	30-100	37.4	4.75	30	
Surr: 2-Fluorobiphenyl	22.74	0	50	0	45.5	34-98	22.32	1.86	40	
Surr: 4-Terphenyl-d14	27.67	0	50	0	55.3	50-111	28.66	3.52	40	
Surr: Nitrobenzene-d5	25.53	0	50	0	51.1	32-89	25.2	1.3	40	

The following samples were analyzed in this batch:

18031883-12A	18031883-13A	18031883-14A
18031883-15A	18031883-16A	18031883-17A
18031883-18A	18031883-19A	18031883-20A

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

Client: Merit Energy
 Work Order: 18031883
 Project: Merit (Hartland 3.29.18)

QC BATCH REPORT

Batch ID: **R233011** Instrument ID: **GALLERY** Method: **A4500-SO4 E-11**

MBLK		Sample ID: MB-R233011-R233011				Units: mg/L		Analysis Date: 4/3/2018 12:30 PM		
Client ID:		Run ID: GALLERY_180403A				SeqNo: 4964151		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	0.4145	1.0								Jx

MS		Sample ID: 18031883-17BMS				Units: mg/L		Analysis Date: 4/3/2018 12:30 PM		
Client ID: MW-6		Run ID: GALLERY_180403A				SeqNo: 4964170		Prep Date:		DF: 2
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	90.76	2.0	50	40.64	100	75-125	0			x

MSD		Sample ID: 18031883-17BMSD				Units: mg/L		Analysis Date: 4/3/2018 12:30 PM		
Client ID: MW-6		Run ID: GALLERY_180403A				SeqNo: 4964171		Prep Date:		DF: 2
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	90.5	2.0	50	40.64	99.7	75-125	90.76	0.287	20	x

LCS1		Sample ID: LCS1-R233011				Units: mg/L		Analysis Date: 4/3/2018 12:30 PM		
Client ID:		Run ID: GALLERY_180403A				SeqNo: 4964152		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	10.22	1.0	10	0	102	80-120	0			x

LCS2		Sample ID: LCS2-R233011				Units: mg/L		Analysis Date: 4/3/2018 12:30 PM		
Client ID:		Run ID: GALLERY_180403A				SeqNo: 4964175		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	53.51	1.0	50	0	107	80-120	0			x

The following samples were analyzed in this batch:

18031883-01B	18031883-02B	18031883-03B
18031883-04B	18031883-05B	18031883-06B
18031883-07B	18031883-08B	18031883-09B
18031883-10B	18031883-11B	18031883-12B
18031883-13B	18031883-14B	18031883-15B
18031883-16B	18031883-17B	18031883-18B
18031883-20B		

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

Client: Merit Energy
Project: Merit (Hartland 3.29.18)
WorkOrder: 18031883

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-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
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
mg/L	Milligrams per Liter

Sample Receipt Checklist

Client Name: **MERITENERGY**

Date/Time Received: **30-Mar-18 10:00**

Work Order: **18031883**

Received by: **DS**

Checklist completed by Diane Shaw 30-Mar-18
eSignature | Date

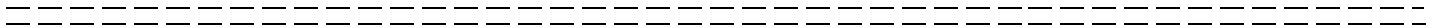
Reviewed by: Gary Byar 02-Apr-18
eSignature | Date

Matrices: Groundwater

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, 3.0/3.0, 3.8/3.8 c</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>3/30/2018 1:08:52 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



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Chain of Custody Form

Page 1 of 3

COC ID: 39343

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Salt Lake City, UT
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+1 304 356 3168

York, PA
+1 717 505 5280

ALS Project Manager: Gary Byat ALS Work Order #: 18031883

Customer Information		Project Information		Parameter/Method Request for Analysis											
Purchase Order		Project Name	<u>130685.2000</u>	A	<u>Sulfolane</u>										
Work Order		Project Number	<u>Merit-Holland #36</u>	B	<u>Sulfate</u>										
Company Name	<u>ECT</u>	Bill To Company	<u>Merit Energy</u>	C											
Send Report To	<u>Jeremy Lendowski</u>	Invoice Attn	<u>Sean Craven</u>	D											
Address	<u>Traverse City office</u>	Address		E											
City/State/Zip	<u>Traverse City, MI</u>	City/State/Zip		F											
Phone		Phone		G											
Fax		Fax		H											
e-Mail Address	<u>j.lendowski@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	MW-20d	3/29/18	0920	GW	-	2	X	X									
2	MW-9	3/29/18	9:25	GW	-	2	X	X									
3	MW-22d	3/29/18	0940	GW	-	2	X	X									
4	MW-11	3/29/18	10:25	GW	-	2	X	X									
5	MW-1	3/29/18	10:25	GW	-	2	X	X									
6	MW-3d	3/29/18	1045	GW	-	2	X	X									
7	MW-16	3/29/18	11:15	GW	-	2	X	X									
8	MW-18	3/29/18	11:25	GW	-	2	X	X									
9	MW-16d	3/29/18	1200	GW	-	2	X	X									
10	MW-3	3/29/18	1140	GW	-	2	X	X									

Sampler(s) Please Print & Sign <u>Jason Bartholomew</u>		Shipment Method <u>UPS - overnight</u>		Turnaround Time in Business Days (BD) <input type="checkbox"/> 10 BD <input checked="" type="checkbox"/> 5 BD <input type="checkbox"/> 3 BD <input type="checkbox"/> 2 BD <input type="checkbox"/> 1 BD				Results Due Date:	
Relinquished by: <u>Jason Bartholomew</u>	Date: <u>3/29/18</u>	Time: <u>1000</u>	Received by: <u>UPS</u>	Notes:					
Relinquished by: <u>UPS</u>	Date: <u>3/30/18</u>	Time: <u>1000</u>	Received by (Laboratory): <u>[Signature]</u>	Cooler ID: <u>SP2</u>	Cooler Temp: <u>3.2°C</u>	QC Package: (Check One Box Below)			
Logged by (Laboratory): <u>DPS</u>	Date: <u>3/30/18</u>	Time: <u>1300</u>	Checked by (Laborator): <u>[Signature]</u>		<u>3.0°C</u>	<input type="checkbox"/> Level II Std QC	<input type="checkbox"/> TRRP Checklist		
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 9-5035					<u>3.8°C</u>	<input type="checkbox"/> Level III Std QC/Raw Date	<input type="checkbox"/> TRRP Level IV		
						<input type="checkbox"/> Level IV SW846/CLP			
						<input type="checkbox"/> Other			

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COC ID: 39342

ALS Project Manager: Gary Byan ALS Work Order #: 18031883

Customer Information		Project Information		Parameter/Method Request for Analysis											
Purchase Order		Project Name	<u>130685, 2000</u>	A	<u>Sulfate</u>										
Work Order		Project Number	<u>Merit-Hatland #36</u>	B	<u>Sulfate</u>										
Company Name	<u>ECT</u>	Bill To Company	<u>Merit Energy</u>	C											
Send Report To	<u>Jeremy Lewandowski</u>	Invoice Attn	<u>Sean Craven</u>	D											
Address	<u>Traverse City, MI</u>	Address		E											
City/State/Zip	<u>Traverse City, MI</u>	City/State/Zip		F											
Phone		Phone		G											
Fax		Fax		H											
e-Mail Address	<u>jlewandowski@ectme.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
11	MW-4	3/29/18	12:35	GW	-	2	X	X									
12	MW-17d	3/29/18	1245	GW	-	2	X	X									
13	MW-5	3/29/18	1250	GW	-	2	X	X									
14	MW-12S	3/29/18	13:35	GW	-	2	X	X									
15	MW-17s		1335														
16	MW-17s dup		1335														
17	MW-6		1350														
17	MW-6 MS		1350														
7	MW-6 MSD		1350														
18	MW-6d		1445														

Sampler(s) Please Print & Sign <u>[Signature]</u>		Shipment Method <u>UPS</u>		Turnaround Time in Business Days (BD) <input type="checkbox"/> 10 BD <input checked="" type="checkbox"/> 5 BD <input type="checkbox"/> 3 BD <input type="checkbox"/> 2 BD <input type="checkbox"/> 1 BD				Results Due Date:			
Relinquished by: <u>[Signature]</u>	Date: <u>3/29/18</u>	Time:	Received by: <u>[Signature]</u>	Notes:							
Relinquished by: <u>UPS</u>	Date: <u>3/30/18</u>	Time: <u>1000</u>	Received by (Laboratory): <u>[Signature]</u>	Cooler ID: <u>SL2</u>	Cooler Temp: <u>3.2°C</u>	QC Package: (Check One Box Below)					
Logged by (Laboratory): <u>[Signature]</u>	Date: <u>3/30/18</u>	Time: <u>1300</u>	Checked by (Laboratory): <u>[Signature]</u>		<u>3.0°C</u>	<input type="checkbox"/> Level II Std QC	<input type="checkbox"/> TRRP Checklist				
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 9-5035					<u>3.8°C</u>	<input type="checkbox"/> Level III Std QC/Raw Date	<input type="checkbox"/> TRRP Level IV				
						<input type="checkbox"/> Level IV SW846/CLP					
						<input type="checkbox"/> Other					

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Page 3 of 3

COC ID: 39341

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Salt Lake City, UT
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+1 304 356 3168

York, PA
+1 717 505 5280

ALS Project Manager: Gary Byar ALS Work Order #: 18031883

Customer Information		Project Information		Parameter/Method Request for Analysis												
Purchase Order		Project Name	<u>Merit-H Alond #36</u>	A	<u>Sulfate</u>											
Work Order		Project Number	<u>130685,2000</u>	B	<u>Sulfate</u>											
Company Name	<u>ECT</u>	Bill To Company	<u>Merit Energy</u>	C												
Send Report To	<u>Jeremy Lewandowski</u>	Invoice Attn	<u>Sean Crowen</u>	D												
Address	<u>Traverse City Office</u>	Address		E												
City/State/Zip	<u>Traverse City, MI</u>	City/State/Zip		F												
Phone		Phone		G												
Fax		Fax		H												
e-Mail Address	<u>see pg 1</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
19	<u>Field Blank #2</u>	<u>3/29/18</u>	<u>1415</u>	<u>Water</u>	<u>-</u>	<u>1</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									
20	<u>ML-12d</u>	<u>3/29/18</u>	<u>1445</u>	<u>Water</u>	<u>-</u>	<u>2</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>									
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign <u>Jason Bartel</u>		Shipment Method <u>UPS</u>		Turnaround Time in Business Days (BD) <input type="checkbox"/> 10 BD <input checked="" type="checkbox"/> 5 BD <input type="checkbox"/> 3 BD <input type="checkbox"/> 2 BD <input type="checkbox"/> 1 BD				Results Due Date:	
Relinquished by: <u>Jason Bartel</u>	Date: <u>3/29/18</u>	Time: <u></u>	Received by: <u>UPS</u>	Notes:					
Relinquished by: <u>UPS</u>	Date: <u>3/30/18</u>	Time: <u>1000</u>	Received by (Laboratory): <u>[Signature]</u>	Cooler ID	Cooler Temp	QC Package: (Check One Box Below)			
Logged by (Laboratory): <u>DFS</u>	Date: <u>3/30/18</u>	Time: <u>1300</u>	Checked by (Laboratory): <u>GRS</u>	<u>SRE</u>	<u>3.2°C</u>	<input type="checkbox"/> Level II Std QC	<input type="checkbox"/> TRRP Checklist		
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 9-5035				<u>3.0°C</u>	<u>3.8°C</u>	<input type="checkbox"/> Level III Std QC/Raw Date	<input type="checkbox"/> TRRP Level IV		
						<input type="checkbox"/> Level IV SW846/CLP			
						<input type="checkbox"/> Other			

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
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APPENDIX E

LOW-FLOW SAMPLING FIELD FORMS

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-1
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____

Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 19.86
 Elevation of Water: _____

Date: 9/11/17 Time: 1105

Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC LADDER OTHER _____

Date: 9/11/17 Start Time: 1110

Measured Well Depth: 27.90 Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1120	19.92	0.06	397	10.45	764	8.87	6.60	183.9	1.57
1125	19.92	0.06	372	10.28	773	8.54	6.56	186.8	1.26
1130	19.97	0.06	11	10.32	777	8.26	6.55	184.9	2.11
1135	19.93	0.07	325	10.31	767	8.08	6.52	183.7	2.15

Total Volume Purged (gal): 2.75

Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1135
 Temperature: 10.31 deg. C
 Specific Conductance: 767 umhos/cm
 Dissolved Oxygen: 8.08 mg/L
 pH: 6.52 S.U.
 ORP: 183.7 mV
 Turbidity: 2.15 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond.	umhos/cm	<input checked="" type="checkbox"/>
Dissolved Oxygen:	mg/L	<input checked="" type="checkbox"/>
pH:	S.U.	<input checked="" type="checkbox"/>
Eh:	mV	<input checked="" type="checkbox"/>
Turbidity:	NTU	<input checked="" type="checkbox"/>

SAMPLE COLLECTION

Appearance of Sample: clear

Time: 1140
 Sample Duplicate?: no
 Sample Method: 121 flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	250 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate (on wells MW-13D, MP-1D, and MP-2S)
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): [Signature]

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-2
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____

Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 18.72
 Elevation of Water: _____

Date: 9/14/17 Time: 1320

Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER _____
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 9/11/17 Start Time: 1322

Measured Well Depth: _____ Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1330	18.92	0.20	440	11.73	814	4.53	6.86	161.1	6.41
1335	18.92	0.20	11	11.73	814	4.18	6.78	161.0	4.88
1340	18.92	0.20	11	11.74	814	3.89	6.75	160.4	2.82
1345	18.92	0.20	11	11.67	814	4.14	6.76	160.2	2.17

Total Volume Purged (gal): 2.5 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1345
 Temperature: 11.67 deg C
 Specific Conductance: 814 umhos/cm
 Dissolved Oxygen: 4.14 mg/L
 pH: 6.76 S.U.
 ORP: 160.2 mV
 Turbidity: 2.17 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond.: _____	umhos/cm	<input checked="" type="checkbox"/>
Dissolved Oxygen: _____	mg/L	<input checked="" type="checkbox"/>
pH: _____	S.U.	<input checked="" type="checkbox"/>
Eh: _____	mV	<input checked="" type="checkbox"/>
Turbidity: _____	NTU	<input checked="" type="checkbox"/>

SAMPLE COLLECTION

Appearance of Sample: clear Time: 1345 Sample Duplicate?: NO
 Sample Method: low flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
1	250 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate (on wells MW-13D, MP-1D, and MP-2S)
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): _____ Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW- 2d
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 17.88
 Elevation of Water: _____
 Date: 9/11/17 Time: 1239
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____
 Date: 9/11/17 Start Time: 1240
 Measured Well Depth: _____ Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1245	19.40		372	10.89	895	5.83	6.94	182.8	32.0
1250	19.35		272	10.75	896	5.41	6.81	180.7	32.9
1255	19.36		292	10.95	897	5.35	6.79	177.7	16.4
1300	19.38		286	10.86	897	5.34	6.76	176.7	17.5
1305	19.39		"	10.77	897	5.36	6.79	175.6	6.87

Total Volume Purged (gal): 1.75 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10 %
 (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1305
 Temperature: 10.77 deg. C
 Specific Conductance: 897 umhos/cm
 Dissolved Oxygen: 5.36 mg/L
 pH: 6.79 S.U.
 ORP: 175.6 mV
 Turbidity: 6.87 NTU

CALIBRATION CHECK		Mark #
Standard (conc.)	Reading	Recalibrated
Specific Cond.: _____	umhos/cm	<input checked="" type="checkbox"/>
Dissolved Oxygen: _____	mg/L	<input checked="" type="checkbox"/>
pH: _____	S.U.	<input checked="" type="checkbox"/>
Eh: _____	mV	<input checked="" type="checkbox"/>
Turbidity: _____	NTU	<input checked="" type="checkbox"/>

SAMPLE COLLECTION

Appearance of Sample: clear Time: 1310 Sample Duplicate?: NO
 Sample Method: 125 Flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	250 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate (on wells MW-13D, MP-1D, and MP-2S)
_____	_____ ml	_____ plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: WELL 7 HARTLAND
 Sample ID: MW-3
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes:

Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation:
 Depth to Water: 21.46
 Elevation of Water:

Date: 9/11/17 Time: 1146
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER

Date: 9/11/17 Start Time: 1147

Measured Well Depth: 30.30' Screen Length: 5' Depth to Screen Midpoint: 27.80'

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
initial	21.46								
1150	21.53	0.07	200	15.37	0.880	8.28	6.37	162.1	trace
1155	21.53	0.07	200	14.71	0.882	7.10	6.34	169.4	3.99
1200	21.53	0.07	200	14.37	0.879	6.38	6.33	171.4	3.16
1205	21.53	0.07	200	14.24	0.877	5.96	6.36	167.2	2.81

Total Volume Purged (gal): 2 Stabilization Criteria: +/- 3% ✓ +/- 3% ✓ +/- 10% ✓ (if > 0.5 mg/l) +/- 0.1 Units ✓ +/- 10 mV ✓ +/- 10% ✓ (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1210
 Temperature: 14.24 deg. C
 Specific Conductance: 0.877 umhos/cm
 Dissolved Oxygen: 5.95 mg/L
 pH: 6.36 S.U.
 ORP: 165.7 mV
 Turbidity: 2.05 NTU

CALIBRATION CHECK		Mark it
Standard (conc.)	Reading	Recalibrated
Specific Cond.:	umhos/cm	
Dissolved Oxygen:	mg/L	
pH:	S.U.	
ORP:	mV	
Turbidity:	NTU	

SAMPLE COLLECTION

Appearance of Sample: clean, no obs. particulates Time: 1210

Sample Duplicate?: NO
 Sample Method: Low Flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
1	250 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate (for wells MW-13D, MP-1D, and MP-2S)
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature]

Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: MERIT HARTLAND
 Sample ID: MW-3D
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes:
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly seating well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 22.03
 Elevation of Water: _____
 Date: 9/11/17 Time: 1216
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____
 Date: 9/11/17 Start Time: 1215
 Measured Well Depth: 34.50 Screen Length: 5' Depth to Screen Midpoint: 32'

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
<i>initial</i>	<u>22.03</u>								
<u>1220</u>	<u>23.33</u>	<u>1.30'</u>	<u>200</u>	<u>13.72</u>	<u>0.929</u>	<u>1.53</u>	<u>6.33</u>	<u>171.8</u>	<u>gray</u>
<u>1225</u>	<u>23.46</u>	<u>1.63'</u>	<u>200</u>	<u>13.82</u>	<u>0.930</u>	<u>1.09</u>	<u>6.32</u>	<u>174.2</u>	<u>132</u>
<u>1230</u>	<u>23.99</u>	<u>1.96'</u>	<u>200</u>	<u>14.00</u>	<u>0.928</u>	<u>1.17</u>	<u>6.35</u>	<u>171.3</u>	<u>136</u>
<u>1235</u>	<u>24.21</u>	<u>2.10'</u>	<u>200</u>	<u>13.67</u>	<u>0.931</u>	<u>1.00</u>	<u>6.38</u>	<u>168.0</u>	<u>45.6</u>
<u>1240</u>	<u>24.44</u>	<u>2.41'</u>	<u>200</u>	<u>13.53</u>	<u>0.932</u>	<u>1.19</u>	<u>6.41</u>	<u>162.6</u>	<u>20.2</u>
<u>1245</u>				<u>13.71</u>	<u>0.928</u>	<u>1.00</u>	<u>6.43</u>	<u>159.7</u>	<u>18.0</u>
<u>1250</u>				<u>13.82</u>	<u>0.928</u>	<u>1.03</u>	<u>6.44</u>	<u>159.1</u>	<u>17.3</u>

Total Volume Purged (gal): 2 Stabilization Criteria: +/- 3% ✓ +/- 3% ✓ +/- 10% ✓ +/- 0.1 Units ✓ +/- 10 mV ✓ +/- 10% ✓ (if > 5 NTU) ✓

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1253
 Temperature: 15.84 deg. C
 Specific Conductance: 0.929 umhos/cm
 Dissolved Oxygen: 1.00 mg/L
 pH: 6.46 S.U.
 ORP: 156.8 mV
 Turbidity: 16.9 NTU
 CALIBRATION CHECK
 Standard (conc.) Reading Mark if Recalibrated
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Appearance of Sample: slight gray tint; no obs. particulates Sample Duplicate?: NO
 Sample Method: LOW FLOW

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
<u>1</u>	<u>1000</u> ml	<input checked="" type="checkbox"/> glass <input type="checkbox"/> plastic	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no	<u>None</u> , HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	<u>Sulfotane</u>
<u>1</u>	<u>250</u> ml	<input checked="" type="checkbox"/> glass <input type="checkbox"/> plastic	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no	<u>None</u> , HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	<u>Sulfate for wells MW-13D, MP-1D, and MP-2D</u>
_____	_____ ml	_____ glass _____ plastic	_____ yes _____ no	_____ None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass _____ plastic	_____ yes _____ no	_____ None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass _____ plastic	_____ yes _____ no	_____ None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass _____ plastic	_____ yes _____ no	_____ None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass _____ plastic	_____ yes _____ no	_____ None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass _____ plastic	_____ yes _____ no	_____ None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass _____ plastic	_____ yes _____ no	_____ None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass _____ plastic	_____ yes _____ no	_____ None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass _____ plastic	_____ yes _____ no	_____ None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: MERIT HARTLAND
 Sample ID: MW-4
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 21.82
 Elevation of Water: _____
 Date: 9/11/17 Time: 1515
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER _____
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____
 Date: 9/11/17 Start Time: 1520
 Measured Well Depth: 30.29 Screen Length: 5 Depth to Screen Midpoint: 27.79

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
<i>initial</i>	<u>21.82</u>								
<u>1525</u>	<u>21.84</u>	<u>0.02</u>	<u>200</u>	<u>12.57</u>	<u>0.769</u>	<u>8.83</u>	<u>6.32</u>	<u>122.4</u>	<u>6000</u>
<u>1530</u>	<u>21.84</u>	<u>0.02</u>	<u>200</u>	<u>12.65</u>	<u>0.768</u>	<u>8.68</u>	<u>6.32</u>	<u>123.2</u>	<u>6000</u>
<u>1535</u>	<u>21.84</u>	<u>0.02</u>	<u>200</u>	<u>12.56</u>	<u>0.770</u>	<u>8.90</u>	<u>6.35</u>	<u>122.8</u>	<u>157</u>
<u>1540</u>	<u>21.84</u>	<u>0.02</u>	<u>200</u>	<u>12.76</u>	<u>0.771</u>	<u>8.10</u>	<u>6.41</u>	<u>119.5</u>	<u>143</u>
<u>1545</u>	<u>21.84</u>	<u>0.02</u>	<u>200</u>	<u>12.70</u>	<u>0.777</u>	<u>8.13</u>	<u>6.45</u>	<u>116.8</u>	<u>75.4</u>
<u>1550</u>	<u>21.84</u>	<u>0.02</u>	<u>200</u>	<u>12.75</u>	<u>0.784</u>	<u>7.85</u>	<u>6.50</u>	<u>113.1</u>	<u>4.27</u>
<u>1555</u>	<u>21.84</u>	<u>0.02</u>	<u>200</u>	<u>12.55</u>	<u>0.789</u>	<u>7.75</u>	<u>6.48</u>	<u>114.9</u>	<u>3.48</u>

Total Volume Purged (gal): _____
 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1556
 Temperature: 12.54 deg C
 Specific Conductance: 0.790 umhos/cm
 Dissolved Oxygen: 7.76 mg/L
 pH: 6.48 S.U.
 ORP: 114.7 mV
 Turbidity: 3.83 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond.: _____	_____ umhos/cm	_____
Dissolved Oxygen: _____	_____ mg/L	_____
pH: _____	_____ S.U.	_____
Oh: _____	_____ mV	_____
Turbidity: _____	_____ NTU	_____

SAMPLE COLLECTION

Appearance of Sample: clear; no obs. particulates Sample Duplicate?: NO
 Sample Method: low flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
<u>1</u>	<u>1000</u> ml	<u>glass plastic</u>	yes <input checked="" type="checkbox"/> no <input type="checkbox"/>	<u>None</u> HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	<u>Sulfonate</u>
<u>1</u>	<u>250</u> ml	<u>glass plastic</u>	yes <input checked="" type="checkbox"/> no <input type="checkbox"/>	<u>None</u> HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	<u>Sulfate for wells MW-13D, MP-1D, and MP-23D</u>
_____	_____ ml	_____	yes <input type="checkbox"/> no <input type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	yes <input type="checkbox"/> no <input type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	yes <input type="checkbox"/> no <input type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	yes <input type="checkbox"/> no <input type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	yes <input type="checkbox"/> no <input type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	yes <input type="checkbox"/> no <input type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	yes <input type="checkbox"/> no <input type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	yes <input type="checkbox"/> no <input type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	yes <input type="checkbox"/> no <input type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-5
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____

Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 22.24
 Elevation of Water: _____

Date: 9/11/17 Time: 1000

Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC PLASSER OTHER _____
 Date: 9/11/17 Start Time: 1015

Measured Well Depth: 25.72 Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1020	22.29	1.05	250	10.64	760	8.24	5.93	166.4	2.87
1025	22.31	1.07	252	10.46	764	7.59	6.20	163.6	1.53
1030	22.32	1.08	"	10.34	764	7.48	6.25	164.8	1.18
1035	22.32	1.08	"	10.34	765	7.31	6.29	167.2	1.36

Total Volume Purged (gal): 1.25

Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1035
 Temperature: 10.34 deg. C
 Specific Conductance: 765 umhos/cm
 Dissolved Oxygen: 7.31 mg/L
 pH: 6.29 S.U.
 ORP: 167.2 mV
 Turbidity: 1.36 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond.	umhos/cm	<input checked="" type="checkbox"/>
Dissolved Oxygen	mg/L	<input checked="" type="checkbox"/>
pH	S.U.	<input checked="" type="checkbox"/>
ORP	mV	<input checked="" type="checkbox"/>
Turbidity	NTU	<input checked="" type="checkbox"/>

SAMPLE COLLECTION

Appearance of Sample: clear Time: 1035
 Sample Duplicate?: MS/MSD
 Sample Method: 100 flow

NO/BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
1	250 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate (on wells MW-13D, MP-1D, and MP-2S)
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): _____ Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: NORTH HARTLAND
 Sample ID: MW-6S
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes:
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Date: 9/12/17 Time: 1540
 Top of Casing Elevation: _____
 Depth to Water: 23.0
 Elevation of Water: _____
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____
 Date: 9/12/17 Start Time: 1540
 Measured Well Depth: 32.75' Screen Length: 5' Depth to Screen Midpoint: 30.25'

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
<u>initial</u>	<u>23.00</u>								
<u>1545</u>	<u>23.07</u>	<u>0.07</u>	<u>200</u>	<u>14.02</u>	<u>0.729</u>	<u>6.17</u>	<u>6.59</u>	<u>115.7</u>	<u>4.26</u>
<u>1550</u>	<u>23.07</u>	<u>0.07</u>	<u>200</u>	<u>12.87</u>	<u>0.740</u>	<u>4.15</u>	<u>6.40</u>	<u>133.5</u>	<u>3.83</u>
<u>1555</u>	<u>23.07</u>	<u>0.07</u>	<u>200</u>	<u>12.88</u>	<u>0.750</u>	<u>3.73</u>	<u>6.35</u>	<u>136.9</u>	<u>1.40</u>
<u>1600</u>	<u>23.07</u>	<u>0.07</u>	<u>200</u>	<u>12.48</u>	<u>0.763</u>	<u>3.12</u>	<u>6.35</u>	<u>134.4</u>	<u>2.31</u>
<u>1605</u>	<u>23.07</u>	<u>0.07</u>	<u>200</u>	<u>12.25</u>	<u>0.769</u>	<u>2.77</u>	<u>6.40</u>	<u>128.3</u>	<u>2.83</u>
<u>1610</u>	<u>23.07</u>	<u>0.07</u>	<u>200</u>	<u>12.32</u>	<u>0.769</u>	<u>2.77</u>	<u>6.41</u>	<u>127.2</u>	<u>2.51</u>

Total Volume Purged (gal): _____
 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10%
 (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1611
 Temperature: 12.37 deg. C
 Specific Conductance: 0.769 umhos/cm
 Dissolved Oxygen: 2.78 mg/L
 pH: 6.46 S.U.
 ORP: 121.8 mV
 Turbidity: 2.49 NTU
 CALIBRATION CHECK
 Standard (conc.) Reading Mark if Recalibrated
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Appearance of Sample: clean; no obs. particulates Sample Duplicate?: NO
 Sample Method: LOW FLOW

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
<u>1</u>	<u>1000</u> ml	<u>glass plastic</u>	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	<u>None</u> HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	<u>Sulfolane</u>
<u>1</u>	<u>250</u> ml	<u>glass plastic</u>	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	<u>None</u> HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	<u>Sulfate (on wells MW-13D, MP-1D, and MP-2S)</u>
_____	_____ ml	_____	yes <input type="checkbox"/> no <input type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	yes <input type="checkbox"/> no <input type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	yes <input type="checkbox"/> no <input type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	yes <input type="checkbox"/> no <input type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	yes <input type="checkbox"/> no <input type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	yes <input type="checkbox"/> no <input type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	yes <input type="checkbox"/> no <input type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	yes <input type="checkbox"/> no <input type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	yes <input type="checkbox"/> no <input type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: MERIT HARTLAND
 Sample ID: MW-6D
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Date: 9/12/17 Time: 1510
 Top of Casing Elevation: _____
 Depth to Water: 23.12
 Elevation of Water: _____
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 9/12/17 Start Time: 1510
 Measured Well Depth: 47.0' Screen Length: 5' Depth to Screen Midpoint: 44.50'

