Environmental Consulting & Technology, Inc.
3399 Veterans Drive, Traverse City, Michigan 49684

QUARTERLY PROJECT UPDATE REPORT
2nd QUARTER 2020

HARLTAND 36 GAS PLANT
PORTION OF E½ of NW ¼ of SECTION 36, T03N-R06E,
HARTLAND TWP, LIVINGSTON COUNTY, MICHIGAN

LAMBDA ENERGY RESOURCES, LLC
1510 THOMAS ROAD
KALKASKA, MICHIGAN 49646

September 10, 2020

ECT No. 130685-2000

DOCUMENT REVIEW

The dual signatory process is an integral part of Environmental Consulting & Technology, Inc.'s (ECT's) Document Review Policy No. 9.03. All ECT documents undergo technical/peer review prior to dispatching these documents to any outside entity.

This document has been authored and reviewed by the following employees:

Jeremy S. Lewandowski	Brian J. Baumann
Author	Peer Review
	
Signature	Signature
September 10, 2020	September 10, 2020
Date	Date

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1.0 INTRODUCTION

This Quarterly Project Update Report was compiled by Environmental Consulting & Technology, Inc. (ECT), on behalf of Lambda Energy Resources, LLC (LER) and details remediation system operations and performance monitoring through the 2nd Quarter 2020 (April 1, 2020 through June 30, 2020) 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 a portion of the East ½ of the Northeast ¼ 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 Environment, Great Lakes, and Energy – Oil, Gas, and Minerals Division (EGLE-OGMD) by ECT 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, 2017
- Quarterly Project Update Report – 1st Quarter 2018 dated April 24, 2018
- Quarterly Project Update Report – 2nd Quarter 2018 dated August 8, 2018
- Quarterly Project Update Report – 3rd Quarter 2018 dated October 26, 2018
- Quarterly Project Update Report – 4th Quarter 2018 dated April 8, 2019
- Quarterly Project Update Report – 1st Quarter 2019 dated April 10, 2019
- Quarterly Project Update Report – 2nd Quarter 2019 dated August 19, 2019
- Quarterly Project Update Report – 3rd Quarter 2019 dated November 25, 2019
- Quarterly Project Update Report – 4th Quarter 2020 dated May 5, 2020
- Quarterly Project Update Report – 1st Quarter 2020 dated July 17, 2020

4.0 PROJECT OVERVIEW

KCS Michigan Resources developed the Site in 1999 and operated the natural gas processing plant into 2006. Merit Energy Company acquired the Site in 2006 and operated the plant until August 2015, when facility decommissioning commenced. LER acquired the Site from Merit Energy Company in July 2018.

In general, operations at the Site included crude oil and brine separation and storage, natural gas compression, dehydration, sweetening (hydrogen sulfide [H_2S] removal), carbon dioxide (CO_2) 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 37 permanent monitor wells, including 20 shallow screened monitor wells and 17 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 a monitor well at the Site was 11,000 micrograms per liter (µg/L) from MW-20D on the June 19-21, 2017 sampling event. 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 summary of pilot study activities and results.

Information obtained from the pilot study was utilized to compile the Remediation System Design Plan dated August 11, 2017. The Remediation System Design Plan presented the biosparge point (BSP) array, remediation system equipment, anticipated remediation system operation and maintenance (O&M), and performance monitoring activities. Biosparge system installation activities commenced at the Site on August 21, 2017 and concluded with startup of the remediation system on November 16, 2017. Remediation system equipment and components were generally consistent with

details and specifications provided in the Remediation System Design Plan and included 41 biosparge points (BSPs). Refer to the Quarterly Project Update Report – 1st Quarter 2018 dated April 24, 2018 for a summary of remediation system installation activities, O&M, and results of performance monitoring events completed through the 1st Quarter 2018.

Performance monitoring results from the 1st Quarter 2020 indicate the remediation system continues to mitigate concentrations of sulfolane in groundwater with all ten of the monitor wells that reported a concentration of sulfolane above the cleanup goal from the pre-startup sampling event reporting sulfolane non-detect. The remediation system was shut down on February 17, 2020 and has not operated since. Refer to the Quarterly Project Update Report – 1st Quarter 2020 dated July 17, 2020 for a summary of remediation system O&M and results of performance monitoring events completed through the 1st Quarter 2020.

5.0 REMEDIATION SYSTEM OPERATION AND MAINTENANCE

The remediation system was shut down on February 17, 2020 for scheduled maintenance of the air sparge compressor skid. The remediation system has remained shut down since February 17, 2020.

6.0 PERFORMANCE MONITORING SUMMARY

The following sections detail performance monitoring activities completed at the Site in the 2nd Quarter 2020.

6.1 PERFORMANCE MONITORING EVENTS

Personnel from ECT completed the following performance monitoring events at the Site in the 2nd Quarter 2020:

- April 2, 2020 – Groundwater monitoring event of the following four monitor wells:
  - MW-7D, MW-13D, MW-14D, and MW-19D.
- June 1-2, 2020 – Quarterly groundwater monitoring event of the following 14 monitor wells:
  - MW-7, MW-7D, MW-13, MW-13D, MW-14S, MW-14D, MW-15D, MW-17S, MW-17D, MW-18, MW-19S, MW-19D, MW-20S, and MW-20D.

6.2 LABORATORY ANALYSIS

Groundwater samples from the April 2, 2020 sampling event were collected with disposable polyethylene bailers after removing approximately three volumes of groundwater from each well (utilizing the bailers).