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
<i>initial</i>	<u>23.12</u>								
<u>1515</u>	<u>23.12</u>	<u>0</u>	<u>200</u>	<u>13.33</u>	<u>0.717</u>	<u>6.36</u>	<u>6.39</u>	<u>132.8</u>	<u>1.47</u>
<u>1520</u>	<u>23.14</u>	<u>0.02</u>	<u>200</u>	<u>13.34</u>	<u>0.718</u>	<u>6.31</u>	<u>6.35</u>	<u>133.1</u>	<u>1.51</u>
<u>1525</u>	<u>23.14</u>	<u>0.02</u>	<u>200</u>	<u>13.15</u>	<u>0.718</u>	<u>6.40</u>	<u>6.41</u>	<u>122.7</u>	<u>0.82</u>
<u>1530</u>	<u>23.14</u>	<u>0.02</u>	<u>200</u>	<u>13.14</u>	<u>0.719</u>	<u>5.90</u>	<u>6.43</u>	<u>120.9</u>	<u>0.81</u>
Total Volume Purged (gal): <u>1</u> Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 5 NTU)									

Stabilization Criteria Reference Doc. USEPA EQASQP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1531
 Temperature: 13.06 deg. C
 Specific Conductance: 0.720 umhos/cm
 Dissolved Oxygen: 5.81 mg/L
 pH: 6.44 S.U.
 ORP: 119.4 mV
 Turbidity: 0.80 NTU
 CALIBRATION CHECK

Standard (conc.)	Reading	Mark if Recalibrated
Specific Cond:	umhos/cm	
Dissolved Oxygen:	mg/L	
pH:	S.U.	
Oh:	mV	
Turbidity:	NTU	

SAMPLE COLLECTION

Appearance of Sample: clear; no obs. particulates Time: 1535 Sample Duplicate?: No
 Sample Method: LOW FLOW

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
<u>1</u>	<u>1000</u> ml	<input checked="" type="checkbox"/> glass <input type="checkbox"/> plastic	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	<u>None</u> HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	<u>Sulfate</u>
<u>1</u>	<u>250</u> ml	<input checked="" type="checkbox"/> glass <input type="checkbox"/> plastic	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	<u>None</u> HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	<u>Sulfate (on wells MW-13D, MP-1D, and MP-25R)</u>
_____	_____ ml	_____ glass _____ plastic	yes _____ no _____	_____ HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass _____ plastic	yes _____ no _____	_____ HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass _____ plastic	yes _____ no _____	_____ HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass _____ plastic	yes _____ no _____	_____ HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass _____ plastic	yes _____ no _____	_____ HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass _____ plastic	yes _____ no _____	_____ HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass _____ plastic	yes _____ no _____	_____ HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass _____ plastic	yes _____ no _____	_____ HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: MERIT HARTLAND
 Sample ID: MW-7
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notice: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Date: 9/11/17 Time: 1303
 Top of Casing Elevation: _____
 Depth to Water: 24.68
 Elevation of Water: _____
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 9/11/17 Start Time: 1305
 Measured Well Depth: 30.40 Screen Length: 5 Depth to Screen Midpoint: 27.90

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
<u>1310</u>	<u>24.68</u>								
<u>1315</u>	<u>24.74</u>	<u>0.06</u>	<u>200</u>	<u>14.81</u>	<u>1.044</u>	<u>3.16</u>	<u>6.41</u>	<u>156.5</u>	<u>6.62</u>
<u>1320</u>	<u>24.75</u>	<u>0.07</u>	<u>200</u>	<u>14.40</u>	<u>1.048</u>	<u>1.98</u>	<u>6.36</u>	<u>148.3</u>	<u>5.30</u>
<u>1325</u>	<u>24.76</u>	<u>0.08</u>	<u>200</u>	<u>14.63</u>	<u>1.044</u>	<u>1.48</u>	<u>6.42</u>	<u>135.1</u>	<u>4.99</u>
<u>1330</u>	<u>24.77</u>	<u>0.09</u>	<u>200</u>	<u>14.62</u>	<u>1.046</u>	<u>1.52</u>	<u>6.44</u>	<u>131.0</u>	<u>2.17</u>
<u>1330</u>	<u>24.78</u>	<u>0.10</u>	<u>200</u>	<u>14.47</u>	<u>1.053</u>	<u>1.55</u>	<u>6.45</u>	<u>118.6</u>	<u>1.79</u>

Total Volume Purged (gal): 2 Stabilization Criteria: +/- 3% +/- 3% +/- 10% (if > 0.5 mg/l) +/- 0.1 Units +/- 10 mV +/- 10% (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1335
 Temperature: 14.47 deg. C
 Specific Conductance: 1.053 umhos/cm
 Dissolved Oxygen: 1.55 mg/L
 pH: 6.45 S.U.
 ORP: 118.6 mV
 Turbidity: 1.79 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond.	umhos/cm	
Dissolved Oxygen	mg/L	
pH	S.U.	
Eh	mV	
Turbidity	NTU	

SAMPLE COLLECTION

Time: 1335 Sample Duplicate?: NO
 Appearance of Sample: clean, no obs. particulates Sample Method: low flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
<u>1</u>	<u>1000</u> ml	<u>glass plastic</u>	<u>yes no</u>	<u>None</u> HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	<u>Sulfone</u>
<u>1</u>	<u>250</u> ml	<u>glass plastic</u>	<u>yes no</u>	<u>None</u> HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	<u>Sulfate ion wells MW-13D, MP-1B, and MP-2S</u>
_____	_____ ml	_____	_____	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	_____	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	_____	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	_____	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	_____	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	_____	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	_____	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	_____	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	_____	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	_____	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: MERIT HARTLAND
 Sample ID: MW-8
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Date: 9/11/17 Time: 10:20
 Top of Casing Elevation: _____
 Depth to Water: 26.36
 Elevation of Water: _____
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 9/11/17 Start Time: 1020
 Measured Well Depth: 32.10 Screen Length: 5' Depth to Screen Midpoint: 29.60'

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l) %	pH (S.U.)	ORP (mV)	Turbidity (NTU)
initial	26.36								
1025	26.45	0.09	200 ml/min	13.03	0.898	117.0	6.23	167.0	
1030	26.45	0.09	200	13.01	0.898	110.7	6.23	167.2	
1035	26.45	0.09	200	13.44	0.876	8.21 mg/l	6.23	175.1	9.35
1040	26.45	0.09	200	13.36	0.868	5.61	6.25	173.2	8.60
1045	26.45	0.09	200	13.31	0.865	9.03	6.31	160.4	6.18
1050	26.45	0.09	200	13.38	0.858	9.21	6.36	154.6	5.27
1055	26.45	0.09	200	13.39	0.858	9.09	6.40	150.8	2.11

Total Volume Purged (gal): 2 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1055
 Temperature: 13.39 deg. C
 Specific Conductance: 0.858 umhos/cm
 Dissolved Oxygen: 9.09 mg/L
 pH: 6.40 S.U.
 ORP: 150.8 mV
 Turbidity: 2.11 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond.:	umhos/cm	<input type="checkbox"/>
Dissolved Oxygen:	mg/L	<input type="checkbox"/>
pH:	S.U.	<input type="checkbox"/>
Eh:	mV	<input type="checkbox"/>
Turbidity:	NTU	<input type="checkbox"/>

SAMPLE COLLECTION

Time: 11:00 Sample Duplicate?: No
 Appearance of Sample: clean, no obs. particulates Sample Method: low flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfotane
1	250 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate (for wells MW-10B, MP-1D, and MP-2B)
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: MERIT HARTLAND
 Sample ID: MW-9
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes:
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Date: 9/11/17 Time: 1430
 Top of Casing Elevation: _____
 Depth to Water: 25.01
 Elevation of Water: _____
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 9/11/17 Start Time: 1432
 Measured Well Depth: 31.10 Screen Length: 5' Depth to Screen Midpoint: 28.60

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
<i>initial</i>	<u>25.01</u>								
<u>1435</u>	<u>25.16</u>	<u>0.15</u>	<u>200</u>	<u>15.11</u>	<u>0.934</u>	<u>1.70</u>	<u>6.44</u>	<u>95.2</u>	<u>92.07</u>
<u>1440</u>	<u>25.14</u>	<u>0.15</u>	<u>200</u>	<u>15.04</u>	<u>0.936</u>	<u>1.69</u>	<u>6.44</u>	<u>95.2</u>	<u>45.7</u>
<u>1445</u>	<u>25.16</u>	<u>0.15</u>	<u>200</u>	<u>14.75</u>	<u>0.933</u>	<u>1.25</u>	<u>6.47</u>	<u>92.4</u>	<u>6.11</u>
<u>1450</u>	<u>25.16</u>	<u>0.15</u>	<u>200</u>	<u>14.31</u>	<u>0.931</u>	<u>0.94</u>	<u>6.50</u>	<u>88.9</u>	<u>4.54</u>
<u>1455</u>	<u>25.10</u>	<u>0.15</u>	<u>200</u>	<u>14.00</u>	<u>0.930</u>	<u>0.82</u>	<u>6.51</u>	<u>85.7</u>	<u>4.04</u>
<u>1500</u>			<u>200</u>	<u>14.18</u>	<u>0.925</u>	<u>0.72</u>	<u>6.53</u>	<u>85.5</u>	<u>4.92</u>
<u>1505</u>			<u>200</u>	<u>14.18</u>	<u>0.928</u>	<u>0.73</u>	<u>6.53</u>	<u>84.2</u>	<u>4.63</u>

Total Volume Purged (gal): 2 Stabilization Criteria: +/- 3% ✓ +/- 3% ✓ +/- 10% (if > 0.5 mg/l) +/- 0.1 Units ✓ +/- 10 mV +/- 10% (if > 5 NTU) ✓

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1508
 Temperature: 14.25 deg. C
 Specific Conductance: 0.928 umhos/cm
 Dissolved Oxygen: 0.73 mg/L
 pH: 6.53 S.U.
 ORP: 84.1 mV
 Turbidity: 4.57 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond.:	umhos/cm	
Dissolved Oxygen:	mg/L	
pH:	S.U.	
Oh:	mV	
Turbidity:	NTU	

SAMPLE COLLECTION

Time: 1510 Sample Duplicate?: NO
 Appearance of Sample: clear, no obs. particulates Sample Method: Low Flow

NO./BOTTLES	SIZE	TYPE	FILTERED:	PRESERVATIVE:	PARAMETER:
<u>1</u>	<u>1000</u> ml	<input checked="" type="checkbox"/> glass <input type="checkbox"/> plastic	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	<u>None</u> HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	<u>Sulfolane</u>
<u>1</u>	<u>250</u> ml	<input checked="" type="checkbox"/> glass <input type="checkbox"/> plastic	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	<u>None</u> HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	<u>Sulfate (on wells MW-18B, MP-1B, and MP-25E)</u>
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: MERIT HARTLAND
 Sample ID: MW-10
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Date: 9/11/17 Time: 11:15
 Top of Casing Elevation: _____
 Depth to Water: 21.69
 Elevation of Water: _____
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 9/11/17 Start Time: 11:15
 Measured Well Depth: 27.10 Screen Length: 5' Depth to Screen Midpoint: 24.60

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
initial	21.69								
11:20	21.77	0.08	200	13.96	1.072	19.56	6.24	162.9	5.68
11:25	21.76	0.07	200	13.56	1.056	7.75	6.28	168.7	0.99
11:30	21.76	0.07	200	13.61	1.057	7.70	6.28	169.1	0.93
11:35	21.76	0.07	200	13.57	1.060	7.42	6.29	168.1	0.83

Total Volume Purged (gal): 2 Stabilization Criteria: +/- 3% ✓ +/- 3% ✓ +/- 10% (if > 0.5 mg/l) ✓ +/- 0.1 Units ✓ +/- 10 mV ✓ +/- 10% (if > 5 NTU) ✓

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 11:38
 Temperature: 13.50 deg. C
 Specific Conductance: 1.063 umhos/cm
 Dissolved Oxygen: 7.50 mg/L
 pH: 6.30 S.U.
 ORP: 167.8 mV
 Turbidity: 0.80 NTU

CALIBRATION CHECK		Mark #
Standard (conc.)	Reading	Recalibrated
Specific Cond.:	umhos/cm	
Dissolved Oxygen:	mg/L	
pH:	S.U.	
Orp:	mV	
Turbidity:	NTU	

SAMPLE COLLECTION

Time: 9/11/17 11:30 Sample Duplicate?: NO
 Appearance of Sample: clear; no obs. particulates Sample Method: low flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
1	250 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate (on wells MW-19B, MP-1D, and MP-2S)
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: NEWT HARTLAND
 Sample ID: MW-11
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Date: 9/12/17 Time: 11:33
 Top of Casing Elevation: _____
 Depth to Water: 22.70
 Elevation of Water: _____
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 9/12/17 Start Time: 11:35
 Measured Well Depth: 29.80' Screen Length: 5' Depth to Screen Midpoint: 27.30'

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
<i>Initial</i>	22.70								
11:40	22.75	0.05	200	13.99	0.914	6.22	6.33	203.5	11.8
11:45	22.75	0.05	200	13.96	0.912	4.07	6.22	205.5	11.5
11:50	22.75	0.05	200	13.78	0.915	5.91	6.28	190.1	3.36
11:55	22.75	0.05	200	13.60	0.918	3.71	6.32	185.2	2.98
12:00	22.75	0.05	200	13.59	0.919	3.69	6.38	179.4	3.13

Total Volume Purged (gal): 2 Stabilization Criteria: +/- 3% +/- 3% +/- 10% (if > 0.5 mg/l) +/- 0.1 Units +/- 10 mV +/- 10% (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 12:02
 Temperature: 13.43 deg. C
 Specific Conductance: 0.921 umhos/cm
 Dissolved Oxygen: 3.62 mg/L
 pH: 6.38 S.U.
 ORP: 172.5 mV
 Turbidity: 2.91 NTU
 CALIBRATION CHECK
 Standard (conc.) Reading Mark if Recalibrated
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Time: 12:05 Sample Duplicate?: no
 Appearance of Sample: clean; no obs. particulates Sample Method: Low Flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfotolane
	250 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate (on wells MW-13D, MP-1D, and MP-2S)
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: Merit Hartland
 Sample ID: MW-125
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes:
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Date: 9/12/17 Time: 1320
 Top of Casing Elevation:
 Depth to Water: 23.69'
 Elevation of Water:
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER
 Date: 9/12/17 Start Time: 1320
 Measured Well Depth: 28.50 Screen Length: 5' Depth to Screen Midpoint: 26.0'

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
<i>initial</i>	<u>23.69</u>								
<u>1325</u>	<u>23.74</u>	<u>0.05</u>	<u>200</u>	<u>14.03</u>	<u>0.680</u>	<u>4.01</u>	<u>6.35</u>	<u>53.8</u>	<u>19.2</u>
<u>1330</u>	<u>23.74</u>	<u>0.05</u>	<u>200</u>	<u>13.98</u>	<u>0.680</u>	<u>4.95</u>	<u>6.37</u>	<u>54.9</u>	<u>19.4</u>
<u>1335</u>	<u>23.74</u>	<u>0.05</u>	<u>200</u>	<u>13.88</u>	<u>0.688</u>	<u>4.17</u>	<u>6.30</u>	<u>54.0</u>	<u>10.7</u>
<u>1340</u>	<u>23.74</u>	<u>0.05</u>	<u>200</u>	<u>13.78</u>	<u>0.697</u>	<u>3.84</u>	<u>6.30</u>	<u>65.2</u>	<u>7.18</u>
<u>1345</u>	<u>23.74</u>	<u>0.05</u>	<u>200</u>	<u>13.62</u>	<u>0.708</u>	<u>3.33</u>	<u>6.29</u>	<u>65.0</u>	<u>8.22</u>
<u>1350</u>	<u>23.74</u>	<u>0.05</u>	<u>200</u>	<u>13.28</u>	<u>0.721</u>	<u>2.76</u>	<u>6.30</u>	<u>71.1</u>	<u>4.42</u>
<u>1355</u>	<u>23.74</u>	<u>0.05</u>	<u>200</u>	<u>13.25</u>	<u>0.726</u>	<u>2.71</u>	<u>6.31</u>	<u>71.7</u>	<u>4.01</u>
<u>1400</u>	<u>23.74</u>	<u>0.05</u>	<u>200</u>	<u>13.24</u>	<u>0.726</u>	<u>2.65</u>	<u>6.31</u>	<u>71.6</u>	<u>3.98</u>

Total Volume Purged (gal): 2
 Stabilization Criteria: +/- 3% ✓ +/- 3% ✓ +/- 10% ✓ +/- 0.1 Units ✓ +/- 10 mV ✓ +/- 10% (if > 0.5 mg/l) ✓ +/- 10% (if > 5 NTU) ✓

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1402
 Temperature: 15.22 deg. C
 Specific Conductance: 0.726 umhos/cm
 Dissolved Oxygen: 2.64 mg/L
 pH: 6.32 S.U.
 ORP: 71.5 mV
 Turbidity: 3.67 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond.	umhos/cm	
Dissolved Oxygen	mg/L	
pH	S.U.	
Orp	mV	
Turbidity	NTU	

SAMPLE COLLECTION

Time: 1405 Sample Duplicate?: No
 Appearance of Sample: clear; no obs. particulates Sample Method: Low Flow

NO. BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
<u>1</u>	<u>1000</u> ml	<input checked="" type="checkbox"/> glass <input type="checkbox"/> plastic	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no	<u>None</u> , HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	<u>Sulfolane</u>
<u>1</u>	<u>250</u> ml	<input checked="" type="checkbox"/> glass <input type="checkbox"/> plastic	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no	<u>None</u> , HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	<u>Sulfate (on walls MW-125, MP-10, and MP-23)</u>
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: MERIT HARTLAND
 Sample ID: MW-12D
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes:
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 23.31
 Elevation of Water: _____
 Date: 9/12/17 Time: 1405
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____
 Date: 9/12/17 Start Time: 1400
 Measured Well Depth: 47.30' Screen Length: 5' Depth to Screen Midpoint: 44.80'

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
<i>initial</i>	<u>23.31</u>								
<u>1415</u>	<u>23.38</u>	<u>0.07</u>	<u>200</u>	<u>12.97</u>	<u>0.825</u>	<u>0.71</u>	<u>6.38</u>	<u>79.3</u>	<u>7.74</u>
<u>1420</u>	<u>23.38</u>	<u>0.07</u>	<u>200</u>	<u>13.01</u>	<u>0.818</u>	<u>1.01</u>	<u>6.41</u>	<u>73.6</u>	<u>3.55</u>
<u>1425</u>	<u>23.38</u>	<u>0.07</u>	<u>200</u>	<u>12.58</u>	<u>0.814</u>	<u>1.31</u>	<u>6.45</u>	<u>69.7</u>	<u>2.28</u>
<u>1430</u>	<u>23.38</u>	<u>0.07</u>	<u>200</u>	<u>12.67</u>	<u>0.812</u>	<u>1.37</u>	<u>6.44</u>	<u>70.2</u>	<u>2.35</u>
<u>1435</u>	<u>23.38</u>	<u>0.07</u>	<u>200</u>	<u>12.64</u>	<u>0.811</u>	<u>1.36</u>	<u>6.45</u>	<u>70.2</u>	<u>2.39</u>

Total Volume Purged (gal): 7 2 1/2 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10%
 (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EDASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1437
 Temperature: 12.65 deg. C
 Specific Conductance: 0.811 umhos/cm
 Dissolved Oxygen: 1.40 mg/L
 pH: 6.45 S.U.
 ORP: 69.9 mV
 Turbidity: 2.39 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond.:	_____ umhos/cm	<input type="checkbox"/>
Dissolved Oxygen:	_____ mg/L	<input type="checkbox"/>
pH:	_____ S.U.	<input type="checkbox"/>
Oh:	_____ mV	<input type="checkbox"/>
Turbidity:	_____ NTU	<input type="checkbox"/>

SAMPLE COLLECTION

Appearance of Sample: clean; no obs. particulates Time: 1440
 Sample Duplicate?: NO
 Sample Method: Low Flow

NO/BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
<u>1</u>	<u>1000</u> ml	<input checked="" type="checkbox"/> glass <input checked="" type="checkbox"/> plastic	<input checked="" type="checkbox"/> yes <input checked="" type="checkbox"/> no	<u>None</u> , HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	<u>Sulfolane</u>
<u>1</u>	<u>250</u> ml	<input checked="" type="checkbox"/> glass <input checked="" type="checkbox"/> plastic	<input checked="" type="checkbox"/> yes <input checked="" type="checkbox"/> no	<u>None</u> , HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	<u>Sulfate (on wells MW-12D, MP-1D, and MP-2D)</u>
_____	_____ ml	_____ glass <input type="checkbox"/> plastic	_____ yes <input type="checkbox"/> no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass <input type="checkbox"/> plastic	_____ yes <input type="checkbox"/> no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass <input type="checkbox"/> plastic	_____ yes <input type="checkbox"/> no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass <input type="checkbox"/> plastic	_____ yes <input type="checkbox"/> no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass <input type="checkbox"/> plastic	_____ yes <input type="checkbox"/> no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass <input type="checkbox"/> plastic	_____ yes <input type="checkbox"/> no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass <input type="checkbox"/> plastic	_____ yes <input type="checkbox"/> no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass <input type="checkbox"/> plastic	_____ yes <input type="checkbox"/> no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: MERIT HARTLAND
 Sample ID: MW-135
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes:
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Date: 9/13/17 Time: 0958
 Top of Casing Elevation: _____
 Depth to Water: 21.20' Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Elevation of Water: _____ Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 9/13/17 Start Time: 1000
 Measured Well Depth: 30.3' Screen Length: 5' Depth to Screen Midpoint: 27.80'

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
<u>initial</u>	<u>21.20</u>								
<u>1005</u>	<u>21.30</u>	<u>0.10</u>	<u>200</u>	<u>14.24</u>	<u>0.941</u>	<u>1.54</u>	<u>7.18</u>	<u>-29.4</u>	<u>3.76</u>
<u>1010</u>	<u>21.30</u>	<u>0.10</u>	<u>200</u>	<u>13.73</u>	<u>0.729</u>	<u>0.98</u>	<u>7.10</u>	<u>-11.8</u>	<u>3.28</u>
<u>1015</u>	<u>21.30</u>	<u>0.10</u>	<u>200</u>	<u>15.63</u>	<u>0.716</u>	<u>0.98</u>	<u>7.10</u>	<u>-6.0</u>	<u>3.13</u>
<u>1020</u>	<u>21.30</u>	<u>0.10</u>	<u>200</u>	<u>13.70</u>	<u>0.709</u>	<u>0.94</u>	<u>7.12</u>	<u>-1.7</u>	<u>0.96</u>
Stabilization Criteria: +/- 3% <input checked="" type="checkbox"/> +/- 3% <input checked="" type="checkbox"/> +/- 10% <input checked="" type="checkbox"/> +/- 0.1 Units <input checked="" type="checkbox"/> +/- 10 mV <input checked="" type="checkbox"/> +/- 10% <input checked="" type="checkbox"/> (if > 0.5 mg/l) (if > 5 NTU)									

Stabilization Criteria Reference Doc. USEPA ECASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1025
 Temperature: 13.95 deg. C
 Specific Conductance: 0.704 umhos/cm
 Dissolved Oxygen: 1.11 mg/L
 pH: 7.16 S.U.
 ORP: 0.3 mV
 Turbidity: 0.98 NTU
 CALIBRATION CHECK
 Standard (conc.) Reading Mark if Recalibrated
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Time: 1025 Sample Duplicate?: No
 Appearance of Sample: clean; no obs. particulates Sample Method: Low Flow

NO/BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
<u>1</u>	<u>1000</u> ml	<u>glass plastic</u>	<u>yes no</u>	<u>None, HCl, HNO₃, NaOH, H₂SO₄, ZnAc, TSP, BAK</u>	<u>Sulfotane</u>
<u>1</u>	<u>250</u> ml	<u>glass plastic</u>	<u>yes no</u>	<u>None, HCl, HNO₃, NaOH, H₂SO₄, ZnAc, TSP, BAK</u>	<u>Sulfate (on wells MW-190-MP-1D, and MP-235)</u>
_____	_____ ml	_____ glass plastic	_____ yes no	_____ None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	_____ yes no	_____ None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	_____ yes no	_____ None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	_____ yes no	_____ None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	_____ yes no	_____ None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	_____ yes no	_____ None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	_____ yes no	_____ None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	_____ yes no	_____ None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: MERIT HARTLAND
 Sample ID: MW-13D
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibility good repair? YES NO REMEDIED

STATIC WATER LEVEL

Date: 9/13/17 Time: 0850
 Top of Casing Elevation: _____
 Depth to Water: 20.63'
 Elevation of Water: _____
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER
 Date: 9/13/17 Start Time: 0855
 Measured Well Depth: 32.20' Screen Length: 5' Depth to Screen Midpoint: 29.70'

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
initial	20.63'								
0900	20.79	0.16	200	12.90	1.075	0.74	6.51	83.4	19.3
0905	20.79	0.16	200	12.97	1.122	0.70	6.49	69.3	13.6
0910	20.79	0.16	200	12.76	1.212	0.54	6.60	30.1	13.4
0915	20.79	0.16	200	12.82	1.213	0.56	6.69	23.4	10.6
0920	20.79	0.16	200	12.83	1.220	0.51	6.73	19.6	7.89
0925	20.79	0.16	200	12.75	1.225	0.51	6.75	11.9	6.69
0930	20.79	0.16	200	12.79	1.278	0.52	6.86	-5.4	10.8
0935								-9.2	11.2
0940								-9.4	12.4

Total Volume Purged (gal): 2 1/2 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 5 mg/l)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 0942
 Temperature: 12.82 deg. C
 Specific Conductance: 1.260 umhos/cm
 Dissolved Oxygen: 0.54 mg/L
 pH: 6.89 S.U.
 ORP: -9.6 mV
 Turbidity: 11.2 NTU

CALIBRATION CHECK		Mark if
Standard (conc)	Reading	Recalibrated
Specific Cond.:	umhos/cm	<input type="checkbox"/>
Dissolved Oxygen:	mg/L	<input type="checkbox"/>
pH:	S.U.	<input type="checkbox"/>
Oh:	mV	<input type="checkbox"/>
Turbidity:	NTU	<input type="checkbox"/>

SAMPLE COLLECTION

Time: 0945 Sample Duplicate?: YES - DUPLICATE
 Appearance of Sample: clear; very fine white/light gray particulates and few bubbles present Sample Method: Low Flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
<u>2</u>	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate + duplicate
<u>1</u>	250 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate (on wells MW-13D MP-1D, and MP-2S)
	ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-145
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Date: 9/12/17 Time: 1420
 Top of Casing Elevation: _____
 Depth to Water: 20.28
 Elevation of Water: _____
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER
 Date: 9/12/17 Start Time: 1425
 Measured Well Depth: 26.46 Screen Length: 5' Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1440	20.34	0.06	250	12.31	1305	0.77	6.54	-15.9	3.98
1445	20.34	0.06	272	12.30	1308	0.61	6.53	-17.0	2.66
1450	20.33	0.05	"	12.29	1313	0.71	6.53	-19.0	4.52
1455	20.33	0.05	"	12.34	1312	0.77	6.54	-19.3	2.51
1500	20.33	0.05	"	12.40	1311	0.85	6.53	-19.8	1.49

Total Volume Purged (gal): 238 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1500
 Temperature: 12.40 deg C
 Specific Conductance: 1311 umhos/cm
 Dissolved Oxygen: 0.85 mg/L
 pH: 6.53 S.U.
 ORP: -19.8 mV
 Turbidity: 1.49 NTU
 CALIBRATION CHECK
 Standard (conc.) Reading Mark if Recalibrated
 Specific Cond. _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Appearance of Sample: clear Time: 1500 Sample Duplicate?: no Sample Method: low flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
1	250 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate (on wells MW-13D, MP-1D, and MP-2S)
				None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____ Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-142
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Date: 9/12/17 Time: 1515
 Top of Casing Elevation: _____
 Depth to Water: 20.38
 Elevation of Water: _____
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER
 Date: 9/12/17 Start Time: 1521
 Measured Well Depth: 44.20
 Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1530	20.45	0.07	366	10.57	753	0.33	7.23	12.0	1.66
1535	20.45	1.07	384	10.44	758	0.25	7.16	6.1	2.77
1540	20.45	1.07	"	10.37	770	0.22	7.13	4.0	4.44

Total Volume Purged (gal): 2
 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1540
 Temperature: 10.37 deg. C
 Specific Conductance: 770 umhos/cm
 Dissolved Oxygen: 0.22 mg/L
 pH: 7.13 S.U.
 ORP: 4.0 mV
 Turbidity: 4.44 NTU
 CALIBRATION CHECK
 Standard (conc.) Reading Mark if Recalibrated
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Appearance of Sample: clear
 Time: 1545
 Sample Duplicate?: ND
 Sample Method: low flow

NO./BOTTLES	SIZE	TYPE	FILTERED	PRESERVATIVE	PARAMETER
1	1900 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	250 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate (on wells MW-13D, MP-1D, and MP-2S)
				None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): _____ Chain of Custody No. _____
 Name (SIGNATURE): _____

* Replace flex tubing

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-15
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing invisibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 19.94
 Elevation of Water: _____
 Date: 9/11/17 Time: 1558
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER
 Date: 9/11/17 Start Time: 1602
 Measured Well Depth: 26.70 Screen Length: 51
 Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umhos/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1610	20.15	0.21	500	11.75	645	5.63	7.20	164.7	47.5
1615	20.10	0.16	364	11.79	657	4.95	7.12	163.6	45.2
1620	20.10	0.16	360	11.97	654	4.65	7.08	161.4	22.6
1625	20.10	0.16	"	12.06	661	4.49	7.06	160.8	14.6
1630	20.10	0.16	352	12.05	662	4.44	7.04	161.0	11.7
1635	20.10	0.16	"	12.09	664	4.39	7.03	161.6	7.74

Total Volume Purged (gal): 3.25
 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP.GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1635
 Temperature: 12.09 deg. C
 Specific Conductance: 664 umhos/cm
 Dissolved Oxygen: 4.39 mg/L
 pH: 7.03 S.U.
 ORP: 161.6 mV
 Turbidity: 7.74 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond.	umhos/cm	<input checked="" type="checkbox"/>
Dissolved Oxygen	mg/L	<input checked="" type="checkbox"/>
pH	S.U.	<input checked="" type="checkbox"/>
Ohm	mV	<input checked="" type="checkbox"/>
Turbidity	NTU	<input checked="" type="checkbox"/>

SAMPLE COLLECTION

Appearance of Sample: clear Time: 1640
 Sample Duplicate?: no
 Sample Method: hand filtered

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
1	250 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate (on wells MW-13D, MP-1D, and MP-2S)
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): [Signature]

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-15d
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED

Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 20.25
 Elevation of Water: _____

Date: 9/11/17 Time: 1500
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER

Date: 9/11/17 Start Time: 1507

Measured Well Depth: 45.89 Screen Length: 51 Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1520	20.32	1.07	280	11.32	533	1.93	7.36	161.4	4.75
1525	20.31	1.06	302	11.08	533	1.09	7.31	160.8	3.71
1530	20.31	1.06	320	11.02	532	0.72	7.30	159.6	2.31
1535	20.31	1.06	312	10.90	532	0.45	7.27	158.2	1.92
1540	20.31	1.06	332	10.82	533	0.31	7.26	156.6	2.06
1545	20.31	1.06	340	10.78	533	0.22	7.23	155.5	1.36

Total Volume Purged (gal): 3

Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1545
 Temperature: 10.78 deg. C
 Specific Conductance: 533 umhos/cm
 Dissolved Oxygen: 0.22 mg/L
 pH: 7.23 S.U.
 ORP: 155.5 mV
 Turbidity: 1.36 NTU

CALIBRATION CHECK		Mark if Recalibrated
Standard (conc.)	Reading	
Specific Cond:	umhos/cm	
Dissolved Oxygen:	mg/L	
pH:	S.U.	
Oh:	mV	
Turbidity:	NTU	

SAMPLE COLLECTION

Appearance of Sample: clear

Time: 1550
 Sample Duplicate?: NO
 Sample Method: low flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
1	250 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate (on wells MW-13D, MP-1D, and MP-2S)
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): [Signature]

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-15dd
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Date: 9/12/17 Time: 1007
 Top of Casing Elevation: _____
 Depth to Water: 20.55
 Elevation of Water: _____
 Measured with: ELECTRONIC TAPE
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC
 Measured Well Depth: 59.89
 Screen Length: 5'
 Date: 9/12/17 Start Time: 1013
 Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1025	20.58	.03	440	10.88	816	2.13	6.89	168.4	3.02
1030	20.58	.03	440	10.71	905	1.13	6.84	180.5	2.74
1035	20.58	.03	"	10.58	1022	0.39	6.87	174.1	3.52
1040	20.59	.04	444	10.64	1080	0.25	6.88	165.14	2.79
1045	20.59	.04	"	10.55	1110	0.23	6.89	161.4	1.83

Total Volume Purged (gal): 3.5
 Stabilization Criteria: +/- 3% +/- 3% +/- 10% (if > 0.5 mg/l) +/- 0.1 Units +/- 10 mV +/- 10% (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1045
 Temperature: 10.55 deg. C
 Specific Conductance: 1110 umhos/cm
 Dissolved Oxygen: 0.23 mg/L
 pH: 6.89 S.U.
 ORP: 161.4 mV
 Turbidity: 1.83 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond.	umhos/cm	<input checked="" type="checkbox"/>
Dissolved Oxygen	mg/L	<input checked="" type="checkbox"/>
pH	S.U.	<input type="checkbox"/>
Oh	mV	<input type="checkbox"/>
Turbidity	NTU	<input type="checkbox"/>

SAMPLE COLLECTION

Appearance of Sample: clear, effervescent (bubbles)
 Time: 1045
 Sample Duplicate?: NO
 Sample Method: low flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfotane
1	250 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate (on wells MW-13D, MP-1D, and MP-2S)
				None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): [Signature]

* New tubing in well,

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-165
 Well Type: 2" PVC

INSPECTION

Label on well? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED	Is cement pad in good repair? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED
Is reference mark visible? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED	Is protective casing locked and in good repair? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED
Standing water present? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED	Is inner cap in place and properly sealing well? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED
Indication of surface runoff in well? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED	Is well casing in visibly good repair? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED

Repair Notes: _____

STATIC WATER LEVEL

Date: 9/12/17 Time: 0828
 Top of Casing Elevation: _____
 Depth to Water: 20.15 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Elevation of Water: _____ Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 9/12/17 Start Time: 0840
 Measured Well Depth: 24.5 Screen Length: 5' Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
0850	20.28	0.13	324	10.67	953	4.18	6.60	174.9	4.19
0855	20.29	0.14	340	10.65	954	3.52	6.60	174.4	2.07
0900	20.30	0.15	344	10.69	955	3.28	6.58	175.5	1.58
0905	20.30	0.15	11	10.76	955	3.31	6.56	177.4	1.84

Total Volume Purged (gal): 25.8 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

FIELD ANALYSIS

Time: 0905
 Temperature: 10.76 deg C
 Specific Conductance: 955 umhos/cm
 Dissolved Oxygen: 3.31 mg/L
 pH: 6.56 S.U.
 ORP: 177.4 mV
 Turbidity: 1.84 NTU

CALIBRATION CHECK		Mark if Recalibrated
Standard (conc.)	Reading	
Specific Cond.:	umhos/cm	<input checked="" type="checkbox"/>
Dissolved Oxygen:	mg/L	
pH:	S.U.	
Oh:	mV	
Turbidity:	NTU	

SAMPLE COLLECTION

Appearance of Sample: clear Time: 0910 Sample Duplicate?: no Sample Method: low flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfonate
1	250 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate (on wells MW-13D, MP-1D, and MP-2S)
_____	_____ ml	_____ plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): _____ Chain of Custody No. _____ Name (SIGNATURE): _____

* Replaced flex tubing

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-16d
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Date: 9/12/17 Time: 0918
 Top of Casing Elevation: _____
 Depth to Water: 20.80 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Elevation of Water: _____ Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 9/12/17 Start Time: 0920
 Measured Well Depth: 3630 Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umhos/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
0930	21.43	0.63	32.8	9.99	753	0.34	6.76	169.3	21.6
0935	21.42	0.62	"	10.02	750	0.39	6.80	169.3	18.7
0940	21.45	0.65	"	10.05	743	0.31	6.77	168.4	11.4
0945	21.45	0.65	"	10.05	741	0.32	6.82	168.1	9.82
0950	21.45	0.65	"	10.07	738	0.28	6.82	167.1	10.03

Total Volume Purged (gal): 2175 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 0950
 Temperature: 10.07 deg. C
 Specific Conductance: 738 umhos/cm
 Dissolved Oxygen: 0.28 mg/L
 pH: 6.82 S.U.
 ORP: 167.1 mV
 Turbidity: 10.03 NTU
 CALIBRATION CHECK: Standard (conc.) Reading Mark if Recalibrated
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Appearance of Sample: clear Time: 0955 Sample Duplicate?: no Sample Method: lead flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	250 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate (on wells MW-13D, MP-1D, and MP-2S)
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): _____ Chain of Custody No. _____ Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-175
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 19.04
 Elevation of Water: _____
 Date: 9/12/17 Time: 1237
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER
 Date: 9/12/17 Start Time: 1245
 Measured Well Depth: 27.25 Screen Length: 5' Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1300	19.16	0.12	240	11.95	818	1.86	7.13	139.0	5.44
1305	19.17	0.13	"	11.85	820	1.28	7.10	135.9	4.57
1310	19.17	0.12	"	11.80	822	0.50	6.94	137.6	4.68
1315	19.18	0.14	316	11.86	823	0.26	7.02	138.1	2.31
1320	19.18	0.14	"	11.90	824	0.25	7.06	134.2	2.93

Total Volume Purged (gal): 2.25
 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1320
 Temperature: 11.90 deg. C
 Specific Conductance: 824 umhos/cm
 Dissolved Oxygen: 0.25 mg/L
 pH: 7.06 S.U.
 ORP: 134.2 mV
 Turbidity: 2.93 NTU
 CALIBRATION CHECK
 Standard (conc.) Reading Mark if Recalibrated
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Appearance of Sample: clear w/ some tannin-like floaty stuff
 Time: 1325
 Sample Duplicate?: NO
 Sample Method: low flow
 NO. BOTTLES: 1
 SIZE: 1000 ml
 TYPE: glass plastic
 FILTERED: yes no
 PRESERVATIVE: None, HCl, HNO3, NaOH, H2SO4, ZnAc, TSP, BAK
 PARAMETER: Sulfate (on wells MW-13D, MP-1D, and MP-2S)

SAMPLING PERSONNEL

Name (SIGNATURE): _____ Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-17d
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Date: 9/12/17 Time: 1120
 Top of Casing Elevation: 19.98
 Depth to Water: _____
 Elevation of Water: _____
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER
 Date: 9/12/17 Start Time: 1125
 Measured Well Depth: 40.50 Screen Length: 5' Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1135	20.67	0.69	340	11.45	764	6.30	7.38	132.9	7.72
1140	20.67	0.69	332	10.98	763	5.96	7.24	132.7	8.11
1145	20.68	0.70	11	10.87	777	5.77	7.24	132.6	18.15
1150	20.67	0.69	324	10.80	834	3.09	7.09	131.2	23.4
1155	20.68	0.70	11	10.86	840	2.00	7.01	128.8	18.7
1200	20.67	0.69	320	10.73	839	1.63	6.99	128.0	15.5
1205	20.67	0.69	11	10.56	843	0.87	6.95	126.8	14.3
1210	20.67	0.69	328	10.63	842	0.47	6.91	126.7	9.70
1215	20.67	0.69	320	10.53	843	0.38	6.75	125.8	6.00
1220	20.67	0.69	11	10.84	843	0.36	6.94	124.6	5.64

Total Volume Purged (gal): 5 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10%
 (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1220
 Temperature: 10.84 deg. C
 Specific Conductance: 843 umhos/cm
 Dissolved Oxygen: 0.36 mg/L
 pH: 6.94 S.U.
 ORP: 124.6 mV
 Turbidity: 5.64 NTU
 CALIBRATION CHECK
 Standard (conc.) Reading Mark if Recalibrated
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Appearance of Sample: clear Time: 1225 Sample Duplicate?: YES, Dup 03
 Sample Method: low flow

NO./BOTTLES:	SIZE	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	250 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate (on wells MW-13D, MP-1D, and MP-2S)
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): _____ Chain of Custody No. _____
 Name (SIGNATURE): _____

* Note: 3/8 tubing in well is all kinked, Replace w/ 1/4 new tubing

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: MERIT HARTLAND
 Sample ID: MW-18
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes:
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Date: 9/12/17 Time: 12:18
 Top of Casing Elevation: _____
 Depth to Water: 21.26' Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Elevation of Water: _____ Well depth verified? YES NO replace poly tubing

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 9/12/17 Start Time: 1225
 Measured Well Depth: 27.50 Screen Length: 5' Depth to Screen Midpoint: 25.0'

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
<u>12:30</u>	<u>21.26'</u>								
<u>12:35</u>	<u>replace tubing</u>		<u>200</u>						
<u>12:40</u>	<u>21.32</u>	<u>0.06</u>	<u>200</u>	<u>14.05</u>	<u>0.732</u>	<u>89.7</u>	<u>6.25</u>	<u>57.6</u>	<u>add 1/2 gal snow</u>
<u>12:45</u>	<u>21.32</u>	<u>0.06</u>	<u>200</u>	<u>13.67</u>	<u>0.734</u>	<u>1.83</u>	<u>6.22</u>	<u>52.6</u>	<u>33.8</u>
<u>12:50</u>	<u>21.32</u>	<u>0.06</u>	<u>200</u>	<u>13.57</u>	<u>0.739</u>	<u>1.15</u>	<u>6.27</u>	<u>33.2</u>	<u>19.0</u>
<u>12:55</u>	<u>21.32</u>	<u>0.06</u>	<u>200</u>	<u>13.81</u>	<u>0.739</u>	<u>1.24</u>	<u>6.35</u>	<u>20.1</u>	<u>14.7</u>
<u>1:00</u>	<u>21.32</u>	<u>0.06</u>	<u>200</u>	<u>13.62</u>	<u>0.740</u>	<u>1.16</u>	<u>6.42</u>	<u>7.8</u>	<u>9.82</u>
<u>1:05</u>	<u>21.32</u>	<u>0.06</u>	<u>200</u>	<u>13.61</u>	<u>0.740</u>	<u>1.16</u>	<u>6.43</u>	<u>7.1</u>	<u>10.0</u>

Total Volume Purged (gal): 2 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10%
 (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1307
 Temperature: 13.61 deg. C
 Specific Conductance: 0.742 umhos/cm
 Dissolved Oxygen: 1.16 mg/L
 pH: 6.43 S.U.
 ORP: 7.2 mV
 Turbidity: 9.91 NTU
 CALIBRATION CHECK
 Standard (conc.) Reading Mark if Recalibrated
 Specific Cond: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Time: 1310 Sample Duplicate?: NO
 Appearance of Sample: clean; trace particulates Sample Method: LOW FLOW

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
<u>1</u>	<u>1000</u> ml	<input checked="" type="checkbox"/> glass <input type="checkbox"/> plastic	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	<u>None</u> HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	<u>Sulfate</u>
<u>1</u>	<u>250</u> ml	<input checked="" type="checkbox"/> glass <input type="checkbox"/> plastic	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	<u>None</u> HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	<u>Sulfate (on wells MW-13D, MP-1D, and MP-23)</u>
_____	_____ ml	_____ glass <input type="checkbox"/> plastic	yes <input type="checkbox"/> no _____	_____ HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass <input type="checkbox"/> plastic	yes <input type="checkbox"/> no _____	_____ HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass <input type="checkbox"/> plastic	yes <input type="checkbox"/> no _____	_____ HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass <input type="checkbox"/> plastic	yes <input type="checkbox"/> no _____	_____ HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass <input type="checkbox"/> plastic	yes <input type="checkbox"/> no _____	_____ HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass <input type="checkbox"/> plastic	yes <input type="checkbox"/> no _____	_____ HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass <input type="checkbox"/> plastic	yes <input type="checkbox"/> no _____	_____ HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass <input type="checkbox"/> plastic	yes <input type="checkbox"/> no _____	_____ HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Chain of Custody No. _____
 Name (SIGNATURE): [Signature] Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: MERIT HARTLAND
 Sample ID: MW-195
 Well Type: 2" PVC

INSPECTION

Label on well? <input checked="" type="radio"/> YES <input type="radio"/> NO REMEDIED	Is cement pad in good repair? <input checked="" type="radio"/> YES <input type="radio"/> NO REMEDIED
Is reference mark visible? <input checked="" type="radio"/> YES <input type="radio"/> NO REMEDIED	Is protective casing locked and in good repair? <input checked="" type="radio"/> YES <input type="radio"/> NO REMEDIED
Standing water present? <input checked="" type="radio"/> YES <input type="radio"/> NO REMEDIED	Is inner cap in place and properly sealing well? <input checked="" type="radio"/> YES <input type="radio"/> NO REMEDIED
Indication of surface runoff in well? <input checked="" type="radio"/> YES <input type="radio"/> NO REMEDIED	Is well casing in visibly good repair? <input checked="" type="radio"/> YES <input type="radio"/> NO REMEDIED

Repair Notes:

STATIC WATER LEVEL

Date: 9/12/17 Time: 0840
 Top of Casing Elevation: _____
 Depth to Water: 22.74
 Elevation of Water: _____
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO
REPLACED KINKED PUMP/TUBING

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 9/12/17 Start Time: 0850

Measured Well Depth: 30.32' Screen Length: 5' Depth to Screen Midpoint: 28.6'
 (31.10' DIST.)

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
<u>initial</u>	<u>22.74</u>								
<u>0855</u>	<u>22.90</u>	<u>0.16</u>	<u>200</u>	<u>12.50</u>	<u>1.156</u>	<u>9.04</u>	<u>6.34</u>	<u>111.9</u>	<u>23.8</u>
<u>0900</u>	<u>22.90</u>	<u>0.16</u>	<u>200</u>	<u>12.45</u>	<u>1.161</u>	<u>3.26</u>	<u>6.42</u>	<u>103.9</u>	<u>24.2</u>
<u>0905</u>	<u>22.90</u>	<u>0.16</u>	<u>200</u>	<u>12.46</u>	<u>1.162</u>	<u>2.68</u>	<u>6.45</u>	<u>101.7</u>	<u>23.6</u>
<u>0910</u>	<u>22.90</u>	<u>0.16</u>	<u>200</u>	<u>12.51</u>	<u>1.143</u>	<u>2.07</u>	<u>6.49</u>	<u>98.8</u>	<u>13.0</u>
<u>0915</u>	<u>22.90</u>	<u>0.16</u>	<u>200</u>	<u>12.54</u>	<u>1.162</u>	<u>1.81</u>	<u>6.49</u>	<u>99.0</u>	<u>12.9</u>
<u>0920</u>	<u>22.90</u>	<u>0.16</u>	<u>200</u>	<u>12.54</u>	<u>1.163</u>	<u>1.74</u>	<u>6.49</u>	<u>98.3</u>	<u>9.68</u>
<u>0925</u>	<u>22.90</u>	<u>0.16</u>	<u>200</u>	<u>12.54</u>	<u>1.163</u>	<u>1.70</u>	<u>6.49</u>	<u>98.3</u>	<u>10.1</u>
<u>0930</u>	<u>22.90</u>	<u>0.16</u>	<u>200</u>	<u>12.57</u>	<u>1.164</u>	<u>1.64</u>	<u>6.50</u>	<u>97.6</u>	<u>9.58</u>

Total Volume Purged (gal): 22 1/2 Stabilization Criteria: +/- 3% ✓ +/- 3% ✓ +/- 10% ✓ +/- 0.1 Units ✓ +/- 10 mV ✓ +/- 10% ✓
 (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EDASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 0930
 Temperature: 12.57 deg C
 Specific Conductance: 1.164 umhos/cm
 Dissolved Oxygen: 1.64 mg/L
 pH: 6.50 S.U.
 ORP: 97.6 mV
 Turbidity: 9.58 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond:	umhos/cm	<input type="checkbox"/>
Dissolved Oxygen:	mg/L	<input type="checkbox"/>
pH:	S.U.	<input type="checkbox"/>
Oh:	mV	<input type="checkbox"/>
Turbidity:	NTU	<input type="checkbox"/>

SAMPLE COLLECTION

Time: 0937 Sample Duplicate?: NBS: DUPE 01
 Appearance of Sample: clear; no obs. particulates Sample Method: Low Flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
<u>2</u>	<u>1000</u> ml	<input checked="" type="checkbox"/> glass <input type="checkbox"/> plastic	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	<u>None</u> , HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	<u>Sulfate + DUPE</u>
	<u>250</u> ml	<input checked="" type="checkbox"/> glass <input type="checkbox"/> plastic	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	<u>None</u> , HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	<u>Sulfate (on wells MW-120, MP-1D, and MP-2S)</u>
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: MERIT HARTLAND
 Sample ID: MW-19D
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Date: 9/12/17 Time: 0942
 Top of Casing Elevation: _____
 Depth to Water: 22.70
 Elevation of Water: _____
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 9/12/17 Start Time: 0945
 Measured Well Depth: 50.10 Screen Length: 5' Depth to Screen Midpoint: 47.60

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
<u>0950</u>	<u>22.70</u>	<u>0.06</u>	<u>200</u>	<u>13.04</u>	<u>0.951</u>	<u>6.06</u>	<u>6.18</u>	<u>141.4</u>	<u>11.2</u>
<u>0955</u>	<u>22.76</u>	<u>0.06</u>	<u>200</u>	<u>13.34</u>	<u>0.950</u>	<u>2.24</u>	<u>6.21</u>	<u>143.9</u>	<u>11.4</u>
<u>1000</u>	<u>22.76</u>	<u>0.06</u>	<u>200</u>	<u>13.04</u>	<u>0.965</u>	<u>1.05</u>	<u>6.34</u>	<u>132.3</u>	<u>10.4</u>
<u>1005</u>	<u>22.76</u>	<u>0.06</u>	<u>200</u>	<u>13.24</u>	<u>0.961</u>	<u>0.88</u>	<u>6.42</u>	<u>125.0</u>	<u>9.40</u>
<u>1010</u>	<u>22.76</u>	<u>0.06</u>	<u>200</u>	<u>12.83</u>	<u>0.972</u>	<u>0.58</u>	<u>6.44</u>	<u>119.9</u>	<u>8.29</u>
<u>1015</u>	<u>22.76</u>	<u>0.06</u>	<u>200</u>	<u>12.96</u>	<u>0.972</u>	<u>0.55</u>	<u>6.44</u>	<u>118.6</u>	<u>6.07</u>
<u>1020</u>	<u>22.76</u>	<u>0.06</u>	<u>200</u>	<u>12.99</u>	<u>0.974</u>	<u>0.60</u>	<u>6.50</u>	<u>110.7</u>	<u>7.10</u>

Total Volume Purged (gal): 2 1/2 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10%
 (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1025
 Temperature: 12.97 deg. C
 Specific Conductance: 0.976 umhos/cm
 Dissolved Oxygen: 0.55 mg/L
 pH: 6.49 S.U.
 ORP: 110.0 mV
 Turbidity: 6.86 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond.:	_____ umhos/cm	_____
Dissolved Oxygen:	_____ mg/L	_____
pH:	_____ S.U.	_____
Oh:	_____ mV	_____
Turbidity:	_____ NTU	_____

SAMPLE COLLECTION

Time: 1025 Sample Duplicate?: YES: DUPE 02
 Appearance of Sample: Clear, no obs. particulates Sample Method: LOW FLOW

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
<u>2</u>	<u>1000</u> ml	<input checked="" type="checkbox"/> glass <input type="checkbox"/> plastic	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no	<u>None</u> HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	<u>Sulfonate + DUPE 02</u>
<u>1</u>	<u>250</u> ml	<input checked="" type="checkbox"/> glass <input type="checkbox"/> plastic	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no	<u>None</u> HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	<u>Sulfonate (on wells MW-12D, MP-1D, and MP-2B)</u>
_____	_____ ml	_____ glass <input type="checkbox"/> plastic	_____ yes <input type="checkbox"/> no	_____ None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass <input type="checkbox"/> plastic	_____ yes <input type="checkbox"/> no	_____ None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass <input type="checkbox"/> plastic	_____ yes <input type="checkbox"/> no	_____ None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass <input type="checkbox"/> plastic	_____ yes <input type="checkbox"/> no	_____ None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass <input type="checkbox"/> plastic	_____ yes <input type="checkbox"/> no	_____ None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass <input type="checkbox"/> plastic	_____ yes <input type="checkbox"/> no	_____ None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass <input type="checkbox"/> plastic	_____ yes <input type="checkbox"/> no	_____ None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass <input type="checkbox"/> plastic	_____ yes <input type="checkbox"/> no	_____ None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co. Monitoring Location: MERIT HARTLAND
 LOCATION: 13390 Lone Tree Road Sample ID: MW-19DD
 Hartland Township, Michigan Well Type: 2" PVC
 PROJECT: 130685.2000

INSPECTION

Label on well? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED	Is cement pad in good repair? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED
Is reference mark visible? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED	Is protective casing locked and in good repair? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED
Standing water present? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED	Is inner cap in place and properly sealing well? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED
Indication of surface runoff in well? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED	Is well casing in vicinity good repair? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED

Repair Notes:

STATIC WATER LEVEL

Date: 9/12/17 Time: 1045

Top of Casing Elevation: _____
 Depth to Water: 23.65 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Elevation of Water: _____ Well depth verified? YES NO installed polytube/master flex

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 9/12/17 Start Time: 1045

Measured Well Depth: 46.15 Screen Length: 5' Depth to Screen Midpoint: 43.65'

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
initial	<u>23.65</u>								
<u>1050</u>	<u>23.67</u>	<u>0.02</u>	<u>200</u>	<u>13.61</u>	<u>0.812</u>	<u>4.00</u>	<u>6.56</u>	<u>185.9</u>	<u>60.0</u>
<u>1055</u>	<u>23.67</u>	<u>0.02</u>	<u>200</u>	<u>13.64</u>	<u>0.806</u>	<u>4.04</u>	<u>6.50</u>	<u>185.3</u>	<u>60.8</u>
<u>1100</u>	<u>23.67</u>	<u>0.02</u>	<u>200</u>	<u>13.61</u>	<u>0.805</u>	<u>3.86</u>	<u>6.52</u>	<u>178.5</u>	<u>63.1</u>
<u>1105</u>	<u>23.67</u>	<u>0.02</u>	<u>200</u>	<u>13.57</u>	<u>0.804</u>	<u>3.89</u>	<u>6.59</u>	<u>161.5</u>	<u>63.5</u>
<u>1110</u>	<u>23.67</u>	<u>0.02</u>	<u>200</u>	<u>13.54</u>	<u>0.803</u>	<u>3.83</u>	<u>6.63</u>	<u>152.8</u>	<u>59.8</u>
<u>1115</u>	<u>23.67</u>	<u>0.02</u>	<u>200</u>	<u>13.45</u>	<u>0.803</u>	<u>3.82</u>	<u>6.64</u>	<u>151.2</u>	<u>55.3</u>

Total Volume Purged (gal): 2 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

FIELD ANALYSIS

Time: 1116
 Temperature: 13.35 deg. C
 Specific Conductance: 0.803 umhos/cm
 Dissolved Oxygen: 3.90 mg/L
 pH: 6.64 S.U.
 ORP: 150.4 mV
 Turbidity: 50.3 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond:	umhos/cm	<input type="checkbox"/>
Dissolved Oxygen:	mg/L	<input type="checkbox"/>
pH:	S.U.	<input type="checkbox"/>
Eh:	mV	<input type="checkbox"/>
Turbidity:	NTU	<input type="checkbox"/>

SAMPLE COLLECTION Time: 1120 Sample Duplicate?: NO
 Appearance of Sample: clean; trace very fine particulates Sample Method: low flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
<u>1</u>	<u>1000</u> ml	<u>glass</u> plastic	<u>yes</u> <u>no</u>	<u>None</u> HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	<u>Sulfate</u>
<u>1</u>	<u>250</u> ml	<u>glass</u> plastic	<u>yes</u> <u>no</u>	<u>None</u> HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	<u>Sulfate (on wells MW-13D, MP-1D, and MP-20E)</u>
_____	_____ ml	_____ glass plastic	_____ yes no	_____ None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	_____ yes no	_____ None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	_____ yes no	_____ None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	_____ yes no	_____ None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	_____ yes no	_____ None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	_____ yes no	_____ None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	_____ yes no	_____ None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	_____ yes no	_____ None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-20s
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Date: 9/13/17 Time: 0830
 Top of Casing Elevation: _____
 Depth to Water: 22.02 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Elevation of Water: _____ Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER
 Date: 9/13/17 Start Time: 0833
 Measured Well Depth: 25.08 Screen Length: 5' Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
0850	22.25	0.23	304	11.40	1009	1.76	6.68	147.8	21.5
0855	22.26	0.24	300	11.40	1006	1.62	6.69	146.7	13.6
0900	22.25	0.23	"	11.43	1003	1.54	6.69	145.7	9.37
0905	22.25	0.23	"	11.42	1003	1.50	6.69	145.6	7.17

Total Volume Purged (gal): 2.5 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 0905
 Temperature: 11.42 deg C
 Specific Conductance: 1003 umhos/cm
 Dissolved Oxygen: 1.50 mg/L
 pH: 6.69 S.U.
 ORP: 145.6 mV
 Turbidity: 7.17 NTU

CALIBRATION CHECK		Mark if Recalibrated
Standard (conc.)	Reading	
Specific Cond.	umhos/cm	_____
Dissolved Oxygen	mg/L	
pH	S.U.	
Orp	mV	
Turbidity	NTU	

SAMPLE COLLECTION

Appearance of Sample: clear Time: 0905 Sample Duplicate?: NO Sample Method: 100 Flow

NO. BOTTLES:	SIZE	TYPE:	FILTERED	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	250 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate (on wells MW-13D, MP-1D, and MP-2S)
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____ Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-202
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____

Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 21.72
 Elevation of Water: _____

Date: 9/13/17 Time: 0920
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER
 Date: 9/13/17 Start Time: 0924
 Measured Well Depth: 35.15
 Screen Length: _____
 Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
0930	23.17	1.45	216	11.33	661	4.07	7.33	55.0	16.6
0935	23.29	1.57	172	11.35	704	2.36	7.12	2.4	12.1
0940	23.25	1.53	156	11.41	735	1.37	7.12	-23.4	10.9
0945	23.23	1.51	"	11.50	739	0.82	7.16	-35.6	11.3
0950	23.23	1.51	"	11.59	741	0.49	7.15	-46.4	7.87
0955	23.24	1.52	168	11.59	744	0.38	7.16	-53.8	8.09
1000	23.26	1.54	"	11.51	747	0.45	7.12	-58.5	7.11

Total Volume Purged (gal): 1.75
 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10%
 (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1000
 Temperature: 11.51 deg C
 Specific Conductance: 747 umhos/cm
 Dissolved Oxygen: 0.45 mg/L
 pH: 7.12 S.U.
 ORP: -58.5 mV
 Turbidity: 7.11 NTU

CALIBRATION CHECK
 Standard (conc.) Reading Mark if Recalibrated
 Specific Cond: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Appearance of Sample: clean
 Time: 1000
 Sample Duplicate?: no flow
 Sample Method: low flow

NO./BOTTLES:	SIZE	TYPE	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
1	250 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate (on wells MW-13D, MP-1D, and MP-2S)
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): _____ Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-21d
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Date: 9/13/17 Time: 1028
 Top of Casing Elevation: _____
 Depth to Water: 22.06
 Elevation of Water: _____
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER
 Date: 9/13/17 Start Time: 1032
 Measured Well Depth: _____ Screen Length: 5' Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1050	22.08	1.02	260	10.55	743	6.50	7.07	31.8	4.04
1055	22.08	1.02	11	10.61	745	6.16	7.04	39.9	3.61
1100	22.08	1.02	11	10.75	744	6.08	7.04	42.4	3.51

Total Volume Purged (gal): 2
 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10%
 (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASDP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1100
 Temperature: 10.75 deg C
 Specific Conductance: 744 umhos/cm
 Dissolved Oxygen: 6.08 mg/L
 pH: 7.04 S.U.
 ORP: 42.4 mV
 Turbidity: 3.51 NTU
 CALIBRATION CHECK
 Standard (conc.) Reading Mark if Recalibrated
 Specific Cond. _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Appearance of Sample: clear
 Time: 1105
 Sample Duplicate?: NO
 Sample Method: 10.1 flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	250 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate (on wells MW-13D, MP-1D, and MP-2S)
	ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): [Signature]

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-222
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 19.84
 Elevation of Water: _____
 Date: 9/11/17 Time: 1158
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER
 Date: 9/11/17 Start Time: 1200
 Measured Well Depth: _____ Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1210	19.89	0.05	342	10.33	639	8.08	6.82	171.9	2.44
1215	19.89	0.05	342	10.28	638	7.91	6.80	172.3	2.03
1220	19.84	0.05	328	10.35	637	7.82	6.77	173.2	250
1225	19.84	0.05	330	10.15	636	7.76	6.83	171.0	3.39

Total Volume Purged (gal): 2.25
 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1225
 Temperature: 10.15 deg. C
 Specific Conductance: 636 umhos/cm
 Dissolved Oxygen: 7.76 mg/L
 pH: 6.83 S.U.
 ORP: 171.0 mV
 Turbidity: 3.39 NTU
 CALIBRATION CHECK
 Standard (conc.) Reading Mark if Recalibrated
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Appearance of Sample: Clear
 Time: 1230
 Sample Duplicate?: no
 Sample Method: Low Flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
1	250 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate (on wells MW-13D, MP-1D, and MP-2S)
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): _____ Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-23d
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Date: 9/11/17 Time: 1405
 Top of Casing Elevation: _____
 Depth to Water: 18.90
 Elevation of Water: _____
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER
 Date: 9/11/17 Start Time: 1410
 Measured Well Depth: 32.65
 Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1420	20.79		204	12.10	883	4.41	7.08	170.1	8.50
1425	20.97		158	12.29	887	3.61	7.04	169.8	5.92
1430	20.99		160	12.56	877	3.14	7.10	167.6	6.32
1435	20.99		"	12.45	902	2.95	7.04	166.7	6.42
1440	21.02		"	12.49	902	2.87	7.00	167.8	6.81

Total Volume Purged (gal): 1.25
 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP.GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1440
 Temperature: 12.49 deg. C
 Specific Conductance: 902 umhos/cm
 Dissolved Oxygen: 2.87 mg/L
 pH: 7.00 S.U.
 ORP: 167.8 mV
 Turbidity: 6.81 NTU
 CALIBRATION CHECK
 Standard (conc.) Reading Mark if Recalibrated
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Appearance of Sample: clear Time: 1440
 Sample Duplicate?: no
 Sample Method: 101F (low)

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfonate
1	250 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate (on wells MW-13D, MP-1D, and MP-2S)
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Chain of Custody No. _____
 Name (SIGNATURE): _____ Name (SIGNATURE): _____

*Note: New tubing in well - no tubing.

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: MERIT HARTLAND
 Sample ID: MW-1D
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIATED
 Is reference mark visible? YES NO REMEDIATED use North side
 Standing water present? YES NO REMEDIATED
 Indication of surface runoff in well? YES NO REMEDIATED
 Repair Notes:
 Is cement pad in good repair? YES NO REMEDIATED N/A
 Is protective casing locked and in good repair? YES NO REMEDIATED N/A
 Is inner cap in place and properly sealing well? YES NO REMEDIATED
 Is well casing in visibly good repair? YES NO REMEDIATED

STATIC WATER LEVEL

Top of Casing Elevation:
 Depth to Water: 20.10' b10c
 Elevation of Water:
 Date: 9/13/17 Time: 1038
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER
 Date: 9/13/17 Start Time: 1040
 Measured Well Depth: N/A Screen Length: 5' Depth to Screen Midpoint: N/A

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
<u>initial</u>	<u>20.10</u>								
<u>1045</u>	<u>20.21</u>	<u>0.11</u>	<u>150 ml</u>	<u>13.73</u>	<u>0.912</u>	<u>1.19</u>	<u>6.98</u>	<u>30.4</u>	<u>4.39</u>
<u>1050</u>	<u>20.21</u>	<u>0.11</u>	<u>150 ml</u>	<u>14.07</u>	<u>0.916</u>	<u>1.09</u>	<u>6.93</u>	<u>36.3</u>	<u>3.99</u>
<u>1055</u>	<u>20.21</u>	<u>0.11</u>	<u>150 ml</u>	<u>13.91</u>	<u>0.923</u>	<u>0.97</u>	<u>6.97</u>	<u>35.2</u>	<u>4.49</u>
<u>1100</u>	<u>20.21</u>	<u>0.11</u>	<u>150 ml</u>	<u>14.02</u>	<u>0.927</u>	<u>0.88</u>	<u>7.05</u>	<u>31.1</u>	<u>3.07</u>
<u>1105</u>	<u>20.21</u>	<u>0.11</u>	<u>150 ml</u>	<u>14.05</u>	<u>0.926</u>	<u>0.88</u>	<u>7.04</u>	<u>31.9</u>	<u>2.99</u>

Total Volume Purged (gal): 2 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1107
 Temperature: 14.11 deg. C
 Specific Conductance: 0.926 umhos/cm
 Dissolved Oxygen: 0.91 mg/L
 pH: 7.03 S.U.
 ORP: 32.2 mV
 Turbidity: 2.98 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond:	umhos/cm	<input type="checkbox"/>
Dissolved Oxygen:	mg/L	<input type="checkbox"/>
pH:	S.U.	<input type="checkbox"/>
Oh:	mV	<input type="checkbox"/>
Turbidity:	NTU	<input type="checkbox"/>

SAMPLE COLLECTION

Appearance of Sample: clear; no obs. particulates Time: 1110
 Sample Duplicate?: N
 Sample Method: LOW = LOW

NO./BOTTLES	SIZE	TYPE	FILTERED:	PRESERVATIVE:	PARAMETER:
<u>1</u>	<u>1000</u> ml	<input checked="" type="checkbox"/> glass <input checked="" type="checkbox"/> plastic	yes <input checked="" type="checkbox"/> no <input type="checkbox"/>	<u>None</u> HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	<u>Sulfate</u>
<u>1</u>	<u>250</u> ml	<input checked="" type="checkbox"/> glass <input checked="" type="checkbox"/> plastic	yes <input checked="" type="checkbox"/> no <input type="checkbox"/>	<u>None</u> HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	<u>Sulfate (on wells MW-130, MP-1D, and MP-25)</u>
		<input type="checkbox"/> glass <input type="checkbox"/> plastic	yes <input type="checkbox"/> no <input type="checkbox"/>	<u>None</u> HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		<input type="checkbox"/> glass <input type="checkbox"/> plastic	yes <input type="checkbox"/> no <input type="checkbox"/>	<u>None</u> HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		<input type="checkbox"/> glass <input type="checkbox"/> plastic	yes <input type="checkbox"/> no <input type="checkbox"/>	<u>None</u> HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		<input type="checkbox"/> glass <input type="checkbox"/> plastic	yes <input type="checkbox"/> no <input type="checkbox"/>	<u>None</u> HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		<input type="checkbox"/> glass <input type="checkbox"/> plastic	yes <input type="checkbox"/> no <input type="checkbox"/>	<u>None</u> HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		<input type="checkbox"/> glass <input type="checkbox"/> plastic	yes <input type="checkbox"/> no <input type="checkbox"/>	<u>None</u> HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		<input type="checkbox"/> glass <input type="checkbox"/> plastic	yes <input type="checkbox"/> no <input type="checkbox"/>	<u>None</u> HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		<input type="checkbox"/> glass <input type="checkbox"/> plastic	yes <input type="checkbox"/> no <input type="checkbox"/>	<u>None</u> HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): Jamie Howard Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: MERIT HARTLAND
 Sample ID: MW-2S
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIATED
 Is reference mark visible? YES NO REMEDIATED *N/A use north side*
 Standing water present? YES NO REMEDIATED
 Indication of surface runoff in well? YES NO REMEDIATED
 Repair Notes:
 Is cement pad in good repair? YES NO REMEDIATED *N/A*
 Is protective casing locked and in good repair? YES NO REMEDIATED
 Is inner cap in place and properly sealing well? YES NO REMEDIATED
 Is well casing in visibly good repair? YES NO REMEDIATED

STATIC WATER LEVEL

Date: 9/13/17 Time: 11:18
 Top of Casing Elevation: _____
 Depth to Water: 18.80
 Elevation of Water: _____
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER
 Date: 9/13/17 Start Time: 11:20

Measured Well Depth: _____ Screen Length: 5' Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
initial	18.80								
1125	18.87	0.07	150ml	15.41	0.786	1.47	6.95	55.9	light brown
1130	18.87	0.07	150ml	15.69	0.727	0.98	6.94	67.9	light brown
1135	18.87	0.07	150	15.83	0.774	0.80	6.98	63.3	25.2
1140	18.87	0.07	150	16.00	0.775	0.76	7.09	51.2	24.7
1145	18.87	0.07	150	16.07	0.775	1.04	7.09	46.2	17.7
1150	18.87	0.07	150	16.00	0.773	1.04	7.13	51.7	10.1
1155	18.87	0.07	150	16.41	0.778	0.90	7.24	45.1	24.4
1200	18.87	0.07	150	15.43	0.761	0.95	7.15	47.8	21.3
									8.67
									9.24

Total Volume Purged (gal): _____
** poly tube slip prod, coiled up sediment*
 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10%
 (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 12:03
 Temperature: 14.39 deg. C
 Specific Conductance: 0.749 umhos/cm
 Dissolved Oxygen: 0.09 mg/L
 pH: 6.99 S.U.
 ORP: 57.8 mV
 Turbidity: 9.24 NTU

CALIBRATION CHECK		Mark if Recalibrated
Standard (conc.)	Reading	
Specific Cond.	umhos/cm	
Dissolved Oxygen	mg/L	
pH	S.U.	
Orp	mV	
Turbidity	NTU	

SAMPLE COLLECTION

Time: 12:05 Sample Duplicate?: No
 Appearance of Sample: clean, slight tan tint, no obs. particulates Sample Method: Low Flow

NO. BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
1	250 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate (on wells MW-13D, MP-1D, and MP-2S)
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: ~~Superfund~~ Merit Hartland Monitoring Location: MW-15dd
 LOCATION: St Johns, MI Sample ID: MW-15dd
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is cement pad in good repair? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED
 Repair Notes: _____

STATIC WATER LEVEL

Date: 9/21/17 Time: 1400
 Top of Casing Elevation: _____
 Depth to Water: 20.73 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Elevation of Water: _____ Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 9/21/17 Start Time: 1421
 Measured Well Depth: 59.93 Screen Length: 5' Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1450	20.74	.01	200	16.24	921	0.52	6.84	164.8	2.78
1455	20.74	.01	236	15.28	921	0.54	6.85	161.4	1.58
1500	20.74	.01	250	15.16	903	1.36	6.82	156.9	5.32
1505	20.74	.01	260	14.33	910	1.08	6.83	156.0	4.32
1510	20.74	.01	"	14.37	903	0.83	6.85	154.5	4.69
1515	20.76	.03	420	13.29	913	0.63	6.84	154.4	2.43
1520	20.76	.03	"	12.81	901	0.63	6.84	150.4	4.69
1525	20.76	.03	450	12.87	906	0.70	6.83	148.2	10.3
1533	20.77	.04	428	12.24	919	0.71	6.84	145.9	17.0
1540	20.76	.03	"	12.86	918	0.68	6.85	141.8	18.4
1550	20.76	.03	435	13.05	917	0.64	6.86	138.6	7.13
1555	20.76	.03	440	12.70	921	0.65	6.86	136.9	4.47

Stabilization Criteria: Temp +/- 3%, Spec Cond +/- 3%, Diss Oxy +/- 10%, pH +/- 0.1 Units, ORP +/- 10 mV, Turbidity +/- 10%
 Total Volume Purged (gal): 738

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FIELD ANALYSIS

Time: 1555 12.70
 Temperature: 13.07 deg. C
 Specific Conductance: 921 umhos/cm
 Dissolved Oxygen: 0.65 mg/L
 pH: 6.86 S.U.
 ORP: 136.9 mV
 Turbidity: 4.47 NTU

CALIBRATION CHECK
 Standard (conc) Reading
 Specific Cond: 1413 → 1367 umhos/cm
 Dissolved Oxygen: 7.30/6.6 → 5.03 mg/L
 pH: 7.00 → 7.07 S.U.
 Eh: 220 → 19.97 mV
 Turbidity: _____ NTU

Mark if Recalibrated: X

SAMPLE COLLECTION

Time: 1600 Sample Duplicate?: NO
 Appearance of Sample: clear, effluence Sample Method: Low Flow

NO. BOTTLES	SIZE	TYPE	FILTERED	PRESERVATIVE	PARAMETER
<u>2</u>	<u>1000</u>	<u>glass plastic</u>	<u>yes no</u>	<u>None HCl, HNO3, NaOH, H2SO4, ZnAc, TSP, BAK</u>	<u>VOCs</u>
		<u>glass plastic</u>	<u>yes no</u>	<u>None HCl, HNO3, NaOH, H2SO4, ZnAc, TSP, BAK</u>	<u>Sulfate</u>
		<u>glass plastic</u>	<u>yes no</u>	<u>None HCl, HNO3, NaOH, H2SO4, ZnAc, TSP, BAK</u>	
		<u>glass plastic</u>	<u>yes no</u>	<u>None HCl, HNO3, NaOH, H2SO4, ZnAc, TSP, BAK</u>	
		<u>glass plastic</u>	<u>yes no</u>	<u>None HCl, HNO3, NaOH, H2SO4, ZnAc, TSP, BAK</u>	
		<u>glass plastic</u>	<u>yes no</u>	<u>None HCl, HNO3, NaOH, H2SO4, ZnAc, TSP, BAK</u>	
		<u>glass plastic</u>	<u>yes no</u>	<u>None HCl, HNO3, NaOH, H2SO4, ZnAc, TSP, BAK</u>	
		<u>glass plastic</u>	<u>yes no</u>	<u>None HCl, HNO3, NaOH, H2SO4, ZnAc, TSP, BAK</u>	
		<u>glass plastic</u>	<u>yes no</u>	<u>None HCl, HNO3, NaOH, H2SO4, ZnAc, TSP, BAK</u>	
		<u>glass plastic</u>	<u>yes no</u>	<u>None HCl, HNO3, NaOH, H2SO4, ZnAc, TSP, BAK</u>	

SAMPLING PERSONNEL

Name (SIGNATURE): Jan Barthe Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW- 1
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? N/A
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: ~~21.33~~ 21.33
 Elevation of Water: _____
 Date: 12/24/17 Time: 0941
 Measured with: ELECTRONIC TAP CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____
 Date: 12/24/17 Start Time: 0941

Measured Well Depth: _____ Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
0941 START	21.33								
0954	21.39	0.06	300	14.5	652.4	7.43	6.60	235.5	0.60
1000	"	"	"	14.4	649.1	7.13	6.67	234.6	0.60
1006	"	"	"	14.6	642.6	7.43	6.72	218.1	"
1012	"	"	"	14.2	637.1	7.22	6.78	212.2	"
1016	"	"	"	14.3	637.3	6.36	6.76	212.2	"
1023	"	"	"	14.5	633.7	6.45	6.78	208.6	"
1028	"	"	"	14.7	633.7	6.83	6.78	206.7	"
1028 COLLECT SAMPLE									

Total Volume Purged (gal): 23 GALS
 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: _____
 Temperature: _____ deg C
 Specific Conductance: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 ORP: _____ mV
 Turbidity: _____ NTU
 CALIBRATION CHECK
 Standard (conc.) Reading Mark if Recalibrated
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Appearance of Sample: CLEAR
 Time: 1028
 Sample Duplicate?: NO
 Sample Method: _____

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	250 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): _____ Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW- 2
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? N/A YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Date: 12/19/17 Time: 1002
 Depth to Water: 19.70
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Elevation of Water: _____
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER
 Date: 12/19/17 Start Time: 1002
 Measured Well Depth: _____ Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1002	START 19.70								
1011	19.81	0.11	200	11.6	752	7.87	6.66	202.1	4.91
1020	19.82	0.12	"	11.7	754	7.89	6.66	201.5	3.17
1028	19.82	0.12	"	11.5	754	8.56	6.67	201.4	
1035	19.82		"	11.4	753	8.73	6.55	207.9	1.68
1045	19.83		"	11.6	749	8.75	6.66	202.0	1.68
1050		0.13	"	11.6	756	8.76	6.66	202.7	1.66
1050	SAMPLE								

Total Volume Purged (gal): 2.2
 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10 %
 (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: _____
 Temperature: _____ deg. C
 Specific Conductance: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 ORP: _____ mV
 Turbidity: _____ NTU
 CALIBRATION CHECK
 Standard (conc.) Reading Mark if Recalibrated
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Appearance of Sample: CLEAR Time: 1050
 Sample Duplicate?: _____
 Sample Method: _____

NO. BOTTLES	SIZE	TYPE	FILTERED	PRESERVATIVE	PARAMETER
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	250 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): CRAIG J SIMON

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-30
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? N/A YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Date: 12/19/17 Time: 0940
 Depth to Water: 13.83'
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Elevation of Water: _____
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____
 Date: 12/19/17 Start Time: 0943

Measured Well Depth: _____ Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
0943	START 18.63'								
0944	20.19	1.36	300	11.0	895	3.38	6.51	257.2	13.6
0945	20.16		150	10.9	895	3.43	6.58	246.3	10.0
0946	20.17		"	10.9	895	5.45	6.64	236.0	5.47
0947	20.20		"	10.9	896	5.51	6.66	231.1	
0948	20.21		"	10.9	896	5.19	6.66	236.1	4.02
0949	20.23		"	11.0	895	5.02	6.68	224.7	3.81
0950	COLLECT SAMPLE								

REVIEW NOTE

Total Volume Purged (gal): ~3.5
 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10 %
 (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP.GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time:	Temperature:	Specific Conductance:	Dissolved Oxygen:	pH:	ORP:	Turbidity:	CALIBRATION CHECK	Mark if Recalibrated
_____ deg. C	_____ umhos/cm	_____ mg/L	_____ S.U.	_____ mV	_____ NTU	Standard (conc.)	Reading	
						Specific Cond.:	_____ umhos/cm	
						Dissolved Oxygen:	_____ mg/L	
						pH:	_____ S.U.	
						ORP:	_____ mV	
						Turbidity:	_____ NTU	

SAMPLE COLLECTION

Appearance of Sample: CLEAR Time: 0950 Sample Duplicate?: _____
 Sample Method: _____

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): _____ Chain of Custody No. _____
 Name (SIGNATURE): CRAIG J SIMON

WELL STABILIZED AFTER I REDUCED PUMP RATE TO 150-200 ml/min

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW- 3
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____

Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 22.45
 Elevation of Water: _____

Date: 12/19/17 Time: 1022
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____

Date: 12/19/17 Start Time: 1024

Measured Well Depth: 30.30 Screen Length: 5' Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umhos/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1045	22.55	.10	200	8.59	803	10.33	5.90	171.2	3.54
1050	22.55	.10	"	8.73	827	9.78	5.94	170.6	2.81
1055	22.55	.10	"	8.63	877	9.86	5.94	170.8	2.21
1100	22.55	.10	"	8.60	870	7.81	5.95	171.0	1.93

Total Volume Purged (gal): 2 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1100
 Temperature: 8.60 deg. C
 Specific Conductance: 878 umhos/cm
 Dissolved Oxygen: 9.81 mg/L
 pH: 5.95 S.U.
 ORP: 171.0 mV
 Turbidity: 1.93 NTU

CALIBRATION CHECK		Mark if Recalibrated
Standard (conc.)	Reading	
Specific Cond.	umhos/cm	<input checked="" type="checkbox"/>
Dissolved Oxygen	mg/L	<input checked="" type="checkbox"/>
pH	S.U.	<input checked="" type="checkbox"/>
Orp	mV	<input checked="" type="checkbox"/>
Turbidity	NTU	<input checked="" type="checkbox"/>

SAMPLE COLLECTION

Appearance of Sample: clean Time: 1100

Sample Duplicate?: no
 Sample Method: low flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	<u>250</u> ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW- 3d
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 22.80
 Elevation of Water: _____
 Date: 12/19/17 Time: 0924
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____
 Date: 12/19/17 Start Time: 0925
 Measured Well Depth: 34.5 Screen Length: 51 Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
<u>0940</u>	<u>25.73</u>		<u>216</u>	<u>9.31</u>	<u>871</u>	<u>2.62</u>	<u>6.52</u>	<u>60.3</u>	<u>11.7</u>
<u>0945</u>	<u>26.79</u>		<u>188</u>	<u>9.42</u>	<u>880</u>	<u>2.69</u>	<u>6.41</u>	<u>56.8</u>	<u>10.3</u>
<u>0950</u>	<u>25.80</u>		<u>182</u>	<u>9.40</u>	<u>896</u>	<u>2.57</u>	<u>6.33</u>	<u>53.8</u>	<u>9.3</u>
<u>0955</u>	<u>25.81</u>		<u>"</u>	<u>9.38</u>	<u>897</u>	<u>2.30</u>	<u>6.30</u>	<u>54.2</u>	<u>10.0</u>
<u>1000</u>	<u>25.81</u>		<u>"</u>	<u>9.21</u>	<u>896</u>	<u>2.08</u>	<u>6.26</u>	<u>57.8</u>	<u>5.99</u>
<u>1005</u>	<u>25.80</u>		<u>"</u>	<u>9.15</u>	<u>896</u>	<u>1.90</u>	<u>6.23</u>	<u>61.0</u>	<u>4.55</u>

Total Volume Purged (gal): 2.25 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1005
 Temperature: 9.15 deg C
 Specific Conductance: 896 umhos/cm
 Dissolved Oxygen: 1.90 mg/L
 pH: 6.23 S.U.
 ORP: 61.0 mV
 Turbidity: 4.55 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond.:	umhos/cm	
Dissolved Oxygen:	mg/L	
pH:	S.U.	
Eh:	mV	
Turbidity:	NTU	

SAMPLE COLLECTION

Appearance of Sample: clear Time: 1005 Sample Duplicate?: no
 Sample Method: low flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
<u>1</u>	<u>1000</u> ml	<u>glass plastic</u>	yes <u>no</u>	<u>None</u> HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
<u>1</u>	<u>250</u> ml	<u>glass plastic</u>	yes <u>no</u>	<u>None</u> HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
_____	_____ ml	_____ glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-4
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____

Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 22.70
 Elevation of Water: _____

Date: 12/20/17 Time: 14:20

Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____
 Date: 12/20/17 Start Time: 14:22

Measured Well Depth: 30.29 Screen Length: _____
 Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
14:50	22.71	0.01	~200	9.50	808	7.49	6.87	195.5	4.27
14:55	22.71	0.01	~200	10.12	807	6.90	6.87	191.7	3.55
15:00	22.71	0.01	~200	9.92	806	7.05	6.87	189.1	3.00
15:05	22.71	0.01	~200	9.96	805	7.10	6.88	187.5	3.18
15:05 (circled)									

Total Volume Purged (gal): ~1.5

Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10%
 (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 15:05
 Temperature: 9.96 deg C
 Specific Conductance: 805 umhos/cm
 Dissolved Oxygen: 7.10 mg/L
 pH: 6.88 S.U.
 ORP: 187.5 mV
 Turbidity: 3.18 NTU

CALIBRATION CHECK

Standard (conc.)	Reading	Mark if Recalibrated
Specific Cond:	umhos/cm	
Dissolved Oxygen:	mg/L	
pH:	S.U.	
Or:	mV	
Turbidity:	NTU	

SAMPLE COLLECTION

Appearance of Sample: clear Time: 15:05
 Sample Duplicate?: NO
 Sample Method: LOW-FLOW

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): *Mason* Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW- 6
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____

Is cement pad in good repair? N/A YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 23.86
 Elevation of Water: _____

Date: 12/30/17 Time: 1415

Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 12/30/17 Start Time: 1415

Measured Well Depth: _____ Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1415 <u>START</u>	<u>23.86</u>								
1435	<u>23.95</u>	<u>φ.09</u>	<u>25φ</u>	<u>10.2</u>	<u>753</u>	<u>5.9φ</u>	<u>6.66</u>	<u>187.4</u>	<u>φ.φφ</u>
1433	"	"	"	<u>10.1</u>	<u>773</u>	<u>3.58</u>	<u>6.7φ</u>	<u>186.9</u>	
144φ	<u>23.94</u>	<u>φ.08</u>	"	<u>10.1</u>	<u>781</u>	<u>3.38</u>	<u>6.7φ</u>	<u>187.1</u>	<u>φ.φφ</u>
1448	<u>23.94</u>	"	"	<u>10.φ</u>	<u>77φ</u>	<u>3.28</u>	<u>6.71</u>	<u>188.3</u>	<u>φ.φφ</u>
1453	"	"	"	<u>10.3</u>	<u>769</u>	<u>2.99</u>	<u>6.71</u>	<u>188.6</u>	<u>φ.160</u>
SAMPLE									

Total Volume Purged (gal): ~2.5 gals Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10 %
 (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: _____
 Temperature: _____ deg. C
 Specific Conductance: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 ORP: _____ mV
 Turbidity: _____ NTU

CALIBRATION CHECK

Standard (conc.)	Reading	Mark if Recalibrated
Specific Cond.: _____	_____ umhos/cm	_____
Dissolved Oxygen: _____	_____ mg/L	_____
pH: _____	_____ S.U.	_____
Eh: _____	_____ mV	_____
Turbidity: _____	_____ NTU	_____

SAMPLE COLLECTION

Appearance of Sample: CLEAR Time: 1453 Sample Duplicate?: YES 115 AND 1150
 Sample Method: _____

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfotane
1	<u>25φ-125</u> ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW- CoD
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? N/A YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Date: 12/24/17 Time: 1511
 Depth to Water: 23.97
 Measured with: ELECTRONIC TAP CHALKED TAPE OTHER
 Elevation of Water: _____
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____
 Date: 12/24/17 Start Time: 1511
 Measured Well Depth: _____ Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
<u>1511 START</u>	<u>23.97</u>								
<u>1525</u>	<u>23.97</u>	<u>0</u>	<u>350</u>	<u>9.9</u>	<u>695.4</u>	<u>6.55</u>	<u>6.78</u>	<u>182.4</u>	<u>0.00</u>
<u>1535</u>	<u>23.98</u>	<u>0.01</u>	<u>"</u>	<u>9.5</u>	<u>702.5</u>	<u>9.00</u>	<u>6.90</u>	<u>175.9</u>	<u>0.00</u>
<u>1540</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>9.3</u>	<u>703.6</u>	<u>9.60</u>	<u>6.92</u>	<u>175.3</u>	
<u>1546</u>	<u>23.98</u>	<u>0.01</u>	<u>"</u>	<u>9.3</u>	<u>704.0</u>	<u>9.76</u>	<u>6.92</u>	<u>175.5</u>	<u>0.00</u>
<u>1552</u>	<u>23.98</u>	<u>"</u>	<u>"</u>	<u>9.3</u>	<u>703.6</u>	<u>9.67</u>	<u>6.93</u>	<u>175.6</u>	<u>0.00</u>
<u>1557</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>9.2</u>	<u>703.5</u>	<u>9.26</u>	<u>6.93</u>	<u>175.7</u>	<u>0.00</u>
<u>Stabilize</u>									

Total Volume Purged (gal): 3 gals
 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10%
 (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: _____
 Temperature: _____ deg. C
 Specific Conductance: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 ORP: _____ mV
 Turbidity: _____ NTU
 CALIBRATION CHECK
 Standard (conc.) Reading Mark If Recalibrated
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Appearance of Sample: CLEAR Time: 1557 Sample Duplicate?: No
 Sample Method: _____

NO./BOTTLES:	SIZE:	TYPE	FILTERED:	PRESERVATIVE:	PARAMETER:
<u>1</u>	<u>1000</u> ml	<input checked="" type="checkbox"/> glass <input type="checkbox"/> plastic	yes <input checked="" type="checkbox"/> no	<u>None</u> , HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	<u>Sulfone</u>
<u>1</u>	<u>125</u> ml	<input checked="" type="checkbox"/> glass <input type="checkbox"/> plastic	yes <input checked="" type="checkbox"/> no	<u>None</u> , HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	<u>Sulfate</u>
_____	_____ ml	_____ glass <input type="checkbox"/> plastic	yes <input type="checkbox"/> no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass <input type="checkbox"/> plastic	yes <input type="checkbox"/> no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass <input type="checkbox"/> plastic	yes <input type="checkbox"/> no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass <input type="checkbox"/> plastic	yes <input type="checkbox"/> no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass <input type="checkbox"/> plastic	yes <input type="checkbox"/> no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass <input type="checkbox"/> plastic	yes <input type="checkbox"/> no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass <input type="checkbox"/> plastic	yes <input type="checkbox"/> no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass <input type="checkbox"/> plastic	yes <input type="checkbox"/> no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-7D
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____

Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____ Date: 15:40 Time: 12/19/17
 Depth to Water: 28.08
 Elevation of Water: _____ Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 12/19/17 Start Time: 15:43
 Measured Well Depth: 49.40 Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
16:00	28.10	0.02	~200	10.29	943	2.14	7.00	190.5	7.28
16:05	28.10	0.02	~200	10.29	942	1.04	6.93	188.9	8.51
16:10	28.10	0.02	~200	10.05	943	0.92	6.91	187.9	6.58
16:15	28.10	0.02	~200	9.96	944	0.90	6.90	187.2	4.64
16:20	28.10	0.02	~200	9.95	944	0.89	6.88	185.3	3.65

Total Volume Purged (gal): ~1.25 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10%
 (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 16:20
 Temperature: 9.95 deg. C
 Specific Conductance: 944 umhos/cm
 Dissolved Oxygen: 0.89 mg/L
 pH: 6.88 S.U.
 ORP: 185.3 mV
 Turbidity: 3.65 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond.:	umhos/cm	
Dissolved Oxygen:	mg/L	
pH:	S.U.	
Eh:	mV	
Turbidity:	NTU	

SAMPLE COLLECTION

Appearance of Sample: clear Time: 16:20 Sample Duplicate?: NO
 Sample Method: LOW FLOW

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfoglucose
1	125 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-8
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____

Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 27.52
 Elevation of Water: _____

Date: 12/20/17 Time: 12:15

Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____
 Date: 12/20/17 Start Time: 12:18

Measured Well Depth: 32.10 Screen Length: _____
 Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
12:40	27.80	0.28	~200	9.15	876	6.72	6.80	181.0	4.30
12:45	27.81	0.29	~200	9.14	875	6.31	6.79	180.3	3.41
12:50	27.81	0.29	~200	9.08	875	6.34	6.78	180.0	3.71

Total Volume Purged (gal): ~1.25 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time:	Temperature:	Specific Conductance:	Dissolved Oxygen:	pH:	ORP:	Turbidity:	Standard (conc.):	Reading:	Mark if Recalibrated:
12:50	9.08 deg. C	875 umhos/cm	6.34 mg/L	6.78 S.U.	180.0 mV	3.71 NTU	Specific Cond:	umhos/cm	
							Dissolved Oxygen:	mg/L	
							pH:	S.U.	
							Eh:	mV	
							Turbidity:	NTU	

SAMPLE COLLECTION

Appearance of Sample: clear Time: 12:50 Sample Duplicate?: NO Sample Method: low flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-9
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____

Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 29.33
 Elevation of Water: _____

Date: 12/20/17 Time: 13:05

Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 12/20/17 Start Time: 13:10

Measured Well Depth: 31.10 Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
13:25	29.40	0.07	~150	9.59	887	0.84	6.95	177.3	67.0
13:30	29.40	0.07	~150	8.95	894	6.46*	7.01	173.7	79.8
13:35	29.44	0.07	~150	9.40	886	1.28	6.95	175.1	87.8
13:40	29.44	0.11	~150	9.40	885	0.61	6.92	175.9	32.9
13:45	29.42	0.09	~150	9.62	884	0.58	6.90	176.1	16.6
13:50	29.42	0.09	~150	9.29	887	0.65	6.91	176.2	12.7
13:55	29.42	0.09	~150	9.02	884	0.56	6.91	176.1	8.04
14:00	29.42	0.09	~150	9.23	885	0.56	6.90	176.4	4.66
14:05	29.42	0.09	~150	9.21	885	0.57	6.88	178.4	4.48

Total Volume Purged (gal): ~1.5

Stabilization Criteria: +/- 3% ✓ +/- 3% ✓ +/- 10% (if > 0.5 mg/l) ✓ +/- 0.1 Units ✓ +/- 10 mV ✓ +/- 10% (if > 5 NTU) ✓

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 14:05

Temperature: 9.21 deg. C

Specific Conductance: 885 umhos/cm

Dissolved Oxygen: 0.57 mg/L

pH: 6.88 S.U.

ORP: 178.4 mV

Turbidity: 4.48 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond.: _____	_____ umhos/cm	_____
Dissolved Oxygen: _____	_____ mg/L	_____
pH: _____	_____ S.U.	_____
Eh: _____	_____ mV	_____
Turbidity: _____	_____ NTU	_____

SAMPLE COLLECTION

Appearance of Sample: Clear Time: 14:05 Sample Duplicate?: NO Sample Method: low flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfane
1	125 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate

SAMPLING PERSONNEL

Name (SIGNATURE): *Manna* Chain of Custody No. _____
 Name (SIGNATURE): _____

*Air bubbles observed. I moved tube up (for turb. reasons) but I think air got into the tubing.

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-10
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 22.95
 Elevation of Water: _____
 Date: 12/20/17 Time: 11:00
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____
 Date: 12/20/17 Start Time: 11:05
 Measured Well Depth: 27.10 Screen Length: _____
 Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
11:20	23.63	0.68	~200	9.77	710	9.26	7.37	194.8	3.73
11:25	23.71	0.76	~200	9.7	719	9.02	7.34	187.9	3.27
11:30	23.78	0.83	~200	8.43	723	8.58	7.30	184.5	3.21
11:35	23.81	0.86	~180	9.30	712	8.72	7.24	182.5	2.92
11:40	23.89	0.94	~180	10.56	719	8.37	7.25	180.3	2.79
11:45	24.02	1.07	~180	10.32	723	8.25	7.24	178.7	2.59
11:50	24.11	1.16	~180	10.48	722	7.95	7.23	176.9	2.51

Total Volume Purged (gal): ~1.5
 Stabilization Criteria: +/- 3% ✓ +/- 3% ✓ +/- 10% ✓ +/- 0.1 Units ✓ +/- 10 mV ✓ +/- 10% ✓
 (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 11:50
 Temperature: 10.48 deg C
 Specific Conductance: 722 umhos/cm
 Dissolved Oxygen: 7.95 mg/L
 pH: 7.23 S.U.
 ORP: 176.9 mV
 Turbidity: 2.51 NTU
 CALIBRATION CHECK
 Standard (conc.) Reading Recalibrated
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Appearance of Sample: CLEAR Time: 11:50
 Sample Duplicate?: NO
 Sample Method: LOW-FLOW

NO./BOTTLES:	SIZE:	TYPE	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): *Maura A* Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-11
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 23.49
 Elevation of Water: _____
 Date: 12/19/17 Time: 10:30
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____
 Date: 12/19/17 Start Time: 10:35
 Measured Well Depth: 29.80 Screen Length: _____
 Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
10:50	23.51	0.02	~200	11.19	1027	8.26	6.80	186.5	2.79
10:55	23.51	0.02	~200	11.41	1029	7.54	6.66	172.1	1.53
11:00	23.51	0.02	~200	11.29	1030	6.78	6.64	169.0	1.51
11:05	23.51	0.02	~200	11.43	1029	5.77	6.62	166.6	1.59
11:10	23.51	0.02	~200	11.52	1027	5.27	6.63	165.0	1.41
11:15	23.51	0.02	~200	11.69	1024	5.09	6.61	165.3	1.35
11:20	23.51	0.02	~200	11.73	1024	5.04	6.61	166.0	1.33

Total Volume Purged (gal): ~1.5
 Stabilization Criteria: +/- 3% ✓ +/- 3% ✓ +/- 10% (if > 0.5 mg/l) +/- 0.1 Units ✓ +/- 10 mV ✓ +/- 10% (if > 5 NTU) ✓

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 11:20
 Temperature: 11.73 deg. C
 Specific Conductance: 1024 umhos/cm
 Dissolved Oxygen: 5.04 mg/L
 pH: 6.61 S.U.
 ORP: 166.0 mV
 Turbidity: 1.33 NTU
 CALIBRATION CHECK
 Standard (conc.) Reading Mark if Recalibrated
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Appearance of Sample: clear
 Time: 11:20
 Sample Duplicate?: NO
 Sample Method: low flow

NO./BOTTLES	SIZE	TYPE	FILTERED	PRESERVATIVE	PARAMETER
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): *M. Ann*
 Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-125
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes

Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 24.56
 Elevation of Water: _____

Date: 12/20/17 Time: 15:18
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____

Date: 12/20/17 Start Time: 15:22

Measured Well Depth: 28.50 Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
15:35	24.59	0.03	~200	9.73	747	4.54	6.06	179.0	5.45
15:40	24.59	0.03	~200	9.78	746	4.00	6.85	180.1	4.93
15:45	24.59	0.03	~200	9.81	746	3.75	6.95	180.5	5.00
15:50	24.59	0.03	~200	9.71	745	3.98	6.85	181.6	3.50

Total Volume Purged (gal): ~1.25 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10%
 (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 15:50
 Temperature: 9.71 deg C
 Specific Conductance: 745 umhos/cm
 Dissolved Oxygen: 3.98 mg/L
 pH: 6.85 S.U.
 ORP: 181.6 mV
 Turbidity: 3.50 NTU

CALIBRATION CHECK		Mark if Recalibrated
Standard (conc.)	Reading	
Specific Cond.: _____	_____ umhos/cm	
Dissolved Oxygen: _____	_____ mg/L	
pH: _____	_____ S.U.	
Eit: _____	_____ mV	
Turbidity: _____	_____ NTU	

SAMPLE COLLECTION

Appearance of Sample: clear Time: 15:50

Sample Duplicate?: NO
 Sample Method: LOW-FLOW

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): *M. Calk*

Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-13
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 22.01
 Elevation of Water: _____
 Date: 12/20/17 Time: 1415
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____
 Date: 12/20/17 Start Time: 1418
 Measured Well Depth: 30.3 Screen Length: 51
 Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1440	22.11	.10	260	9.77	663	12.93	7.45	105.4	7.53
1445	22.11	.10	11	9.87	662	12.87	7.43	106.9	8.99
1450	22.11	.10	11	9.64	664	12.93	7.39	110.6	7.84
1455	22.11	.10	11	9.06	676	13.79	7.34	115.6	6.26

Total Volume Purged (gal): 2.75 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10 %
 (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1455
 Temperature: 9.06 deg C
 Specific Conductance: 6.76 umhos/cm
 Dissolved Oxygen: 13.79 mg/L
 pH: 7.34 S.U.
 ORP: 115.6 mV
 Turbidity: 6.26 NTU

CALIBRATION CHECK		Mark if Recalibrated
Standard (conc.)	Reading	
Specific Cond.	umhos/cm	/
Dissolved Oxygen	mg/L	
pH	S.U.	
Eh	mV	
Turbidity	NTU	

SAMPLE COLLECTION

Appearance of Sample: clear Time: 1500
 Sample Duplicate?: NO
 Sample Method: 1 gal flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): _____ Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW- 145
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIATED
 Is reference mark visible? YES NO REMEDIATED
 Standing water present? YES NO REMEDIATED
 Indication of surface runoff in well? YES NO REMEDIATED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIATED
 Is protective casing locked and in good repair? YES NO REMEDIATED
 Is inner cap in place and properly sealing well? YES NO REMEDIATED
 Is well casing in visibly good repair? YES NO REMEDIATED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 21.17
 Elevation of Water: _____
 Date: 12/19/17 Time: 1505
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____
 Date: 12/19/17 Start Time: 1512
 Measured Well Depth: 26.46 Screen Length: 5' Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
15:40	21.22	.05	232	9.67	959	5.67	6.47	110.6	3.23
15:45	21.25	.11	245	9.71	960	5.22	6.48	111.4	3.29
15:50	21.29	.12	250	10.00	962	4.64	6.50	111.2	2.62
15:55	21.29	.12	"	9.97	969	3.03	6.51	111.3	2.52
16:00	21.29	.12	240	9.97	971	3.07	6.50	111.8	2.67
16:05	21.29	.12	"	9.96	971	2.50	6.49	112.6	2.28
16:10	21.29	.12	243	9.84	980	2.28	6.49	113.3	2.29
16:15	21.29	.12	"	9.62	984	2.05	6.48	114.2	2.05

Total Volume Purged (gal): 3.25 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10 %
 (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1610
 Temperature: 9.62 deg. C
 Specific Conductance: 984 umhos/cm
 Dissolved Oxygen: 2.05 mg/L
 pH: 6.48 S.U.
 ORP: 114.2 mV
 Turbidity: 2.05 NTU
 CALIBRATION CHECK
 Standard (conc.) Reading Mark if Recalibrated
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Appearance of Sample: clear Time: 1615 Sample Duplicate?: no
 Sample Method: low flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-14d
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 23.66
 Elevation of Water: _____
 Date: 12/19/17 Time: 1405
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____
 Date: 12/19/17 Start Time: 1409
 Measured Well Depth: 44.20 Screen Length: 5' Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1430	23.68	.02	250	8.52	822	0.72	6.56	68.9	13.3
1435	23.68	.02	11	8.68	819	0.61	6.49	67.2	4.08
1440	23.68	"	11	8.81	816	0.48	6.49	62.8	4.08
1445	23.68	"	11	8.72	813	0.47	6.47	60.1	3.89
1450	23.68	"	11	8.90	814	0.45	6.50	57.8	3.40

Total Volume Purged (gal): 25
 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1450
 Temperature: 8.90 deg. C
 Specific Conductance: 814 umhos/cm
 Dissolved Oxygen: 0.45 mg/L
 pH: 6.50 S.U.
 ORP: 57.8 mV
 Turbidity: 3.40 NTU
 CALIBRATION CHECK

Standard (conc.)	Reading	Mark if Recalibrated
Specific Cond.:	umhos/cm	<input checked="" type="checkbox"/>
Dissolved Oxygen:	mg/L	<input checked="" type="checkbox"/>
pH:	S.U.	<input checked="" type="checkbox"/>
Oh:	mV	<input checked="" type="checkbox"/>
Turbidity:	NTU	<input checked="" type="checkbox"/>

SAMPLE COLLECTION

Appearance of Sample: clean, no residue
 Time: 1450
 Sample Duplicate?: yes, MW-14d
 Sample Method: 1st Flan

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
_____	_____ ml	glass plastic	yes <input type="checkbox"/> no <input type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes <input type="checkbox"/> no <input type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes <input type="checkbox"/> no <input type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes <input type="checkbox"/> no <input type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes <input type="checkbox"/> no <input type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes <input type="checkbox"/> no <input type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes <input type="checkbox"/> no <input type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes <input type="checkbox"/> no <input type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes <input type="checkbox"/> no <input type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): *John B...* Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-15
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? N/A YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 21.42
 Elevation of Water: _____
 Date: 12/19/17 Time: 1338
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____
 Date: 12/19/17 Start Time: 1330
 Measured Well Depth: _____ Screen Length: _____
 Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1338 START	21.42								
1353	21.28	0.20	2.00	11.7	476.5	12.58	7.17	131.5	46.4
1400	21.21	0.19	2.00	11.7	476.8	11.15	7.26	129.3	26.9
1406	21.21	"	"	11.5	473.1	11.00	7.29	130.0	46.2
1413	21.21	"	"	11.4	474.5	11.02	7.30	132.3	16.3
1415 SAMPLE									

Total Volume Purged (gal): _____
 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10 %
 (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc: USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: _____
 Temperature: _____ deg. C
 Specific Conductance: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 ORP: _____ mV
 Turbidity: _____ NTU
 CALIBRATION CHECK
 Standard (conc.) Reading Mark if Recalibrated
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Appearance of Sample: CLGTR Time: 1415
 Sample Duplicate?: _____
 Sample Method: _____

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): _____ Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-150
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? *N/A* YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 21.32
 Elevation of Water: _____
 Date: 12/19/17 Time: 1426
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____
 Date: 12/19/17 Start Time: 1426
 Measured Well Depth: _____ Screen Length: _____
 Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1426 START	21.32								
1437	21.38	0.06	250	10.9	595.7	4.97	7.08	143.3	13.9
1444	"	"	"	11.0	594.1	4.49	7.10	142.5	
1452	21.38	0.06	"	10.9	593.8	4.36	7.09	142.7	12.0
1500	21.39	0.07	"	11.0	594.0	4.19	7.05	144.9	15.4
1507	"	"	"	11.1	592.8	4.22	7.07	143.9	13.4
1510 SAMPLE									

Total Volume Purged (gal): _____
 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10 %
 (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: _____
 Temperature: _____ deg. C
 Specific Conductance: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 ORP: _____ mV
 Turbidity: _____ NTU
 CALIBRATION CHECK
 Standard (conc.) Reading Mark if Recalibrated
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Appearance of Sample: CLEAR Time: 1510 Sample Duplicate?: NO
 Sample Method: _____

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): _____ Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW- 1500
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes _____
 Is cement pad in good repair? N/A
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Date: 12/19/17 Time: 1839
 Depth to Water: 21.38
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Elevation of Water: _____
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____
 Date: 12/19/17 Start Time: 1839
 Measured Well Depth: _____ Screen Length: _____
 Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1839 START	21.38								
1249	21.38	φ	2φφ	1φ.8	758	φ.35	6.86	129.3	6.94
1257	21.39	φ.φ1	"	1φ.8	74φ	φ.27	6.89	1φ5.1	6.8φ
13φ4	21.39		"	1φ.9	816	φ.25	6.83	93.8	
13φ9	21.39		"	1φ.9	853	φ.61	6.83	91.3	4.3φ
1315	21.39	φ.φ1	"	1φ.9	859	φ.57	6.84	93.6	3.91
1321	21.39	φ.φ1	225	1φ.9	857	φ.54	6.84	95.5	3.44
1322 COLLECT SAMPLE									

Total Volume Purged (gal): _____
 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10 %
 (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: _____
 Temperature: _____ deg. C
 Specific Conductance: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 ORP: _____ mV
 Turbidity: _____ NTU
 CALIBRATION CHECK
 Standard (conc.) Reading Mark if Recalibrated
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Appearance of Sample: CLEAR Time: 1322
 Sample Duplicate?: YES MW1500 DUP
 Sample Method: _____

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
2	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
2	250 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): _____ Chain of Custody No. _____
 Name (SIGNATURE): _____

*WELL IS 3.5' S AND 1.25' E OF MW-15.

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-165
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 21.63
 Elevation of Water: _____
 Date: 12/24/17 Time: 1128
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____
 Date: 12/24/17 Start Time: 1128
 Measured Well Depth: _____ Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1136 START	21.63								
1138	22.06	0.43'	250	11.5	927	6.91	6.57	248.6	82.1
1144	22.08		240	11.4	730	7.41	6.58	244.7	
1150	22.16	0.47'	240	11.3	936	7.72	6.58	244.7	31.5
1156	22.49	0.46'	"	11.4	930	8.12	6.50	212.6	24.9
1201	22.14	0.47'	"	11.2	927	8.02	6.57	243.2	19.7
1207	22.14	"	"	11.3	925	8.02	6.57	243.0	16.9
1207 SAMPLE									
Total Volume Purged (gal): 2.5									
Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)									

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: _____
 Temperature: _____ deg. C
 Specific Conductance: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 ORP: _____ mV
 Turbidity: _____ NTU
 CALIBRATION CHECK
 Standard (conc.) Reading Mark If Recalibrated
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Appearance of Sample: CLEAR Time: 1201 Sample Duplicate?: _____
 Sample Method: _____

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): [Signature]

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW- 16D
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 22.24
 Elevation of Water: _____
 Date: 12/24/17 Time: 10:41
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____
 Date: 12/24/17 Start Time: 10:41
 Measured Well Depth: _____ Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
10:41 START	22.24								
10:57	22.64	0.45	300	10.2	627.8	6.53	6.78	243.7	0.00
11:04	"	"	225	10.3	624.4	5.96	6.87	197.8	1.13
11:10	22.66	0.44	"	10.4	621.6	5.82	6.91	195.6	0.99
11:16	22.66	"	"	10.2	617.9	5.96	6.92	194.3	0.00
11:21	"	"	"	10.3	616.9	5.99	6.93	193.9	0.00
SAMPLE									

Total Volume Purged (gal): 2.5
 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10 %
 (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: _____
 Temperature: _____ deg. C
 Specific Conductance: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 ORP: _____ mV
 Turbidity: _____ NTU
 CALIBRATION CHECK
 Standard (conc.) Reading
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU
 Mark if Recalibrated

SAMPLE COLLECTION

Appearance of Sample: CLEAR Time: 11:21 Sample Duplicate?: NO Sample Method: _____

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfajane
1	125 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): _____ Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co. Monitoring Location: _____
 LOCATION: 13390 Lone Tree Road Sample ID: MW- 172
 Hartland Township, Michigan Well Type: 2" PVC
 PROJECT: 130685.2000

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____

Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Date: 12/20/17 Time: 1033
 Top of Casing Elevation: _____
 Depth to Water: 21.89
 Elevation of Water: _____
 Measured with: ELECTRONIC TAP CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER
 Date: 12/20/17 Start Time: 1034
 Measured Well Depth: 40.50 Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1110	22.53	0.64	3.10	7.50	592	13.64	7.03	182.4	8.55
1115	22.53	0.64	"	7.06	604	12.36	7.02	181.3	6.84
1120	22.53	0.64	"	6.25	599	11.63	6.96	182.4	5.33
1125	22.53	0.64	"	7.62	655	9.21	6.94	180.1	4.24
1130	22.53	0.64	"	7.60	661	8.72	6.94	180.0	3.97
1135	22.54	0.65	3.75	7.79	669	8.10	6.95	178.7	2.62

Total Volume Purged (gal): ~6 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 5 NTU)

FIELD ANALYSIS

Time: 1135
 Temperature: 7.79 deg. C
 Specific Conductance: 669 umhos/cm
 Dissolved Oxygen: 8.10 mg/L
 pH: 6.95 S.U.
 ORP: 178.7 mV
 Turbidity: 2.62 NTU

CALIBRATION CHECK

Standard (conc.)	Reading	Mark if Recalibrated
Specific Cond.:	umhos/cm	
Dissolved Oxygen:	mg/L	
pH:	S.U.	
ORP:	mV	
Turbidity:	NTU	

SAMPLE COLLECTION

Time: _____ Appearance of Sample: clear, effervescence Sample Duplicate?: no Sample Method: low flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
				None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): _____ Chain of Custody No. _____ Name (SIGNATURE): _____



CLIENT: Merit Energy Co. Monitoring Location: _____
 LOCATION: 13390 Lone Tree Road Sample ID: MW-18
 Hartland Township, Michigan Well Type: 2" PVC
 PROJECT: 130685.2000

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____ Date: 9:05 Time: 12/19/17
 Depth to Water: 22.02 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Elevation of Water: _____ Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 9:10 Start Time: 12/19/17
 Measured Well Depth: 27.50 Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
9:20	22.04	0.02	~200	10.90	827	2.84	6.48	51.5	39.9
9:25	22.04	0.02	~200	10.70	830	1.26	6.53	40.7	27.6
9:30	22.04	0.02	~200	10.61	828	0.99	6.55	39.3	23.2
9:35	22.04	0.02	~200	10.52	827	0.93	6.55	40.3	22.1
9:40	22.05	0.03	~200	11.03	826	0.79	6.55	41.0	20.7
9:45	22.06	0.04	~200	11.53	827	0.76	6.55	43.5	17.3
9:50	22.06	0.04	~200	11.24	825	0.72	6.55	48.5	14.6
9:55	22.06	0.04	~200	11.28	826	0.69	6.56	50.7	11.9
10:00	22.06	0.04	~200	11.37	825	0.69	6.55	54.4	9.42
10:05	22.06	0.04	~200	11.27	824	0.68	6.55	57.2	10.3
10:10	22.06	0.04	~200	11.26	824	0.67	6.55	60.7	7.49

Total Volume Purged (gal): ~1.75 Stabilization Criteria: +/- 3% ✓ +/- 3% ✓ +/- 10% ✓ +/- 0.1 Units ✓ +/- 10 mV ✓ +/- 10% ✓ (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 10:10
 Temperature: 11.26 deg C
 Specific Conductance: 824 umhos/cm
 Dissolved Oxygen: 0.67 mg/L
 pH: 6.55 S.U.
 ORP: 60.7 mV
 Turbidity: 7.49 NTU
 CALIBRATION CHECK
 Standard (conc) Reading Mark if Recalibrated
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Et: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Appearance of Sample: Clear Time: 10:10 Sample Duplicate?: NO Sample Method: LOW FLOW

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____ Name (SIGNATURE): _____

* Turb never stabilized, but 1 hour of purge passed.

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-195
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 26.20
 Elevation of Water: _____
 Date: 12/19/17 Time: 14:05
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 12/19/17 Start Time: 14:20
 Measured Well Depth: 30.10 Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
14:50	26.68	0.48	~250	11:30	551	9.52	7.61	208.3	25.5
14:55	26.62	0.42	~200	11:29	550	9.96	7.59	202.0	22.8
15:00	26.62	0.42	~200	11:40	548	9.39	7.58	194.5	13.8
15:05	26.62	0.42	~200	11:50	548	9.70	7.58	191.5	11.4
15:10	26.62	0.42	~200	11:40	548	10.14	7.57	189.1	10.3
15:15	26.62	0.42	~200	11:41	549	10.32	7.56	188.0	10.2

Total Volume Purged (gal): 2
 Stabilization Criteria: +/- 3% ✓ +/- 3% ✓ +/- 10% (if > 0.5 mg/l) ✓ +/- 0.1 Units ✓ +/- 10 mV ✓ +/- 10% (if > 5 NTU) ✓

FIELD ANALYSIS

Time: 15:15
 Temperature: 11.41 deg C
 Specific Conductance: 549 umhos/cm
 Dissolved Oxygen: 10.32 mg/L
 pH: 7.56 S U
 ORP: 188.0 mV
 Turbidity: 10.2 NTU
 CALIBRATION CHECK
 Standard (conc.) Reading Mark if Recalibrated
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Appearance of Sample: clear Time: 15:15 Sample Duplicate?: NO Sample Method: low flow

NO./BOTTLES:	SIZE	TYPE	FILTERED	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfonate
1	125 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): *Mama A* Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-19D
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIATED
 Is reference mark visible? YES NO REMEDIATED
 Standing water present? YES NO REMEDIATED
 Indication of surface runoff in well? YES NO REMEDIATED
 Repair Notes: _____

Is cement pad in good repair? YES NO REMEDIATED
 Is protective casing locked and in good repair? YES NO REMEDIATED
 Is inner cap in place and properly sealing well? YES NO REMEDIATED
 Is well casing in visibly good repair? YES NO REMEDIATED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 25.88
 Elevation of Water: _____

Date: 12/19/17 Time: 12:45
 Measured with: ELECTRONIC TAP
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____

Date: 12/19/17 Start Time: 12:56

Measured Well Depth: 50.10 Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
13:10	25.89	0.01	~200	10.53	911	0.77	6.82	190.2	32.0
13:15	25.89	0.01	~200	10.64	908	0.71	6.81	182.3	34.5
13:20	25.89	0.01	~200	10.94	912	0.56	6.79	174.8	17.6
13:25	25.90	0.02	~250	10.84	911	0.49	6.78	171.6	24.0
13:30	25.90	0.02	~250	10.87	913	0.44	6.81	167.8	21.8
13:35	25.90	0.02	~250	10.88	915	0.43	6.78	167.0	16.0
13:40	25.90	0.02	~250	10.80	917	0.42	6.79	164.1	17.0
13:45	25.90	0.02	~250	10.81	916	0.38	6.77	163.6	15.8

Total Volume Purged (gal): ~2 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 13:45
 Temperature: 10.81 deg. C
 Specific Conductance: 916 umhos/cm
 Dissolved Oxygen: 0.38 mg/L
 pH: 6.77 S.U.
 ORP: 163.6 mV
 Turbidity: 15.8 NTU

CALIBRATION CHECK		Mark if Recalibrated
Standard (conc.)	Reading	
Specific Cond.: _____	_____ umhos/cm	_____
Dissolved Oxygen: _____	_____ mg/L	_____
pH: _____	_____ S.U.	_____
Orp: _____	_____ mV	_____
Turbidity: _____	_____ NTU	_____

SAMPLE COLLECTION

Appearance of Sample: clear Time: 13:45 Sample Duplicate?: NO Sample Method: low flow

NO./BOTTLES	SIZE	TYPE	FILTERED	PRESERVATIVE	PARAMETER
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
_____	_____ ml	_____	_____	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	_____	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	_____	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	_____	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	_____	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	_____	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	_____	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	_____	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	_____	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	_____	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	_____	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	_____	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____	_____	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): *[Signature]* Chain of Custody No. _____ Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-19DD
 Well Type: 2" PVC

INSPECTION

Label on well?	<input checked="" type="radio"/> YES <input type="radio"/> NO <input type="radio"/> REMEDIED	Is cement pad in good repair?	<input checked="" type="radio"/> YES <input type="radio"/> NO <input type="radio"/> REMEDIED
Is reference mark visible?	<input checked="" type="radio"/> YES <input type="radio"/> NO <input type="radio"/> REMEDIED	Is protective casing locked and in good repair?	<input checked="" type="radio"/> YES <input type="radio"/> NO <input type="radio"/> REMEDIED
Standing water present?	<input checked="" type="radio"/> YES <input type="radio"/> NO <input type="radio"/> REMEDIED	Is inner cap in place and properly sealing well?	<input checked="" type="radio"/> YES <input type="radio"/> NO <input type="radio"/> REMEDIED
Indication of surface runoff in well?	<input checked="" type="radio"/> YES <input type="radio"/> NO <input type="radio"/> REMEDIED	Is well casing in visibly good repair?	<input checked="" type="radio"/> YES <input type="radio"/> NO <input type="radio"/> REMEDIED

STATIC WATER LEVEL

Date: 12/19/17 Time: 11:40
 Top of Casing Elevation: _____
 Depth to Water: 24.48
 Elevation of Water: _____
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 12/19/17 Start Time: 11:45

Measured Well Depth: 66.15 Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
12:05	24.50	0.02	~200	10.66	764	8.76	7.23	195.2	14.6
12:10	24.50	0.02	~200	10.53	760	8.12	7.03	188.4	16.3
12:15	24.50	0.02	~200	10.78	758	7.70	6.97	185.9	19.6
12:20	24.50	0.02	~200	10.52	760	7.47	6.92	183.6	7.87
12:25	24.50	0.02	~200	10.66	760	7.27	6.90	182.2	4.15
12:30	24.50	0.02	~200	10.59	759	7.16	6.88	181.1	3.65

Total Volume Purged (gal): 1.5
 Stabilization Criteria: +/- 3% ✓ +/- 3% ✓ +/- 10% ✓ +/- 0.1 Units ✓ +/- 19 mV +/- 10% (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 12:30	Temperature: 10.59 deg. C	CALIBRATION CHECK		Mark if
Specific Conductance: 759 umhos/cm	Dissolved Oxygen: 7.16 mg/L	Standard (conc.)	Reading	Recalibrated
pH: 6.88 S.U.	ORP: 181.1 mV	Specific Cond.:	umhos/cm	
Turbidity: 3.65 NTU		Dissolved Oxygen:	mg/L	
		pH:	S.U.	
		Eh:	mV	
		Turbidity:	NTU	

SAMPLE COLLECTION

Appearance of Sample: Clear Time: 12:30 Sample Duplicate?: NO Sample Method: LOW-FLOW

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____ Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-202
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes:

Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 24.45
 Elevation of Water: _____

Date: 12/19/17 Time: 1240
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER

Date: 12/19/17 Start Time: 1243

Measured Well Depth: 35.15 Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1330	26.03	1.158	180	9.14	819	0.55	6.59	5.0	9.22
1335	26.03	1.158	180	9.16	819	0.54	6.60	3.1	7.81
1340	26.03	"	"	9.10	820	0.53	6.57	3.5	7.41
1345	26.03	"	"	9.09	819	0.52	6.58	2.7	5.32

Total Volume Purged (gal): 3 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1345
 Temperature: 9.09 deg. C
 Specific Conductance: 819 umhos/cm
 Dissolved Oxygen: 0.52 mg/L
 pH: 6.58 S.U.
 ORP: 2.7 mV
 Turbidity: 5.32 NTU

CALIBRATION CHECK		Mark if Recalibrated
Standard (conc.)	Reading	
Specific Cond.	umhos/cm	
Dissolved Oxygen	mg/L	
pH	S.U.	
Eh	mV	
Turbidity	NTU	

SAMPLE COLLECTION

Appearance of Sample: clean Time: 1345

Sample Duplicate?: no Sample Method: low flow

NO./BOTTLES:	SIZE:	TYPE	FILTERED:	PRESERVATIVE	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____ Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW- 220
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? N/A YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Date: 12/19/17 Time: 1534
 Depth to Water: 20.92'
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Elevation of Water: _____
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER
 Date: 12/19/17 Start Time: 1534

Measured Well Depth: _____ Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1534 START	20.92'								
1544	20.95	0.43'	25.0	10.8	6.95	5.85	6.92	141.0	12.6
1555	20.95	"	"	10.8	6.97	6.15	6.82	147.3	13.0
1603	20.96	0.04	"	10.6	6.98	5.85	6.91	142.8	10.6
1608	20.96	0.4	"	10.7	6.99	5.77	6.91	143.1	8.81
1613	20.96	0.4	"	10.9	6.97	5.74	6.91	141.9	8.43
1615 SAMPLER									

Total Volume Purged (gal): _____ Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP.GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: _____
 Temperature: _____ deg. C
 Specific Conductance: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 ORP: _____ mV
 Turbidity: _____ NTU
 CALIBRATION CHECK
 Standard (conc.) Reading Mark if Recalibrated
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Appearance of Sample: CLEAR Time: 1615 Sample Duplicate?: NO Sample Method: _____

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): _____ Chain of Custody No. _____ Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW- 23D
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? n/a YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Date: 12/19/17 Time: 11:08 AM
 Depth to Water: 19.2 ft Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Elevation of Water: _____ Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER
 Date: 12/19/17 Start Time: 11:03
 Measured Well Depth: _____ Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
11:03 START	19.2								
11:15	22.62	2.74	300	11.7	886	2.47	6.84	202.6	5.50
11:20			200	11.4	909	2.13	6.86	204.7	3.06
11:25	22.58	2.72	200	11.4	921	2.17	6.86	204.3	3.26
11:35	22.61	2.75	150	11.5	911	2.34	6.80	202.4	4.04
11:43	22.67	2.81	"	11.5	909	2.40	6.85	201.3	14.4
11:50	22.71	2.85	"	11.4	913	2.42	6.87	201.3	13.1
12:06	22.72	2.86	"	11.4	914	2.48	6.87	201.4	7.91
COLLECT SAMPLE									
Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 5 NTU)									
Total Volume Purged (gal): 2.5 gals									

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: _____
 Temperature: _____ deg. C
 Specific Conductance: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 ORP: _____ mV
 Turbidity: _____ NTU
 CALIBRATION CHECK
 Standard (conc.) Reading
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU
 Mark if Recalibrated

SAMPLE COLLECTION

Appearance of Sample: CLEAR Time: 12:04 Sample Duplicate?: _____
 Sample Method: _____

NO./BOTTLES:	SIZE:	TYPE	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	250 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): _____ Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: HARTLAND
 Sample ID: MW- 2P5
 Well Type: 2" PVC

INSPECTION

Label on well? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED	Is cement pad in good repair? <input type="checkbox"/> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> REMEDIED <u>N/A</u>
Is reference mark visible? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED	Is protective casing locked and in good repair? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED
Standing water present? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED	Is inner cap in place and properly sealing well? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED
Indication of surface runoff in well? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED	Is well casing in visibly good repair? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Date: 1/25/18 Time: 10:00
 Depth to Water: 24.42
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Elevation of Water: _____ Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 1/25/18 Start Time: 10:01

Measured Well Depth: _____ Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
<u>10:01</u>	<u>24.42</u>	<u>21.42</u>							
<u>10:15</u>			<u>200</u>	<u>7.44</u>	<u>910</u>	<u>3.60</u>	<u>6.67</u>	<u>253.5</u>	
<u>10:23</u>			<u>"</u>	<u>7.35</u>	<u>914</u>	<u>3.75</u>	<u>6.72</u>	<u>244.6</u>	<u>93.6</u>
<u>10:34</u>			<u>"</u>	<u>7.35</u>	<u>917</u>	<u>3.70</u>	<u>6.66</u>	<u>242.3</u>	<u>79.4</u>
<u>10:36</u>			<u>"</u>	<u>7.33</u>	<u>921</u>	<u>3.64</u>	<u>6.62</u>	<u>242.0</u>	<u>65.5</u>
<u>10:45</u>			<u>"</u>	<u>8.47</u>	<u>921</u>	<u>3.76</u>	<u>6.61</u>	<u>237.9</u>	<u>41.1</u>
<u>COLLECT SAMPLE</u>									

Total Volume Purged (gal): 1 GAL Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EDASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: _____	CALIBRATION CHECK	Mark if
Temperature: _____ deg. C	Standard (conc.)	Recalibrated
Specific Conductance: _____ umhos/cm	Specific Cond.: _____ umhos/cm	
Dissolved Oxygen: _____ mg/L	Dissolved Oxygen: _____ mg/L	
pH: _____ S.U.	pH: _____ S.U.	
ORP: _____ mV	Eh: _____ mV	
Turbidity: _____ NTU	Turbidity: _____ NTU	

SAMPLE COLLECTION

Appearance of Sample: TURBID Time: 10:45 Sample Duplicate?: NO
 Sample Method: _____

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
<u>1</u>	<u>1000</u> ml	<u>glass plastic</u>	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	<u>None</u> HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	<u>Sulfolane</u>
<u>1</u>	<u>125</u> ml	<u>glass plastic</u>	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	<u>None</u> HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	<u>Sulfate</u>
_____	_____ ml	_____ glass plastic	yes <input type="checkbox"/> no <input type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	yes <input type="checkbox"/> no <input type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	yes <input type="checkbox"/> no <input type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	yes <input type="checkbox"/> no <input type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	yes <input type="checkbox"/> no <input type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	yes <input type="checkbox"/> no <input type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	yes <input type="checkbox"/> no <input type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	yes <input type="checkbox"/> no <input type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW- 240
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____

Is cement pad in good repair? YES NO REMEDIED N/A
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 25.24
 Elevation of Water: _____

Date: 1/25/18 Time: 10:00
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____

Date: 1/25/18 Start Time: 10:54

Measured Well Depth: _____ Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
<u>10:54</u>	<u>25.24</u>								
<u>11:05</u>			<u>240</u>	<u>8.08</u>	<u>744</u>	<u>1.72</u>	<u>6.96</u>	<u>76.3</u>	<u>37.8</u>
<u>11:15</u>			<u>"</u>	<u>7.94</u>	<u>814</u>	<u>1.72</u>	<u>6.99</u>	<u>60.9</u>	<u>16.0</u>
<u>11:23</u>			<u>"</u>	<u>7.98</u>	<u>826</u>	<u>1.71</u>	<u>6.94</u>	<u>52.4</u>	
<u>11:30</u>			<u>"</u>	<u>8.17</u>	<u>835</u>	<u>1.62</u>	<u>6.90</u>	<u>42.0</u>	<u>11.3</u>
<u>11:35</u>			<u>"</u>	<u>8.21</u>	<u>836</u>	<u>1.61</u>	<u>6.93</u>	<u>43.4</u>	<u>9.8</u>
<u>11:37 COLLECT SAMPLE</u>									

Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10 %
 Total Volume Purged (gal): 1.25 (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: _____
 Temperature: _____ deg C
 Specific Conductance: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 ORP: _____ mV
 Turbidity: _____ NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond.: _____	_____ umhos/cm	_____
Dissolved Oxygen: _____	_____ mg/L	_____
pH: _____	_____ S.U.	_____
Orp: _____	_____ mV	_____
Turbidity: _____	_____ NTU	_____

SAMPLE COLLECTION

Time: 11:37

Sample Duplicate?: _____

Appearance of Sample: CLEAR

Sample Method: _____

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
<u>1</u>	<u>1000</u> ml	<u>glass</u> plastic	yes <input checked="" type="checkbox"/> no	<u>None</u> , HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	<u>Sulfolane</u>
<u>1</u>	<u>125</u> ml	<u>glass</u> <u>plastic</u>	yes <input checked="" type="checkbox"/> no	<u>None</u> , HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	<u>Sulfate</u>
_____	_____ ml	_____ glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-170
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____

Is cement pad in good repair? YES NO REMEDIED *N/A*
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 23.53'
 Elevation of Water: _____

Date: 1/25/18 Time: 1045
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____

Date: 1/27/18 Start Time: 1210

Measured Well Depth: _____ Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1210	23.53								
1230			2.00	8.42	535	10.47	7.44	140.4	15.8
1231			3.00	8.40	530	10.31	7.33	145.1	
1244			"	8.47	527	10.26	7.30	147.8	9.77
1250			"	8.55	523	10.07	7.31	149.5	7.60
1251	SAMPLE								

Total Volume Purged (gal): 29 gals Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10 % (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: _____
 Temperature: _____ deg. C
 Specific Conductance: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 ORP: _____ mV
 Turbidity: _____ NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond.:	_____ umhos/cm	_____
Dissolved Oxygen:	_____ mg/L	_____
pH:	_____ S.U.	_____
Or:	_____ mV	_____
Turbidity:	_____ NTU	_____

SAMPLE COLLECTION

Time: 1251

Sample Duplicate?: _____

Appearance of Sample: CLEAR

Sample Method: _____

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes <input checked="" type="checkbox"/> no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfonate
1	125 ml	glass plastic	yes <input checked="" type="checkbox"/> no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-175
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____

Is cement pad in good repair? YES NO REMEDIED *N/A*
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 20.27
 Elevation of Water: _____

Date: 1/25/18 Time: 1045
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 1/25/18 Start Time: 1256
 Measured Well Depth: _____ Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1256	20.27	START							
1305			250	9.08	812	1.34	6.97	143.7	
1311			"	9.14	823	0.99	6.73	149.1	7.55
1319			"	9.07	826	0.99	6.69	141.3	5.08
1323			"	9.21	834	0.99	6.61	134.1	
1331			"	9.34	846	0.95	6.60	140.5	9.10
1333	SAMPLE								

Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10 %
 (if > 0.5 mg/l) (if > 5 NTU)

FIELD ANALYSIS

Time: _____ Temperature: _____ deg. C
 Specific Conductance: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 ORP: _____ mV
 Turbidity: _____ NTU

CALIBRATION CHECK
 Standard (conc.) Reading Mark if Recalibrated
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Appearance of Sample: CLEAR Time: 1333 Sample Duplicate?: _____ Sample Method: _____

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfonate
1	125 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): *[Signature]* Chain of Custody No. _____ Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW- 145
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____

Is cement pad in good repair? YES NO REMEDIED *N/A*
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Date: 1/25/18 Time: 1045
 Top of Casing Elevation: _____
 Depth to Water: 21.54
 Elevation of Water: _____
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 1/25/18 Start Time: 1341

Measured Well Depth: _____ Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
<u>1341</u>	<u>21.54</u>								
<u>1350</u>			<u>250</u>	<u>8.76</u>	<u>991</u>	<u>7.58</u>	<u>7.00</u>	<u>157.9</u>	<u>22.1</u>
<u>1359</u>			<u>"</u>	<u>8.68</u>	<u>996</u>	<u>7.22</u>	<u>6.91</u>	<u>164.7</u>	
<u>1405</u>			<u>"</u>	<u>8.68</u>	<u>996</u>	<u>6.82</u>	<u>6.89</u>	<u>165.7</u>	<u>10.4</u>
<u>1412</u>			<u>"</u>	<u>8.61</u>	<u>994</u>	<u>5.92</u>	<u>6.88</u>	<u>165.0</u>	
<u>1418</u>			<u>"</u>	<u>8.73</u>	<u>992</u>	<u>5.01</u>	<u>6.96</u>	<u>154</u>	
<u>1425</u>			<u>"</u>	<u>8.65</u>	<u>991</u>	<u>4.24</u>	<u>6.98</u>	<u>154.6</u>	<u>8.32</u>
<u>1432</u>			<u>"</u>	<u>8.64</u>	<u>983</u>	<u>3.35</u>	<u>6.88</u>	<u>155.8</u>	<u>7.90</u>
<u>1433</u>	<u>SAMPLE</u>								

Total Volume Purged (gal): _____ Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10 % (if > 5 NTU)
Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: _____	Temperature: _____ deg. C	Specific Conductance: _____ umhos/cm	Dissolved Oxygen: _____ mg/L	pH: _____ S.U.	ORP: _____ mV	Turbidity: _____ NTU	CALIBRATION CHECK	Mark if Recalibrated
							Standard (conc.) Reading	
							Specific Cond.: _____ umhos/cm	
							Dissolved Oxygen: _____ mg/L	
							pH: _____ S.U.	
							Eh: _____ mV	
							Turbidity: _____ NTU	

SAMPLE COLLECTION

Appearance of Sample: CLEAR Time: 1433 Sample Duplicate?: _____
 Sample Method: _____

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
<u>1</u>	<u>1000</u> ml	<input checked="" type="checkbox"/> glass <input checked="" type="checkbox"/> plastic	yes <input checked="" type="checkbox"/> no	<u>None</u> , HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	<u>Sulfolane</u>
<u>1</u>	<u>125</u> ml	<input checked="" type="checkbox"/> glass <input checked="" type="checkbox"/> plastic	yes <input checked="" type="checkbox"/> no	<u>None</u> , HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	<u>Sulfate</u>
_____	_____ ml	_____ glass _____ plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass _____ plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass _____ plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass _____ plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass _____ plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass _____ plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass _____ plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass _____ plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass _____ plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-19D
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective-casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Date: 1/25/18 Time: 10:10
 Depth to Water: 28.49
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Elevation of Water: _____
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____
 Date: 1/25/18 Start Time: 10:15

Measured Well Depth: _____ Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
10:30	28.52	0.03	~180	9.51	912	6.23	6.51	267.1	4.02
10:35	28.52	0.03	~180	9.65	910	2.95	6.47	258.3	3.94
10:40	28.52	0.03	~180	9.60	910	1.50	6.46	257.4	2.10
10:45	28.52	0.03	~180	9.60	908	1.06	6.48	255.7	2.08
10:50	28.52	0.03	~180	9.65	907	0.87	6.50	253.9	2.06
10:55	28.52	0.03	~180	9.69	907	0.83	6.51	252.7	1.96
11:00	28.52	0.03	~180	9.66	907	0.75	6.52	252.0	1.87
11:05	28.52	0.03	~180	9.66	907	0.77	6.52	250.7	1.75

Total Volume Purged (gal): ~1.5
 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10%
 (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 11:05
 Temperature: 9.66 deg. C
 Specific Conductance: 907 umhos/cm
 Dissolved Oxygen: 0.77 mg/L
 pH: 6.52 S.U.
 ORP: 250.7 mV
 Turbidity: 1.75 NTU
 CALIBRATION CHECK
 Standard (conc.) Reading Mark if Recalibrated
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Appearance of Sample: CLEAR
 Time: 11:05
 Sample Duplicate?: NO
 Sample Method: low-flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): *Mauro* Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-7D
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____

Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Date: 1/25/18 Time: 9:35
 Depth to Water: 30.03
 Elevation of Water: _____
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____
 Date: 1/25/18 Start Time: 9:42
 Measured Well Depth: _____ Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
<i>Static too low to pump.</i>									
Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10 % (if > 0.5 mg/l) (if > 5 NTU)									

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: _____
 Temperature: _____ deg. C
 Specific Conductance: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 ORP: _____ mV
 Turbidity: _____ NTU

CALIBRATION CHECK

Standard (conc.)	Reading	Mark if Recalibrated
Specific Cond.: _____	_____ umhos/cm	_____
Dissolved Oxygen: _____	_____ mg/L	_____
pH: _____	_____ S.U.	_____
Eh: _____	_____ mV	_____
Turbidity: _____	_____ NTU	_____

SAMPLE COLLECTION

Appearance of Sample: _____ Time: _____
 Sample Duplicate?: NO
 Sample Method: low-flow

NO./BOTTLES	SIZE	TYPE	FILTERED	PRESERVATIVE	PARAMETER
1	1000 ml	glass plastic	yes <input checked="" type="checkbox"/> no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes <input checked="" type="checkbox"/> no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): Maura Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co. Monitoring Location: _____
 LOCATION: 13390 Lone Tree Road Sample ID: MW-13D
 Hartland Township, Michigan Well Type: 2" PVC
 PROJECT: 130685.2000

INSPECTION

Label on well?	<input checked="" type="radio"/> YES	<input type="radio"/> NO	REMEDIED	Is cement pad in good repair?	<input checked="" type="radio"/> YES	<input type="radio"/> NO	REMEDIED
Is reference mark visible?	<input checked="" type="radio"/> YES	<input type="radio"/> NO	REMEDIED	Is protective casing locked and in good repair?	<input checked="" type="radio"/> YES	<input type="radio"/> NO	REMEDIED
Standing water present?	<input checked="" type="radio"/> YES	<input type="radio"/> NO	REMEDIED	Is inner cap in place and properly sealing well?	<input checked="" type="radio"/> YES	<input type="radio"/> NO	REMEDIED
Indication of surface runoff in well?	<input checked="" type="radio"/> YES	<input type="radio"/> NO	REMEDIED	Is well casing in visibly good repair?	<input checked="" type="radio"/> YES	<input type="radio"/> NO	REMEDIED

Repair Notes: _____

STATIC WATER LEVEL

Date: 1/25/18 Time: 12:20

Top of Casing Elevation: _____
 Depth to Water: 23.51
 Elevation of Water: _____

Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 1/25/18 Start Time: 12:25

Measured Well Depth: _____ Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
12:45	23.62	0.11	~200	9.99	1042	2.62	6.72	90.1	3.45
12:50	23.62	0.11	~200	9.68	1038	2.25	6.73	97.8	1.96
12:55	23.63	0.12	~200	10.16	1033	2.13	6.74	100.7	2.10
13:00	23.64	0.13	~200	10.58	1035	2.08	6.75	104.3	1.98
13:05	23.64	0.13	~200	10.51	1032	2.08	6.76	105.9	1.04
13:10	23.64	0.13	~200	10.54	1031	2.13	6.76	108.8	0.97

Total Volume Purged (gal): ~1.75

Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 13:10

Temperature: 10.54 deg. C	CALIBRATION CHECK		Mark if
Specific Conductance: 1031 umhos/cm	Standard (conc.)	Reading	Recalibrated
Dissolved Oxygen: 2.13 mg/L	Specific Cond.: _____	umhos/cm	_____
pH: 6.76 S.U.	Dissolved Oxygen: _____	mg/L	_____
ORP: 108.8 mV	pH: _____	S.U.	_____
Turbidity: 0.97 NTU	Et: _____	mV	_____
	Turbidity: _____	NTU	_____

SAMPLE COLLECTION

Time: 13:10 Sample Duplicate?: NO
 Appearance of Sample: Clear Sample Method: low-flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes <input type="radio"/> no <input checked="" type="radio"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Suifolane
1	125 ml	glass plastic	yes <input type="radio"/> no <input checked="" type="radio"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
_____	_____ ml	glass plastic	yes <input type="radio"/> no <input type="radio"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes <input type="radio"/> no <input type="radio"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes <input type="radio"/> no <input type="radio"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes <input type="radio"/> no <input type="radio"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes <input type="radio"/> no <input type="radio"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes <input type="radio"/> no <input type="radio"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes <input type="radio"/> no <input type="radio"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes <input type="radio"/> no <input type="radio"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes <input type="radio"/> no <input type="radio"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): *Mam...* Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-14D
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____

Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Date: 1/25/18 Time: 13:30
 Top of Casing Elevation: _____
 Depth to Water: 26.48
 Elevation of Water: _____
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 1/25/18 Start Time: 13:35

Measured Well Depth: _____ Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
13:50	26.51	0.03	~190	9.10	847	5.00	6.79	22.2	1.29
13:55	26.51	0.03	~190	9.13	846	0.51	6.79	21.9	1.40
14:00	26.51	0.03	~190	9.16	843	0.49	6.79	22.0	1.15
14:05	26.51	0.03	~190	9.27	844	0.43	6.80	22.0	0.87

Stabilization Criteria: +/- 3% ✓ +/- 3% ✓ +/- 10% ✓ +/- 0.1 Units ✓ +/- 10 mV ✓ +/- 10% ✓
 (if > 0.5 mg/l) (if > 5 NTU)

FIELD ANALYSIS

Time:	Temperature:	Specific Conductance:	Dissolved Oxygen:	pH:	ORP:	Turbidity:	Standard (conc.)	Reading	Mark if Recalibrated
14:05	9.27 deg. C	844 umhos/cm	0.43 mg/L	6.80 S.U.	22.0 mV	0.87 NTU	Specific Cond.:	umhos/cm	
							Dissolved Oxygen:	mg/L	
							pH:	S.U.	
							Et:	mV	
							Turbidity:	NTU	

SAMPLE COLLECTION

Appearance of Sample: clear Time: 14:05 Sample Duplicate?: NO Sample Method: 10W-FLOW

NO./BOTTLES:	SIZE:	TYPE	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): *Maura D* Chain of Custody No. _____ Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-18
 Wall Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____

Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Date: 1/25/18 Time: 11:20
 Depth to Water: 22.31
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Elevation of Water: _____
 Well depth verified? YES NO MG

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 1/25/18 Start Time: 11:25

Measured Well Depth: _____ Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
11:40	22.35	0.04	~190	10.36	826	3.10	6.36	39.1	4.74
11:45	22.35	0.04	~190	10.33	827	1.05	6.36	38.2	4.77
11:50	22.35	0.04	~190	10.14	829	0.85	6.37	38.9	4.31
11:55	22.35	0.04	~190	10.24	830	0.81	6.38	39.5	3.64
12:00	22.35	0.04	~190	10.32	830	0.76	6.38	39.2	1.94
12:05	22.35	0.04	~190	10.39	831	0.74	6.39	40.6	1.86

Total Volume Purged (gal): ~1.5
 Stabilization Criteria: +/- 3% ✓ +/- 3% ✓ +/- 10% (if > 0.5 mg/l) +/- 0.1 Units ✓ +/- 10 mV ✓ +/- 10% (if > 5 NTU) ✓

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 12:05
 Temperature: 10.39 deg. C
 Specific Conductance: 831 umhos/cm
 Dissolved Oxygen: 0.74 mg/L
 pH: 6.39 S.U.
 ORP: 40.6 mV
 Turbidity: 1.86 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond.:	umhos/cm	_____
Dissolved Oxygen:	mg/L	_____
pH:	S.U.	_____
Oh:	mV	_____
Turbidity:	NTU	_____

SAMPLE COLLECTION

Appearance of Sample: clear Time: 12:05 Sample Duplicate?: NO
 Sample Method: low-flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): Maura Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-17d
 Well Type: 2" PVC

INSPECTION

Label on well? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED	Is cement pad in good repair? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED
Is reference mark visible? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED	Is protective casing locked and in good repair? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED
Standing water present? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED	Is inner cap in place and properly sealing well? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED
Indication of surface runoff in well? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED	Is well casing in visibly good repair? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED

Repair Notes: _____

STATIC WATER LEVEL

Date: 2/27/18 Time: 0930
 Top of Casing Elevation: _____
 Depth to Water: 21.50 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Elevation of Water: _____ Well depth verified? YES

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 2/27/18 Start Time: 0940
 Measured Well Depth: 40.54 Screen Length: 5' Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1000	21.90	.40	240	8.85	459	12.34	6.06	431.5	5.05
1005	21.91	.41	260	8.90	465	11.94	6.39	425.2	3.11
1010	21.91	.41	"	8.94	478	11.51	6.49	417.5	3.15
1015	21.91	.41	"	9.00	491	11.02	6.50	411.2	2.92

Total Volume Purged (gal): 238 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1015
 Temperature: 9.00 deg. C
 Specific Conductance: 491 umhos/cm
 Dissolved Oxygen: 11.02 mg/L
 pH: 6.50 S.U.
 ORP: 411.2 mV
 Turbidity: 2.92 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond.:	umhos/cm	<input checked="" type="checkbox"/>
Dissolved Oxygen:	mg/L	<input checked="" type="checkbox"/>
pH:	S.U.	<input checked="" type="checkbox"/>
ORP:	mV	<input checked="" type="checkbox"/>
Turbidity:	NTU	<input checked="" type="checkbox"/>

SAMPLE COLLECTION

Appearance of Sample: clear, effluence Time: 1015 Sample Duplicate?: no Sample Method: low flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____ Name (SIGNATURE): _____

* New tubing in well, none previously.

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-7D
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED

Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

Repair Notes:

STATIC WATER LEVEL

Date: 2/27/18 Time: 9:20

Top of Casing Elevation: _____
 Depth to Water: 26.85 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Elevation of Water: _____ Well depth verified?

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 2/27/18 Start Time: 9:25

Measured Well Depth: _____ Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
9:45	26.88	0.03	~150	9.99	1038	4.62	6.50	194.1	7.92
9:50	26.88	0.03	~175	10.22	1043	1.94	6.58	181.5	9.12
9:55	26.88	0.03	~200	10.33	1044	1.42	6.59	170.6	16.4
10:00	26.88	0.03	~200	10.46	1042	1.28	6.61	161.0	12.5
10:05	26.88	0.03	~200	10.40	1043	1.28	6.62	153.9	12.6
10:10	26.88	0.03	~200	10.37	1042	1.41	6.63	147.0	11.0
10:15	26.88	0.03	~200	10.39	1041	1.41	6.63	140.9	10.5
10:20	26.88	0.03	~200	10.51	1042	1.47	6.63	137.6	10.7

Total Volume Purged (gal): ~1.5 Stabilization Criteria: +/- 3% ✓ +/- 3% ✓ +/- 10% ✓ +/- 0.1 Units ✓ +/- 10 mV ✓ +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 10:20
 Temperature: 10.51 deg. C
 Specific Conductance: 1042 umhos/cm
 Dissolved Oxygen: 1.47 mg/L
 pH: 6.63 S.U.
 ORP: 137.6 mV
 Turbidity: 10.7 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond.:	umhos/cm	<input checked="" type="checkbox"/>
Dissolved Oxygen:	mg/L	<input checked="" type="checkbox"/>
pH:	S.U.	<input checked="" type="checkbox"/>
ORP:	mV	<input checked="" type="checkbox"/>
Turbidity:	NTU	<input checked="" type="checkbox"/>

SAMPLE COLLECTION

Time: 10:20

Sample Duplicate?: NO

Appearance of Sample: CLEAR

Sample Method: low-flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfonane
1	125 ml	glass plastic	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
_____	_____ ml	glass plastic	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Chain of Custody No. _____

Name (SIGNATURE): *Maura S.*

Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-19D
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____

Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Date: 2/27/18 Time: 10:30
 Top of Casing Elevation: _____
 Depth to Water: 24.59 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Elevation of Water: _____ Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 2/27/18 Start Time: 10:35

Measured Well Depth: _____ Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
10:55	24.63	0.04	~200	11.14	925	0.93	6.72	157.5	5.10
11:00	24.64	0.05	~200	11.14	924	0.74	6.68	154.7	4.00
11:05	24.64	0.05	~200	11.15	924	0.68	6.68	153.3	3.53
11:10	24.64	0.05	~200	11.33	921	0.63	6.66	151.1	4.26
11:15	24.64	0.05	~200	11.36	922	0.59	6.66	146.9	3.69
11:20	24.64	0.05	~200	11.38	921	0.57	6.66	144.7	2.35

Total Volume Purged (gal): 2.25
 Stabilization Criteria: +/- 3% ✓ +/- 3% ✓ +/- 10% (if > 0.5 mg/l) +/- 0.1 Units ✓ +/- 10 mV ✓ +/- 10% (if > 5 NTU) ✓
 Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 11:20
 Temperature: 11.38 deg. C
 Specific Conductance: 921 umhos/cm
 Dissolved Oxygen: 0.57 mg/L
 pH: 6.66 S.U.
 ORP: 144.7 mV
 Turbidity: 2.35 NTU

CALIBRATION CHECK		Mark if Recalibrated
Standard (conc.)	Reading	
Specific Cond.:	umhos/cm	_____
Dissolved Oxygen:	mg/L	
pH:	S.U.	
Orp:	mV	
Turbidity:	NTU	

SAMPLE COLLECTION

Time: 11:20 Sample Duplicate?: NO
 Appearance of Sample: Clear Sample Method: LOW-FLOW

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfonane
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
_____	_____ ml	_____ glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	_____ glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): *Mason* Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-200d
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 23.83
 Elevation of Water: _____
 Date: 2/27/18 Time: 1125
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER
 Date: 2/27/18 Start Time: 1129
 Measured Well Depth: 35.25 Screen Length: 5' Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1145	25.17		153	9.72	8.33	0.66	6.98	102.7	8.11
1150	25.13		140	9.78	8.32	0.61	7.00	67.0	6.72
1155	25.09		152	9.84	8.33	0.62	6.97	38.0	6.22
1200	25.09		145	9.91	8.34	0.65	7.01	18.0	4.82
1205	25.09		"	9.97	8.31	0.62	7.02	10.9	4.02
1210	25.09		"	10.05	8.31	0.61	7.06	8.4	3.52

Total Volume Purged (gal): 2
 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10 %
 (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1210
 Temperature: 10.05 deg C
 Specific Conductance: 8.31 umhos/cm
 Dissolved Oxygen: 0.61 mg/L
 pH: 7.06 S.U.
 ORP: 8.4 mV
 Turbidity: 3.52 NTU
 CALIBRATION CHECK
 Standard (conc.) Reading Mark if Recalibrated
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Appearance of Sample: clear Time: 1210
 Sample Duplicate?: NO
 Sample Method: low flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): _____ Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-18
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED

Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

Repair Notes:

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 22.51
 Elevation of Water: _____

Date: 2/27/18 Time: 11:30

Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____

Date: 2/27/18 Start Time: 11:35

Measured Well Depth: _____ Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
11:55	22.55	0.04	~200	12.07	818	1.04	6.35	35.3	12.1
12:00	22.56	0.05	~200	12.16	824	0.78	6.35	29.9	9.57
12:05	22.56	0.05	~200	12.20	825	0.69	6.37	28.5	7.45
12:10	22.56	0.05	~200	12.17	829	0.63	6.37	24.9	6.63
12:15	22.56	0.05	~200	12.22	830	0.58	6.38	23.3	5.38
12:20	22.56	0.05	~200	12.19	838	0.50	6.37	20.0	5.59
12:25	22.56	0.05	~200	12.23	837	0.39	6.38	19.6	4.55

Total Volume Purged (gal): ~2
 Stabilization Criteria: +/- 3%
 (if > 0.5 mg/l)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 12:25
 Temperature: 12.23 deg. C
 Specific Conductance: 837 umhos/cm
 Dissolved Oxygen: 0.39 mg/L
 pH: 6.38 S.U.
 ORP: 19.6 mV
 Turbidity: 4.55 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond.:	umhos/cm	
Dissolved Oxygen:	mg/L	
pH:	S.U.	
Eh:	mV	
Turbidity:	NTU	

SAMPLE COLLECTION

Time: 12:25

Sample Duplicate?: NO

Appearance of Sample: Clear

Sample Method: 10w-flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfonate
1	125 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): *Maura J.*

Chain of Custody No. _____

Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-13D
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED

Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

Repair Notes: _____

STATIC WATER LEVEL

Date: 2/27/18 Time: 12:30
 Top of Casing Elevation: _____
 Depth to Water: 22.60 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Elevation of Water: _____ Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 2/27/18 Start Time: 12:35

Measured Well Depth: _____ Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
12:55	22.83	0.17	~200	11.97	836	8.00	7.02	102.5	12.1
13:00	22.83	0.17	~200	11.96	849	8.44	7.04	106.1	11.7
13:05	22.83	0.17	~200	11.98	864	8.87	7.07	110.1	9.68
13:10	22.83	0.17	~200	11.96	872	9.37	7.08	114.8	7.02
13:15	22.84	0.18	~200	12.07	883	9.61	7.09	116.3	6.21
13:20	22.84	0.18	~200	12.22	901	9.90	7.09	119.9	4.45
13:25 (MG)			~200 (MG)						

Total Volume Purged (gal): ~2.0 Stabilization Criteria: +/- 3% ✓ +/- 3% ✓ +/- 10% ✓ (if > 0.5 mg/l) +/- 0.1 Units ✓ +/- 10 mV ✓ +/- 10% ✓ (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 13:20
 Temperature: 90 + 122 deg C
 Specific Conductance: 901 umhos/cm
 Dissolved Oxygen: 9.90 mg/L
 pH: 7.09 S.U.
 ORP: 119.9 mV
 Turbidity: 4.45 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond:	_____ umhos/cm	<input checked="" type="checkbox"/>
Dissolved Oxygen:	_____ mg/L	<input checked="" type="checkbox"/>
pH:	_____ S.U.	<input checked="" type="checkbox"/>
ORP:	_____ mV	<input checked="" type="checkbox"/>
Turbidity:	_____ NTU	<input checked="" type="checkbox"/>

SAMPLE COLLECTION

Time: 13:20 Sample Duplicate?: NO
 Appearance of Sample: clear Sample Method: LOW-FLOW

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfonate
1	125 ml	glass plastic	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): Manna Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-14d
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes:

Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 22.38
 Elevation of Water: _____

Date: 2/27/18 Time: 1335
 Measured with: ELECTRONIC TAP CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER

Date: 2/27/18 Start Time: 1340

Measured Well Depth: 44.27 Screen Length: 5' Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1355	22.43	.05	176	9.84	791	0.54	7.20	66.1	2.85
1400	22.43	.05	180	9.83	792	0.60	7.00	61.6	1.89
1405	22.43	.05	11	9.80	793	0.67	7.14	59.8	0.77
1410	22.42	.04	170	9.82	793	0.90	7.20	58.3	0.75
1415	22.41	.03	172	9.75	792	0.63	7.26	56.4	0.87
1420	22.41	.03	11	9.77	792	0.54	7.21	54.7	1.06
1425	22.41	.03	11	9.79	792	0.50	7.26	53.3	0.98
1430	22.41	.03	11	9.76	792	0.50	7.22	52.1	0.86

Total Volume Purged (gal): 238 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1430
 Temperature: 9.76 deg C
 Specific Conductance: 792 umhos/cm
 Dissolved Oxygen: 0.50 mg/L
 pH: 7.22 S.U.
 ORP: 52.1 mV
 Turbidity: 0.86 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond.:	umhos/cm	
Dissolved Oxygen:	mg/L	
pH:	S.U.	
Eh:	mV	
Turbidity:	NTU	

SAMPLE COLLECTION

Time: 1430
 Appearance of Sample: clear, effervescence

Sample Duplicate?: NO
 Sample Method: low flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): [Signature]

CLIENT: Merit Energy Co.
 LOCATION: 13390 Loile Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW- _____
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____

Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 19.78
 Elevation of Water: _____

Date: 3/29/18 Time: 0957

Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____

Date: 3/29/18 Start Time: 09:59

Measured Well Depth: 27.47

Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umhos/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
10:10	19.78	0.02	200	9.18	520	7.65	7.24	126.6	0.02
10:15	19.78	0.02	200	9.20	573	7.58	7.23	127.1	0.02
10:20	19.79	0.03	200	9.22	505	7.84	7.23	128.4	0.02
10:25	19.79	0.03	200	9.22	505	7.87	7.23	126.1	0.02

Total Volume Purged (gal): 1.6 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

FIELD ANALYSIS

Time: 10:25
 Temperature: 9.22 deg. C
 Specific Conductance: 505 umhos/cm
 Dissolved Oxygen: 7.87 mg/L
 pH: 7.23 S.U.
 ORP: 129.7 mV
 Turbidity: 0.02 NTU

Stabilization Criteria Reference Doc. USEPA EQASOP.GW.001 Rev 43, January 2004

CALIBRATION CHECK		Mark if Recalibra
Standard (conc.)	Reading	
Specific Cond.:	umhos/cm	
Dissolved Oxygen:	mg/L	
pH:	S.U.	
ORP:	mV	
Turbidity:	NTU	

SAMPLE COLLECTION

Appearance of Sample: clear Time: 10:25

Sample Duplicate?: No
 Sample Method: peristaltic

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:
1	1000 ml	glass plastic	yes no
1	125 ml	glass plastic	yes no
	ml	glass plastic	yes no
	ml	glass plastic	yes no
	ml	glass plastic	yes no
	ml	glass plastic	yes no
	ml	glass plastic	yes no
	ml	glass plastic	yes no
	ml	glass plastic	yes no
	ml	glass plastic	yes no

PRESERVATIVE	PARAMETER
None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc	TSP, BAK
None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc	Sulfonate
None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc	Sulfate
None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc	
None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc	
None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc	
None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc	
None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc	
None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc	
None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc	
None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc	
None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc	
None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc	
None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature]

Chain of Custody No. 37343
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW- 2
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Date: 3/25/18 Time: 11:10
 Top of Casing Elevation: _____
 Depth to Water: 17.88
 Elevation of Water: _____
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 3/25/18 Start Time: 11:11
 Measured Well Depth: 27.41 Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1126	17.94	0.09	250	9.23	665	7.92	7.10	211.3	6.37
1130	17.94	0.09	250	9.23	664	7.94	7.10	214.3	4.54
1135	17.94	0.09	250	9.22	664	7.92	7.10	217.0	3.52
1140	17.94	0.09	250	9.36	667	7.79	7.11	219.9	4.70

Total Volume Purged (gal): 2.2 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1140
 Temperature: 17.94 9.36 deg. C
 Specific Conductance: 667 umhos/cm
 Dissolved Oxygen: 7.79 mg/L
 pH: 7.11 S.U.
 ORP: 219.9 mV
 Turbidity: 4.70 NTU
 CALIBRATION CHECK
 Standard (conc.) Reading Mark if Recalibrated
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Time: 1140 Appearance of Sample: clear Sample Duplicate?: no Sample Method: peristaltic

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. 39330 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-2d
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED *N=504*
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Date: 3/25/18 Time: 0925
 Top of Casing Elevation: _____
 Depth to Water: 17.00
 Elevation of Water: _____
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 3/25/18 Start Time: 0957

Measured Well Depth: 31.98 Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
09:10	-	-	190	9.68	919	4.12	6.79	254.0	-
09:15	18.32	1.32	300	9.94	909	3.95	6.58	245.1	20.3
09:20	18.38	1.38	300	9.97	906	4.01	6.92	235.0	14.4
10:25	18.42	1.42	300	10.09	906	4.04	6.95	230.0	19.4
10:30	18.43	1.43	300	10.11	906	4.13	6.96	226.0	11.6
10:35	18.43	1.43	300	10.11	906	4.00	6.97	222.9	9.86
10:40	18.45	1.45	300	10.12	907	4.14	6.98	221.3	6.59
10:50	18.45	1.45	300	10.08	906	4.07	6.97	219.6	5.35
10:55	18.46	1.46	300	10.08	906	4.02	6.97	218.9	4.82
11:00	18.46	1.46	300	10.08	907	4.05	6.96	218.2	4.36

Total Volume Purged (gal): 4.0
 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1100
 Temperature: 10.08 deg. C
 Specific Conductance: 907 umhos/cm
 Dissolved Oxygen: 4.05 mg/L
 pH: 6.96 S.U.
 ORP: 218.2 mV
 Turbidity: 4.36 NTU
 CALIBRATION CHECK
 Standard (conc.) Reading Mark if Recalibrated
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Appearance of Sample: clear Time: 1100 Sample Duplicate?: N/A Sample Method: peristaltic

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfone
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): *Jh 9/5* Chain of Custody No. 39338 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-3d
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 21.29
 Elevation of Water: _____
 Date: 3/29/18 Time: 0950
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 3/29/18 Start Time: 0955
 Measured Well Depth: 34.5 Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1025	23.65		190	8.34	942	1.29	6.86	131.4	10.7
1030	23.90		"	8.33	942	1.24	6.86	132.2	7.40
1035	23.85		162	8.30	943	1.30	6.85	133.2	4.77
1040	23.63		"	8.28	943	1.27	6.85	133.4	4.95
1045	23.80		11	8.20	942	1.31	6.85	134.0	9.54

Total Volume Purged (gal): 24 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 5 mg/l) (if > 5 NTU)
 Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: _____
 Temperature: _____ deg. C
 Specific Conductance: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 ORP: _____ mV
 Turbidity: _____ NTU
 CALIBRATION CHECK

Standard (conc.)	Reading	Mark if Recalibrated
Specific Cond. _____ umhos/cm	_____	_____
Dissolved Oxygen: _____ mg/L	_____	_____
pH: _____ S.U.	_____	_____
Eh: _____ mV	_____	_____
Turbidity: _____ NTU	_____	_____

SAMPLE COLLECTION

Appearance of Sample: clear Time: 1045 Sample Duplicate?: NO Sample Method: 10.19a

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfonane
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____ Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-4
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____

Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Date: 3/29/18 Time: 11:41
 Depth to Water: 21.41
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Elevation of Water: _____
 Well depth verified? YES NO

WELL PURGING

Purge Method: FERISTALTIC BLADDER OTHER _____
 Date: 3/29/18 Start Time: 11:44
 Measured Well Depth: 30.3
 Screen Length: _____
 Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
12:05	21.46	0.05	~200	8.67	634	12.73	6.71	115.4	5.93
12:10	21.46	0.05	~200	9.01	621	9.31	6.75	125.5	9.21
12:15	21.46	0.05	~200	9.08	634	9.13	6.77	133.0	8.35
12:20	21.46	0.05	~200	9.36	641	9.07	6.78	136.4	5.96
12:25	21.46	0.05	~200	9.34	650	9.50	6.79	140.2	4.22
12:30	21.46	0.05	~200	9.31	655	9.77	6.79	142.4	4.07

Total Volume Purged (gal): ~1.75 gal
 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10%
 (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 12:30
 Temperature: 9.31 deg. C
 Specific Conductance: 655 umhos/cm
 Dissolved Oxygen: 9.77 mg/L
 pH: 6.79 S.U.
 ORP: 142.4 mV
 Turbidity: 4.07 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond.:	umhos/cm	/
Dissolved Oxygen:	mg/L	
pH:	S.U.	
Et:	mV	
Turbidity:	NTU	

SAMPLE COLLECTION

Time: 12:35
 Appearance of Sample: clear
 Sample Duplicate?: NO
 Sample Method: low-flow

NO./BOTTLES	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
				None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
				None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature]
 Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW- 5
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____

Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 22.27
 Elevation of Water: _____

Date: 3/22/18 Time: 1215

Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: _____ Start Time: 1217

Measured Well Depth: _____ Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1235	22.33	0.06	300	9.29	750	6.10	7.02	141.7	0.05
1240	22.33	0.06	300	9.26	741	6.19	7.03	143.3	0.06
1245	22.33	0.06	300	9.44	735	6.30	7.04	145.7	0.05
1250	22.33	0.06	300	9.42	734	6.31	7.04	146.6	0.06

Total Volume Purged (gal): 2.6

Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1250

Temperature: 9.42 deg. C
 Specific Conductance: 734 umhos/cm
 Dissolved Oxygen: 6.31 mg/L
 pH: 7.04 S.U.
 ORP: 146.6 mV
 Turbidity: 0.06 NTU

CALIBRATION CHECK

Standard (conc.)	Reading	Mark if Recalibrated
Specific Cond.: _____	umhos/cm	_____
Dissolved Oxygen: _____	mg/L	_____
pH: _____	S.U.	_____
Oh: _____	mV	_____
Turbidity: _____	NTU	_____

SAMPLE COLLECTION

Appearance of Sample: clear Time: 1250 Sample Duplicate?: No
 Sample Method: grab + HI

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Chain of Custody No. _____
 Name (SIGNATURE): _____ Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW- 6
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Date: 3/29/16 Time: 1325
 Depth to Water: 22.57
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Elevation of Water: _____
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 3/29/16 Start Time: 1326
 Measured Well Depth: 32.66 Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1330	22.63	0.06	340	9.65	736	6.41	7.06	168.6	—
1340	22.64	0.07	250	9.83	745	3.62	7.02	173.2	0.00
1345	22.64	0.07	250	9.81	758	3.30	7.01	172.9	0.00
1350	22.64	0.07	250	9.92	754	3.22	7.01	172.6	0.00

Total Volume Purged (gal): 1.8
 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc: USEPA EQASDP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1350
 Temperature: 9.92 deg. C
 Specific Conductance: 754 umhos/cm
 Dissolved Oxygen: 3.22 mg/L
 pH: 7.01 S.U.
 ORP: 172.6 mV
 Turbidity: 0.00 NTU
 CALIBRATION CHECK
 Standard (conc.) Reading Mark if Recalibrated
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Appearance of Sample: clear Time: 1350 Sample Duplicate?: No
 Sample Method: peristaltic

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfotolane
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. 39342
 Name (SIGNATURE): [Signature]

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW- 6d
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 22.69
 Elevation of Water: _____
 Date: 3/29/18 Time: 1423
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____
 Date: 3/29/18 Start Time: 1423
 Measured Well Depth: 47.25 Screen Length: _____
 Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1430	22.70	0.01	180	9.38	729	6.68	7.12	165.1	0.00
1435	22.70	0.01	180	9.69	720	6.71	7.15	162.8	0.00
1440	22.70	0.01	180	9.75	717	6.87	7.17	157.8	0.00
1445	22.70	0.01	180	9.83	715	6.92	7.16	160.4	0.00

Total Volume Purged (gal): 1.0
 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10%
 (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1445
 Temperature: 7.53 deg. C
 Specific Conductance: 715 umhos/cm
 Dissolved Oxygen: 6.92 mg/L
 pH: 7.16 S.U.
 ORP: 160.4 mV
 Turbidity: 0.00 NTU
 CALIBRATION CHECK
 Standard (conc.) Reading Mark if Recalibrated
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Appearance of Sample: clear Time: 1445
 Sample Duplicate?: No
 Sample Method: peristaltic

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Chain of Custody No. 37342
 Name (SIGNATURE): [Signature] Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-75
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED *→ not attached*
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____ Date: 3/28/18 Time: 11:50
 Depth to Water: 25.17
 Elevation of Water: _____ Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 3/28/18 Start Time: 11:53
 Measured Well Depth: 30.40 33.0 Screen Length: _____ Depth to Screen Midpoint: _____

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 entred
 ras
 0.40'
 low
 +6 at
 33.0'

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
12:05	25.23	0.06	~150	8.50	594	13.52	6.95	176.2	5.47
12:10	25.24	0.07	~150	8.98	588	8.03	6.92	185.7	4.93
12:15	25.25	0.08	~150	9.09	588	8.38	6.96	186.1	4.99
12:20	25.26	0.09	~150	9.38	588	9.04	6.99	186.0	4.81
12:25	25.26	0.09	~150	9.43	589	9.45	7.02	186.2	4.38
12:30	25.26	0.09	~150	9.59	590	9.75	7.04	186.8	4.54

Total Volume Purged (gal): ~1.0 gal Stabilization Criteria: +/- 3%
 +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10%
 (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 12:30
 Temperature: 9.59 deg C
 Specific Conductance: 590 umhos/cm
 Dissolved Oxygen: 9.75 mg/L
 pH: 7.04 S.U.
 ORP: 186.8 mV
 Turbidity: 4.54 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond.:	umhos/cm	<input checked="" type="checkbox"/>
Dissolved Oxygen:	mg/L	<input checked="" type="checkbox"/>
pH:	S.U.	<input checked="" type="checkbox"/>
Eh:	mV	<input checked="" type="checkbox"/>
Turbidity:	NTU	<input checked="" type="checkbox"/>

SAMPLE COLLECTION

Appearance of Sample: clear Time: 12:35 Sample Duplicate?: NO
 Sample Method: low-flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfane
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): *[Signature]* Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-7D
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Date: 3/28/18 Time: 12:48
 Top of Casing Elevation: _____
 Depth to Water: 25.62
 Elevation of Water: _____
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 3/28/18 Start Time: 12:51

Measured Well Depth: 49.40 (MG) 48.5' Screen Length: _____ Depth to Screen Midpoint: _____

not time verified was 49.4' low by 18.5'

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
13:05	25.68	0.06	~150	9.30	998	4.01	6.63	192.0	11.4
13:10	25.68	0.06	~180	9.55	1020	1.25	6.59	185.1	9.10
13:15	25.68	0.06	~200	9.58	1029	0.81	6.58	180.0	8.83
13:20	25.68	0.06	~200	9.60	1030	0.70	6.58	176.5	8.70
13:25	25.68	0.06	~200	9.80	1032	0.66	6.58	172.2	7.67
13:30	25.68	0.06	~200	9.64	1032	0.60	6.59	170.0	6.45
13:35	25.68	0.06	~200	9.58	1032	0.61	6.59	168.2	7.07
13:40	25.68	0.06	~200	9.69	1033	0.61	6.60	165.5	6.44

Total Volume Purged (gal): ~1.5 gal
 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10%
 (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 13:40
 Temperature: 9.69 deg. C
 Specific Conductance: 1033 umhos/cm
 Dissolved Oxygen: 0.61 mg/L
 pH: 6.60 S.U.
 ORP: 165.5 mV
 Turbidity: 6.44 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond.: _____	umhos/cm	<input checked="" type="checkbox"/>
Dissolved Oxygen: _____	mg/L	<input checked="" type="checkbox"/>
pH: _____	S.U.	<input checked="" type="checkbox"/>
Eh: _____	mV	<input checked="" type="checkbox"/>
Turbidity: _____	NTU	<input checked="" type="checkbox"/>

SAMPLE COLLECTION

Appearance of Sample: Clear Time: 13:45 Sample Duplicate?: NO Sample Method: low-flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
_____	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): *M. J. ...* Chain of Custody No. _____ Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-8
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 25.88
 Elevation of Water: _____
 Date: 3/28/18 Time: 10:53
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____
 Date: 3/28/18 Start Time: 10:56
 Measured Well Depth: 32.10
 Screen Length: _____
 Depth to Screen Midpoint: _____

11:15

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
11:20	25.97	0.09	~200	8.03	598	10.12	6.70	212.2	4.42
11:20	25.99	0.11	~200	8.36	600	8.26	6.68	210.3	4.20
11:25	25.99	0.11	~200	8.45	605	9.01	6.67	209.2	4.11
11:30	25.99	0.11	~200	8.22	607	9.52	6.67	208.7	3.95
11:35	25.99	0.11	~200	8.41	609	9.65	6.67	207.7	3.71

Total Volume Purged (gal): 1.0 gal
 Stabilization Criteria: +/- 3% ✓ +/- 3% ✓ +/- 10% (if > 0.5 mg/l) +/- 0.1 Units ✓ +/- 10 mV +/- 10% (if > 5 NTU) ✓

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 11:35
 Temperature: 8.41 deg. C
 Specific Conductance: 609 umhos/cm
 Dissolved Oxygen: 9.65 mg/L
 pH: 6.67 S.U.
 ORP: 207.7 mV
 Turbidity: 3.71 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond.	umhos/cm	✓
Dissolved Oxygen:	mg/L	✓
pH:	S.U.	✓
Eh:	mV	✓
Turbidity:	NTU	✓

SAMPLE COLLECTION

Appearance of Sample: Clear
 Time: 11:40
 Sample Duplicate?: NO
 Sample Method: LOW-FLOW

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): *[Signature]* Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co. Monitoring Location: _____
 LOCATION: 13390 Lone Tree Road Sample ID: MW-9
 Hartland Township, Michigan Well Type: 2" PVC
 PROJECT: 130685.2000

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____

Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____ Date: 3/29/18 Time: 8:09
 Depth to Water: 25.09 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Elevation of Water: _____ Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 3/29/18 Start Time: 8:13
 Measured Well Depth: 31.10 Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
8:30	25.13	0.04	~150	9.13	885	7.17	6.03	193.9	71.7
8:35	25.19	0.10	~150	9.02	890	5.17	6.20	183.7	56.3
8:40	25.21	0.12	~150	8.95	890	3.72	6.28	179.2	38.4
8:45	25.23	0.14	~150	9.01	890	3.87	6.35	177.7	31.0
8:50	25.23	0.14	~150	9.22	889	2.00	6.36	174.0	25.3
8:55	25.25	0.16	~150	9.52	888	1.43	6.37	166.6	17.5
9:00	25.26	0.17	~150	9.67	889	1.29	6.38	161.3	13.5
9:05	25.27	0.18	~150	9.57	888	1.23	6.39	153.5	12.0
9:10	25.27	0.18	~150	9.60	889	1.34	6.40	147.5	10.3
9:15	25.27	0.18	~150	9.52	889	1.22	6.41	141.0	8.75
9:20	25.27	0.18	~150	9.49	889	1.32	6.42	137.9	7.31

Total Volume Purged (gal) ~ 2.5
 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10%
 (if > 0.5 mg/l) (if > 5 NTU)

FIELD ANALYSIS

Time: 9:20
 Temperature: 9.49 deg. C
 Specific Conductance: 889 umhos/cm
 Dissolved Oxygen: 1.32 mg/L
 pH: 6.42 S.U.
 ORP: 137.9 mV
 Turbidity: 7.31 NTU

CALIBRATION CHECK

Standard (conc.)	Reading	Mark if Recalibrated
Specific Cond.	umhos/cm	
Dissolved Oxygen	mg/L	
pH	S.U.	
Orp	mV	
Turbidity	NTU	

SAMPLE COLLECTION

Time: 9:25 Appearance of Sample: clear Sample Duplicate?: NO Sample Method: LOW-FLOW

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate

SAMPLING PERSONNEL

Name (SIGNATURE): *Manna* Chain of Custody No. _____
 Name (SIGNATURE): _____

Turb never stabilized

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-10
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____

Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 21.08
 Elevation of Water: _____

Time Date: 9:50 Date Time: 3/28/18
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 3/28/18 Start Time: 9:53
 Measured Well Depth: 27.70 Screen Length: _____ Depth to Screen Midpoint: _____

last time drilled was 17.10'
 now it's 27.7'

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
10:10	21.11	0.03	~120	8.70	630	8.46	6.74	237.5	3.20
10:15	21.12	0.04	~150	8.84	629	8.15	6.76	232.5	2.58
10:20	21.12	0.04	~200	9.16	630	8.88	6.79	227.8	2.48
10:25	21.12	0.04	~200	9.19	629	9.46	6.81	224.7	2.71
10:30	21.12	0.04	~200	9.42	624	10.03	6.84	220.2	2.68
10:35	21.12	0.04	~200	9.31	623	10.34	6.85	218.7	2.57

Total Volume Purged (gal): ~1.0
 Stabilization Criteria: +/- 3% ✓ +/- 3% ✓ +/- 10% ✓ +/- 0.1 Units ✓ +/- 10 mV ✓ +/- 10% (if > 5 NTU) ✓

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 10:35
 Temperature: 9.31 deg. C
 Specific Conductance: 623 umhos/cm
 Dissolved Oxygen: 10.34 mg/L
 pH: 6.85 S.U.
 ORP: 218.7 mV
 Turbidity: 2.57 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond.	umhos/cm	<input checked="" type="checkbox"/>
Dissolved Oxygen	mg/L	<input checked="" type="checkbox"/>
pH	S.U.	<input checked="" type="checkbox"/>
Eh.	mV	<input type="checkbox"/>
Turbidity	NTU	<input type="checkbox"/>

SAMPLE COLLECTION

Appearance of Sample: Clear Time: 10:40 Sample Duplicate?: NO Sample Method: LOW-FLOW

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): Mann Chain of Custody No. _____ Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-11
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Date: 3/29/18 Time: 9:40
 Depth to Water: 23.31
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Elevation of Water: _____
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____
 Date: 3/29/18 Start Time: 9:43
 Measured Well Depth: 29.80
 Screen Length: _____
 Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
10:05	23.33	0.02	~200	10.17	949	6.23	6.28	146.8	3.03
10:10	23.33	0.02	~200	10.29	953	5.24	6.29	148.5	4.06
10:15	23.33	0.02	~200	10.27	958	5.21	6.31	150.6	3.64
10:20	23.33	0.02	~200	10.37	959	5.17	6.33	152.1	3.69

Total Volume Purged (gal): ~1.5
 Stabilization Criteria: +/- 3% +/- 3% +/- 10% (if > 0.5 mg/l) +/- 0.1 Units +/- 10 mV +/- 10% (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 10:20
 Temperature: 10.37 deg. C
 Specific Conductance: 959 umhos/cm
 Dissolved Oxygen: 5.17 mg/L
 pH: 6.33 S.U.
 ORP: 152.1 mV
 Turbidity: 3.69 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond.:	umhos/cm	<input checked="" type="checkbox"/>
Dissolved Oxygen:	mg/L	<input checked="" type="checkbox"/>
pH:	S.U.	<input checked="" type="checkbox"/>
Eh:	mV	<input type="checkbox"/>
Turbidity:	NTU	<input type="checkbox"/>

SAMPLE COLLECTION

Appearance of Sample: Clear
 Time: 10:25
 Sample Duplicate?: NO
 Sample Method: low-flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfonane
1	125 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
		ml glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		ml glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		ml glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		ml glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		ml glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		ml glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		ml glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		ml glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): *M. Anze* Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-125
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Date: 3/29/18 Time: 12:50
 Depth to Water: 23.29
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Elevation of Water: _____
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 3/29/18 Start Time: 12:52

Measured Well Depth: 28.50 Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
13:10	23.33	0.04	~200	9.09	719	15.02	6.82	149.4	6.90
13:15	23.33	0.04	~200	9.22	720	7.57	6.75	151.5	6.18
13:20	23.33	0.04	~200	9.52	721	7.48	6.74	152.6	5.07
13:25	23.33	0.04	~200	9.59	723	7.65	6.73	153.7	4.58
13:30	23.33	0.04	~200	9.49	723	7.70	6.73	154.5	4.33

Total Volume Purged (gal): ~2.0 gal
 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10%
 (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 13:30
 Temperature: 9.49 deg C
 Specific Conductance: 723 umhos/cm
 Dissolved Oxygen: 7.70 mg/L
 pH: 6.73 S.U.
 ORP: 154.5 mV
 Turbidity: 4.33 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond.:	umhos/cm	<input checked="" type="checkbox"/>
Dissolved Oxygen:	mg/L	<input checked="" type="checkbox"/>
pH:	S.U.	<input checked="" type="checkbox"/>
Eh:	mV	<input checked="" type="checkbox"/>
Turbidity:	NTU	<input checked="" type="checkbox"/>

SAMPLE COLLECTION

Appearance of Sample: clear Time: 13:35 Sample Duplicate?: NO Sample Method: low-flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): *Mama* Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-12d
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____

Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 22.88
 Elevation of Water: _____

Date: 3/29/18 Time: 1408

Measured with: ELECTRODE TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____
 Date: 3/29/18 Start Time: 1410

Measured Well Depth: 47.30 Screen Length: _____
 Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1425	22.88		260	8.14	818	3.05	7.15	176.5	4.89
1430	22.88		11	8.14	817	3.25	7.14	176.4	3.59
1435	22.88		250	8.09	806	3.36	7.18	175.7	2.93
1440	22.88		11	8.05	812	3.45	7.17	175.8	2.96

Total Volume Purged (gal): 2.8 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 5 mg/l)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1440
 Temperature: 8.05 deg. C
 Specific Conductance: 812 umhos/cm
 Dissolved Oxygen: 3.45 mg/L
 pH: 7.17 S.U.
 ORP: 175.8 mV
 Turbidity: 2.96 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond.:	umhos/cm	
Dissolved Oxygen:	mg/L	
pH:	S.U.	
Oh:	mV	
Turbidity:	NTU	

SAMPLE COLLECTION

Appearance of Sample: clear Time: 1445
 Sample Duplicate?: no Field Blank 2 (1415)
 Sample Method: ion flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): [Signature]

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-135
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____

Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 21.84
 Elevation of Water: _____

Date: 3/28/18 Time: 12:10
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____
 Date: 3/28/18 Start Time: 12:16
 Measured Well Depth: 30.3 Screen Length: _____
 Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1240	21.96		264	8.11	576	9.56	7.20	193.0	14.0
1245	21.96		268	8.01	578	9.49	7.21	194.0	11.5
1255	21.96		11	8.00	579	10.10	7.28	194.7	9.34
1300	21.96		11	8.20	580	10.12	7.26	195.0	7.02
1305	21.96		11	8.17	580	10.12	7.27	195.1	5.29

Total Volume Purged (gal): 3.5
 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

FIELD ANALYSIS

Time: 1305
 Temperature: 8.17 deg C
 Specific Conductance: 580 umhos/cm
 Dissolved Oxygen: 10.12 mg/L
 pH: 7.27 S.U.
 ORP: 195.1 mV
 Turbidity: 5.29 NTU

CALIBRATION CHECK

Standard (conc.)	Reading	Mark if Recalibrated
Specific Cond.:	umhos/cm	
Dissolved Oxygen:	mg/L	
pH:	S.U.	
Eh:	mV	
Turbidity:	NTU	

SAMPLE COLLECTION

Appearance of Sample: clear
 Time: 1310
 Sample Duplicate?: NO
 Sample Method: 1st flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): [Signature]

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-13d
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 21.54
 Elevation of Water: _____
 Date: 3/28/18 Time: 1315
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____
 Date: 3/28 Start Time: 1320
 Measured Well Depth: 32.20 Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1345	21.82		2.54	8.87	970	8.55	7.20	197.7	3.00
1350	21.82		11	8.86	978	8.52	7.20	197.9	1.79
1355	21.82		11	8.70	984	8.41	7.17	198.4	1.35

Total Volume Purged (gal): 25
 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1355
 Temperature: 8.90 deg C
 Specific Conductance: 984 umhos/cm
 Dissolved Oxygen: 8.41 mg/L
 pH: 7.17 S.U.
 ORP: 198.4 mV
 Turbidity: 1.35 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond:	umhos/cm	<input checked="" type="checkbox"/>
Dissolved Oxygen:	mg/L	<input checked="" type="checkbox"/>
pH:	S.U.	<input checked="" type="checkbox"/>
Or:	mV	<input checked="" type="checkbox"/>
Turbidity:	NTU	<input checked="" type="checkbox"/>

SAMPLE COLLECTION

Appearance of Sample: clear
 Time: 1355
 Sample Duplicate?: no
 Sample Method: 10-11-12

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): [Signature]

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-143
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 20.92
 Elevation of Water: _____
 Date: 3/28/18 Time: 0950
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____
 Date: 3/28/18 Start Time: 0953
 Measured Well Depth: 26.46 Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1030	21.02	0	246	7.87	1266	8.71	6.32	274.9	3.24
1035	21.02	0	11	7.96	1267	8.73	6.45	270.9	2.02
1040	21.02	0	11	7.96	1266	8.68	6.52	261.1	1.92
1045	21.05	0	11	7.93	1265	8.61	6.58	266.6	1.84

Total Volume Purged (gal): 3 1/8 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1045
 Temperature: 7.93 deg. C
 Specific Conductance: 1265 umhos/cm
 Dissolved Oxygen: 8.61 mg/L
 pH: 6.58 S.U.
 ORP: 266.6 mV
 Turbidity: 1.84 NTU
 CALIBRATION CHECK
 Standard (conc.) Reading Mark if Recalibrated
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Appearance of Sample: clear Time: 1045
 Sample Duplicate?: NO
 Sample Method: 10/15/18

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): _____ Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW- 15
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____

Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Date: 3/28/18 Time: 1244
 Depth to Water: 19.58
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Elevation of Water: _____
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____
 Date: 3/28/18 Start Time: 1245
 Measured Well Depth: 26.75 Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1302	19.75	0.17	310	10.26	590	7.84	7.31	227.5	-
1305	19.72	0.14	220	10.03	537	8.32	7.30	220.5	6.12
1310	19.72	0.14	220	10.03	585	8.00	7.33	222.4	6.74
1315	19.72	0.14	220	10.07	582	8.15	7.34	224.4	6.24
1320	19.70	0.12	220	10.02	584	7.96	7.35	225.4	0.55

Total Volume Purged (gal): 2.4 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1320
 Temperature: 10.02 deg. C
 Specific Conductance: 584 umhos/cm
 Dissolved Oxygen: 7.96 mg/L
 pH: 7.35 S.U.
 ORP: 225.4 mV
 Turbidity: 0.55 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond:	_____ umhos/cm	_____
Dissolved Oxygen:	_____ mg/L	_____
pH:	_____ S.U.	_____
Eh:	_____ mV	_____
Turbidity:	_____ NTU	_____

SAMPLE COLLECTION

Appearance of Sample: clear Time: 1320 Sample Duplicate?: NO
 Sample Method: post-148

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): *[Signature]* Chain of Custody No. 39339
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co. Monitoring Location: _____
 LOCATION: 13390 Lone Tree Road Sample ID: MW-15d
 Hartland Township, Michigan Well Type: 2" PVC
 PROJECT: 130685.2000

INSPECTION

Label on well? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED	Is cement pad in good repair? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED
Is reference mark visible? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED	Is protective casing locked and in good repair? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED
Standing water present? YES <input checked="" type="checkbox"/> REMEDIED	Is inner cap in place and properly sealing well? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED
Indication of surface runoff in well? YES <input checked="" type="checkbox"/> REMEDIED	Is well casing in visibly good repair? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> REMEDIED

Repair Notes: _____

STATIC WATER LEVEL

Date: 3/28/18 Time: 14:16

Top of Casing Elevation: _____
 Depth to Water: 20.08 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Elevation of Water: _____ Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 3/28/18 Start Time: 14:19

Measured Well Depth: 59.88 Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1440			0	(shut off)	761	1.27	7.20	53.2	0.01
1445	20.09	0.01	180	9.82	762	0.92	7.27	45.5	3.61
1450	20.10	0.02	180	10.24	762	0.72 X			
1455	20.10	0.02	180	10.35	768	0.51 X	7.26	40.5	4.19
1500	20.10	0.02	180	10.32	836 X	0.39	7.21	39.4	3.73
1505	20.10	0.02	180	10.22	868 X	0.47	7.18	42.2	3.29
1510	20.10	0.02	180	10.22	876	0.50	7.18	44.9	3.74
1515	20.10	0.02	180	10.33	878	0.54	7.17	45.2	3.81
1520	20.10	0.02	180						

Total Volume Purged (gal): 1.8 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

FIELD ANALYSIS

Time: 1520

Temperature: 10.33 deg. C

Specific Conductance: 878 umhos/cm

Dissolved Oxygen: 0.54 mg/L

pH: 7.17 S.U.

ORP: 45.2 mV

Turbidity: 3.81 NTU

CALIBRATION CHECK		Mark if Recalibrated
Standard (conc.)	Reading	
Specific Cond.:	umhos/cm	
Dissolved Oxygen:	mg/L	
pH:	S.U.	
Orp:	mV	
Turbidity:	NTU	

SAMPLE COLLECTION

Time: 1520 Appearance of Sample: clear Sample Duplicate?: No Sample Method: push thru

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfone
1	125 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Chain of Custody No. 39339

Name (SIGNATURE): [Signature] Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-16d
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____ Date: 3/29/16 Time: 11:23
 Depth to Water: 20.89
 Elevation of Water: _____
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 3/24/16 Start Time: 11:24
 Measured Well Depth: _____ Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1146	21.44	0.51	300	10.20	731	3.80	7.13	153.7	5.47
1150	21.43	0.51	300	10.20	727	3.81	7.13	153.7	2.68
1155	21.40	0.51	300	10.20	723	3.85	7.13	153.7	0.05
1200	21.40	0.51	300	10.26	720	3.88	7.14	153.5	0.05

Total Volume Purged (gal): 2.6 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV
 (if > 0.5 mg/l) Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January

FIELD ANALYSIS

Time: 1200
 Temperature: 10.26 deg. C
 Specific Conductance: 720 umhos/cm
 Dissolved Oxygen: 3.88 mg/L
 pH: 7.14 S.U.
 ORP: 153.5 mV
 Turbidity: 0.05 NTU
 CALIBRATION CHECK
 Standard (conc.) Reading Mark if Recalibrated
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Appearance of Sample: clear Time: 1200
 Sample Duplicate?: No
 Sample Method: peristaltic

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. 79343
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-175
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____

Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 19.62
 Elevation of Water: _____

Date: 3/29/18 Time: 1255

Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____
 Date: 3/29/18 Start Time: 1256

Measured Well Depth: 27.25 Screen Length: _____
 Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umhos/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1320	19.77		272	7.99	863	3.40	7.07	180.7	4.12
1325	19.77		11	8.07	865	3.44	7.07	179.7	2.39
1330	19.77		11	8.01	878	3.28	7.06	179.2	2.22

Total Volume Purged (gal): 225 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP.GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1330
 Temperature: 8.01 deg C
 Specific Conductance: 878 umhos/cm
 Dissolved Oxygen: 3.28 mg/L
 pH: 7.06 S.U.
 ORP: 179.2 mV
 Turbidity: 2.22 NTU

CALIBRATION CHECK

Standard (conc.)	Reading	Mark if Recalibrated
Specific Cond.: _____	umhos/cm	<input checked="" type="checkbox"/>
Dissolved Oxygen: _____	mg/L	<input type="checkbox"/>
pH: _____	S.U.	<input type="checkbox"/>
Or: _____	mV	<input type="checkbox"/>
Turbidity: _____	NTU	<input type="checkbox"/>

SAMPLE COLLECTION

Appearance of Sample: clear Time: 1335
 Sample Duplicate?: YES
 Sample Method: Low Flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): [Signature]

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-18
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 21.85
 Elevation of Water: _____
 Date: 3/29/18 Time: 10:32
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER
 Date: 3/29/18 Start Time: 10:34

Measured Well Depth: 27.50 Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
10:50	21.90	0.05	~200	9.18	905	9.40	6.50	157.6	4.94
10:55	21.90	0.05	~200	9.51	863	2.48	6.50	151.4	4.59
11:00	21.90	0.05	~200	9.60	824	1.09	6.48	135.1	4.05
11:05	21.90	0.05	~200	9.38	816	0.84	6.49	122.5	3.82
11:10	21.91	0.06	~200	10.12	816	0.70	6.56	109.8	3.62
11:15	21.91	0.06	~200	10.15	814	0.77	6.52	101.6	3.91
11:20	21.91	0.06	~200	10.16	813	0.71	6.54	100.2	3.63

Total Volume Purged (gal): 21.5 gal
 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10%
 (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 11:20
 Temperature: 10.16 deg. C
 Specific Conductance: 813 umhos/cm
 Dissolved Oxygen: 0.71 mg/L
 pH: 6.54 S.U.
 ORP: 100.2 mV
 Turbidity: 3.63 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond.:	umhos/cm	
Dissolved Oxygen:	mg/L	
pH:	S.U.	
Eh:	mV	
Turbidity:	NTU	

SAMPLE COLLECTION

Appearance of Sample: clear
 Time: 11:25
 Sample Duplicate?: NO
 Sample Method: low-flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
		ml glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		ml glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		ml glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		ml glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		ml glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		ml glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		ml glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		ml glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): *M...* Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-195
 Well Type: 2" PVC

INSPECTION

Label on well? <input checked="" type="radio"/> YES <input type="radio"/> NO REMEDIED	Is cement pad in good repair? <input checked="" type="radio"/> YES <input type="radio"/> NO REMEDIED
Is reference mark visible? <input checked="" type="radio"/> YES <input type="radio"/> NO REMEDIED	Is protective casing locked and in good repair? <input checked="" type="radio"/> YES <input type="radio"/> NO REMEDIED
Standing water present? <input checked="" type="radio"/> YES <input type="radio"/> NO REMEDIED	Is inner cap in place and properly sealing well? <input checked="" type="radio"/> YES <input type="radio"/> NO REMEDIED
Indication of surface runoff in well? <input checked="" type="radio"/> YES <input type="radio"/> NO REMEDIED	Is well casing in visibly good repair? <input checked="" type="radio"/> YES <input type="radio"/> NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Date: 3/28/18 Time: 16:08
 Depth to Water: 23.33 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Elevation of Water: _____ Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 3/28/18 Start Time: 16:11

Measured Well Depth: 30.10 Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
16:30	23.48	0.15	~200	10.14	541	7.51	7.08	165.4	15.3
16:35	23.50	0.17	~200	10.20	539	7.39	7.18	167.0	12.9
16:40	23.51	0.18	~200	10.19	538	7.47	7.23	170.6	10.4
16:45	23.52	0.19	~200	10.31	536	7.74	7.25	170.7	10.0
16:50	23.52	0.19	~200	10.31	536	8.61	7.29	171.2	8.47
16:55	23.52	0.19	~200	10.28	535	9.20	7.32	171.6	6.95
17:00	23.52	0.19	~200	10.42	535	9.45	7.34	171.7	4.76

Total Volume Purged (gal): 21.5 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 17:00
 Temperature: 10.42 deg C
 Specific Conductance: 535 umhos/cm
 Dissolved Oxygen: 9.45 mg/L
 pH: 7.34 S.U.
 ORP: 171.7 mV
 Turbidity: 4.76 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond.:	umhos/cm	<input checked="" type="checkbox"/>
Dissolved Oxygen:	mg/L	<input checked="" type="checkbox"/>
pH:	S.U.	<input checked="" type="checkbox"/>
Eh:	mV	<input checked="" type="checkbox"/>
Turbidity:	NTU	<input checked="" type="checkbox"/>

SAMPLE COLLECTION

Appearance of Sample: clear Time: 17:05 Sample Duplicate?: NO Sample Method: LOW-FLOW

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
_____	_____ ml	glass plastic	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes <input type="checkbox"/> no <input checked="" type="checkbox"/>	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): *[Signature]* Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-19D
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____

Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Date: 3/28/18 Time: 14:56
 Depth to Water: 23.16
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Elevation of Water: _____
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____
 Date: 3/28/18 Start Time: 15:06
 Measured Well Depth: 50.10
 Screen Length: _____
 Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
15:30	23.19	0.03	~200	10.52	926	8.02	6.80	181.3	7.77
15:35	23.20	0.04	~200	10.57	922	1.04	6.76	177.7	8.57
15:40	23.20	0.04	~200	10.60	921	0.62	6.74	175.7	7.78
15:45	23.20	0.04	~200	10.67	921	0.65	6.76	174.1	7.49
15:50	23.20	0.04	~200	10.54	922	0.47	6.72	173.7	5.03
15:55	23.20	0.04	~200	10.50	921	0.47	6.72	173.3	4.05

Total Volume Purged (gal): ~2.0 gal
 Stabilization Criteria: +/- 3% ✓ +/- 3% ✓ +/- 10% ✓ +/- 0.1 Units ✓ +/- 10 mV ✓ +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 15:55
 Temperature: 10.50 deg C
 Specific Conductance: 921 umhos/cm
 Dissolved Oxygen: 0.47 mg/L
 pH: 6.72 S.U.
 ORP: 173.3 mV
 Turbidity: 4.05 NTU

CALIBRATION CHECK
 Standard (conc.) Reading Mark if Recalibrated
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Time: 16:00
 Appearance of Sample: Clear
 Sample Duplicate?: NO
 Sample Method: low-flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): *[Signature]* Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-19DD
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 23.20
 Elevation of Water: _____
 Date: 3/28/18 Time: 13:58
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____
 Date: 3/28/18 Start Time: 14:02
 Measured Well Depth: 66.15 Screen Length: _____
 Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
14:20	23.23	0.03	~200	10.20	785	5.88	6.72	159.9	7.14
14:25	23.23	0.03	~200	10.09	774	6.18	6.71	161.2	6.06
14:30	23.23	0.03	~200	10.06	775	6.27	6.71	162.4	6.01
14:35	23.23	0.03	~200	10.08	775	6.27	6.71	163.9	6.09

Total Volume Purged (gal): ~1.0
 Stabilization Criteria: +/- 3% ✓ +/- 3% ✓ +/- 10% (if > 0.5 mg/l) ✓ +/- 0.1 Units ✓ +/- 10 mV ✓ +/- 10 NTU (if > 5 NTU) ✓

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 14:35
 Temperature: 10.08 deg. C
 Specific Conductance: 775 umhos/cm
 Dissolved Oxygen: 6.27 mg/L
 pH: 6.71 S.U.
 ORP: 163.9 mV
 Turbidity: 6.09 NTU
 CALIBRATION CHECK
 Standard (conc.) Reading Mark if Recalibrated
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Appearance of Sample: Clear
 Time: 14:40
 Sample Duplicate?: NO
 Sample Method: LOW-FLOW

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____
_____	_____ ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	_____

SAMPLING PERSONNEL

Name (SIGNATURE): *M. [Signature]* Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-205
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 23.04
 Elevation of Water: _____
 Date: 3/28/18 Time: 1525
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER
 Date: 3/28/18 Start Time: 1528
 Measured Well Depth: _____ Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/mjn)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1555	23.13		148	7.94	946	1.82	6.87	208.6	6.96
1600	23.13		"	7.94	945	1.86	6.88	208.4	3.81
1605	23.13		"	8.02	943	2.03	6.85	208.3	2.81
1610	23.13		"	8.08	942	2.03	6.78	207.8	1.55

Total Volume Purged (gal): 21.75
 Stabilization Criteria: +/- 3% +/- 3% +/- 10% (if > 0.5 mg/l) +/- 0.1 Units +/- 10 mV +/- 10 % (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1610
 Temperature: 8.08 deg C
 Specific Conductance: 942 umhos/cm
 Dissolved Oxygen: 2.03 mg/L
 pH: 6.78 S.U.
 ORP: 207.8 mV
 Turbidity: 1.55 NTU

CALIBRATION CHECK		Mark if
Standard (conc.)	Reading	Recalibrated
Specific Cond.	umhos/cm	<input checked="" type="checkbox"/>
Dissolved Oxygen	mg/L	<input checked="" type="checkbox"/>
pH	S.U.	<input checked="" type="checkbox"/>
Oh	mV	<input checked="" type="checkbox"/>
Turbidity	NTU	<input checked="" type="checkbox"/>

SAMPLE COLLECTION

Appearance of Sample: clear
 Time: 1615
 Sample Duplicate?: YES
 Sample Method: 1025 Flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
		ml glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		ml glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		ml glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		ml glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		ml glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		ml glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		ml glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		ml glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		ml glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-200
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 22.38
 Elevation of Water: _____
 Date: 3/29/18 Time: 0835
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER
 Date: 3/29/18 Start Time: 0840
 Measured Well Depth: 35.15 Screen Length: _____
 Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
0900	23.61		172	7.77	892	1.99	6.86	161	3.65
0905	23.61		11	7.76	892	1.90	6.87	158.5	3.2
0910	23.63		148	7.77	893	1.86	6.88	143.4	2.83
0915	23.65		11	7.77	893	1.74	6.89	138.7	3.33
0920	23.66		11	7.78	894	2.00	6.90	126.6	3.29

Total Volume Purged (gal): 2 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

FIELD ANALYSIS

Time: 0920
 Temperature: 7.75 deg C
 Specific Conductance: 894 umhos/cm
 Dissolved Oxygen: 2.00 mg/L
 pH: 6.90 S.U.
 ORP: 126.6 mV
 Turbidity: 3.28 NTU
 CALIBRATION CHECK
 Standard (conc.) Reading Mark it Recalibrated
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Appearance of Sample: clear Time: 0920
 Sample Duplicate?: NO
 Sample Method: 100 ml filtered

NO./BOTTLES:	SIZE	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): _____ Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co. Monitoring Location: _____
 LOCATION: 13390 Lone Tree Road Sample ID: MW-212
 Hartland Township, Michigan Well Type: 2" PVC
 PROJECT: 130685.2000

INSPECTION

Label on well? YES <input checked="" type="checkbox"/> NO <input checked="" type="checkbox"/> REMEDIED	Is cement pad in good repair? YES <input checked="" type="checkbox"/> NO <input checked="" type="checkbox"/> REMEDIED
Is reference mark visible? YES <input checked="" type="checkbox"/> NO <input checked="" type="checkbox"/> REMEDIED	Is protective casing locked and in good repair? YES <input checked="" type="checkbox"/> NO <input checked="" type="checkbox"/> REMEDIED
Standing water present? YES <input checked="" type="checkbox"/> NO <input checked="" type="checkbox"/> REMEDIED	Is inner cap in place and properly sealing well? YES <input checked="" type="checkbox"/> NO <input checked="" type="checkbox"/> REMEDIED
Indication of surface runoff in well? YES <input checked="" type="checkbox"/> NO <input checked="" type="checkbox"/> REMEDIED	Is well casing in visibly good repair? YES <input checked="" type="checkbox"/> NO <input checked="" type="checkbox"/> REMEDIED

Repair Notes: _____

STATIC WATER LEVEL

Date: 3/28/18 Time: 1430

Top of Casing Elevation: _____
 Depth to Water: 21.57
 Elevation of Water: _____

Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 3/28/18 Start Time: 1435

Measured Well Depth: 60.27 Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1455	21.58	0.1	278	8.57	785	4.16	7.00	197.3	2.67
1500	21.58	0.1	280	8.59	789	4.26	6.96	197.3	2.53
1505	21.58	0.1	"	8.59	785	4.13	6.96	197.9	2.34

Total Volume Purged (gal): 2 3/8 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 5 NTU)

FIELD ANALYSIS

Time: 1505
 Temperature: 8.59 deg C
 Specific Conductance: 785 umhos/cm
 Dissolved Oxygen: 4.13 mg/L
 pH: 6.96 S.U.
 ORP: 197.9 mV
 Turbidity: 2.34 NTU

Standard (conc.)	Reading	Mark if Recalibrated
Specific Cond.:	umhos/cm	<input checked="" type="checkbox"/>
Dissolved Oxygen:	mg/L	<input checked="" type="checkbox"/>
pH:	S.U.	<input checked="" type="checkbox"/>
ORP:	mV	<input checked="" type="checkbox"/>
Turbidity:	NTU	<input checked="" type="checkbox"/>

SAMPLE COLLECTION

Time: 1505
 Appearance of Sample: clear
 Sample Duplicate?: NO
 Sample Method: Low Flow Field Blank #1 (1445)

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): _____

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-22d
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES NO REMEDIED
 Indication of surface runoff in well? YES NO REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Date: 5/24/18 Time: 09:18
 Depth to Water: 19.4
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Elevation of Water: _____
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER _____ Date: 3/25/18 Start Time: 09:19
 Measured Well Depth: 24.04 Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
25	19.23	0.04	2.50	9.04	731	5.31	7.17	124.7	0.23
30	19.23	0.04	2.50	9.66	711	5.42	7.16	123.7	0.01
1:35	19.23	0.04	2.50	9.55	705	5.61	7.15	123.3	0.01
1:40	19.22	0.03	2.50	9.84	704	5.32	7.14	124.4	0.01

Total Volume Purged (gal): 1.6 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 0940
 Temperature: 9.54 deg C
 Specific Conductance: 704 umhos/cm
 Dissolved Oxygen: 5.32 mg/L
 pH: 7.14 S.U.
 ORP: 124.4 mV
 Turbidity: 0.01 NTU
 CALIBRATION CHECK
 Standard (conc.) Reading Mark if Recalibrated
 Specific Cond: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Time: 0940
 Appearance of Sample: clear
 Sample Duplicate: N/A
 Sample Method: peristaltic

NO./BOTTLES	SIZE	TYPE	FILTERED	PRESERVATIVE	PARAMETER
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfotane
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
		glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [Signature] Chain of Custody No. _____
 Name (SIGNATURE): [Signature]

CLIENT: Merit Energy Co.
 LOCATION: 13390 Lone Tree Road
 Hartland Township, Michigan
 PROJECT: 130685.2000

Monitoring Location: _____
 Sample ID: MW-23d
 Well Type: 2" PVC

INSPECTION

Label on well? YES NO REMEDIED
 Is reference mark visible? YES NO REMEDIED
 Standing water present? YES REMEDIED
 Indication of surface runoff in well? YES REMEDIED
 Repair Notes: _____
 Is cement pad in good repair? YES NO REMEDIED
 Is protective casing locked and in good repair? YES NO REMEDIED
 Is inner cap in place and properly sealing well? YES NO REMEDIED
 Is well casing in visibly good repair? YES NO REMEDIED

STATIC WATER LEVEL

Top of Casing Elevation: _____
 Depth to Water: 18.5
 Elevation of Water: _____
 Date: 3/23/18 Time: 1155
 Measured with: ELECTRONIC TAPE CHALKED TAPE OTHER
 Well depth verified? YES NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER
 Date: 3/28/18 Start Time: 1156
 Measured Well Depth: 32.77 Screen Length: _____ Depth to Screen Midpoint: _____

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (umho/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
1213	20.84	2.79	250	10.11	876	5.38	7.12	229.5	4.09
1215	20.95	2.90	250	10.06	880	4.88	7.11	228.6	4.95
1220	20.70	2.65	200	9.96	896	3.40	7.08	226.7	4.70
1225	20.68	2.63	200	9.88	896	3.31	7.07	226.4	4.79
1230	20.63	2.58	200	10.05	898	3.03	7.07	224.9	4.43

Total Volume Purged (gal): 2.4
 Stabilization Criteria: +/- 3% +/- 3% +/- 10% +/- 0.1 Units +/- 10 mV +/- 10% (if > 0.5 mg/l) (if > 5 NTU)

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1230
 Temperature: 10.07 deg. C
 Specific Conductance: 878 umhos/cm
 Dissolved Oxygen: 3.03 mg/L
 pH: 7.07 S.U.
 ORP: 224.9 mV
 Turbidity: 4.43 NTU
 CALIBRATION CHECK
 Standard (conc.) Reading Mark if Recalibrated
 Specific Cond.: _____ umhos/cm
 Dissolved Oxygen: _____ mg/L
 pH: _____ S.U.
 Eh: _____ mV
 Turbidity: _____ NTU

SAMPLE COLLECTION

Appearance of Sample: clear Time: 1230 Sample Duplicate?: No
 Sample Method: peristaltic

NO. BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic	yes no	None HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	Sulfate
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO ₃ , NaOH, H ₂ SO ₄ , ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): _____ Chain of Custody No. 39338
 Name (SIGNATURE): _____