Groundwater samples from the June 1-2, 2020 quarterly sampling event 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 EGLE-RRD guidance documents.

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 (only for the June 1-2, 2020 sampling event)

Copies of laboratory analytical reports are included in Appendix C. Copies of low-flow sampling field forms are included in Appendix D.

6.3 CLEANUP GOALS

The EGLE-OGMD established an interim drinking water criterion for sulfolane of 90 µg/L which has been considered the cleanup goal for sulfolane dissolved in groundwater at the Site. However, per the June 28, 2020 EGLE-OGMD response to the Quarterly Project Update Report – 1st Quarter 2020, the Draft EGLE Part 201 Residential Generic Cleanup Criteria and Screening Level (Part 201 Residential GCCSL) for Drinking Water for sulfolane (5.9 µg/L), published in the Comprehensive Cleanup Criteria Update 2017, is now considered the basis for final site closure. Per footnote (M) of the proposed cleanup criteria tables, since the calculated health-based criteria of 5.9 µg/L is below the analytical target detection limit of 10 µg/L, the analytical target detection limit of 10 µg/L is considered the criterion.

The cleanup goal for sulfate, resulting from the biodegradation of sulfolane, was established in previous project submittals and is the EGLE Part 201 Residential GCCSL Drinking Water Criterion of 250 mg/L.

6.4 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 June 1-2, 2020.

<u>Monitor wells located west beyond the extent of the lower clay confining layer</u>

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

<u>Monitor wells screened below the lower clay confining layer</u>

- 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 all subsequent sampling events.

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 above the cleanup goal prior to the pre-remediation system startup event, 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 prior to the pre-remediation system startup event and non-detect at and subsequent to the pre-remediation system startup event:
  - MW-7 and MW-13
- The following presents percent reductions to the concentration of sulfolane (relative to the highest concentration from/after the pre-remediation system startup sampling event) for monitor wells that reported sulfolane above the cleanup goal from the pre-remediation system startup sampling event:
  - April 2, 2020:
    - MW-7D: 330 µg/L – 82.6%
    - MW-13D: 16 µg/L – 97.8%
    - MW-14D, MW-19D: ND – 100%
  - June 1-2, 2020: MW-7D, MW-13D, MW-14S, MW-14D, MW-15D, MW-17S, MW-17D, MW-18, MW-19D, and MW-20D: 100%
- Prior to the 2nd Quarter 2020 monitoring event, MW-13D was the only monitor well at the Site that reported concentrations of sulfate above the cleanup goal (250 µg/L). In addition to MW-13D (560 µg/L), MW-17D (260 µg/L) reported sulfate above the cleanup goal from the 2nd Quarter 2020 monitoring event. As noted in the Technical Memorandum – Biosparging Pilot Study dated July 28, 2017, natural attenuation/biodegradation (i.e sulfate reduction) of sulfate is expected once biosparging has ceased. In consideration of the remediation system being shut down since mid-February 2020, natural attenuation/biodegradation appears to be occurring as supported by the decrease to the concentration of sulfate at MW-13D from the previous quarterly sampling event (920 µg/L).

Monitor well locations are illustrated on Figure 3 in Appendix A. Please refer to Table 1 and Table 2 in Appendix B for a summary of groundwater monitoring data for the Site. The cleanup goal for sulfolane has been updated on Table 1 and Table 2.

7.0 CONCLUSIONS AND RECOMMENDATIONS

As supported by the data presented herein, the remediation system has been effective at reducing concentrations of sulfolane after approximately 2.5 years (31 months) of operation. All 14 monitor wells that previously reported a concentration of sulfolane above the cleanup goal were reported non-detect at the June 1-2, 2020 sampling event. The June 1-2, 2020 sampling event is the second

consecutive quarterly sampling event with all 14 monitor wells reported below the cleanup goal. The concentration of sulfate reported from MW-13D remains above the cleanup goal. However, the concentration of sulfate at MW-13D decreased to 560 µg/L from 920 µg/L from the March 2020 sampling event, thus indicating natural attenuation/biodegradation (i.e sulfate reduction) of sulfate is likely occurring. Prior to the 2nd Quarter 2020 monitoring event, MW-13D was the only monitor well to have reported a concentration of sulfate above the cleanup goal. In addition to MW-13D, MW-17D reported sulfate (260 µg/L) above the cleanup goal for the 2nd Quarter 2020 monitoring event.

As a result of all 14 monitor wells reporting sulfolane non-detect for the second consecutive quarterly monitoring event, the remediation system will remain shut down for the 3rd Quarter 2020.

Per recommendations presented in the Quarterly Project Update Report – 3rd Quarter 2018 dated October 26, 2018, and correspondence with EGLE-OGMD staff, three performance monitoring events per year were to include the 14 monitor wells with current/previous detections of sulfolane and one performance monitoring event per year was to include all (37) monitor wells. As a result of sulfolane reported non-detect from each of the 14 monitor wells samples for the previous two quarterly sampling events, sampling the remaining 23 monitor wells is no longer warranted.

8.0 SCHEDULE

The following schedule of activities is proposed/anticipated for the 3rd Quarter 2020:

- The remediation system will continue to be shut down.
- The next performance/quarterly monitoring event is proposed to be completed in September 2020 and will include the 14 monitor wells with current/previous detections of sulfolane.
- A quarterly project update report will be submitted subsequent to receipt of analytical data from the September 2020 monitoring event.

APPENDIX A

FIGURES

FIGURE 1
SITE LOCATION MAP
HARTLAND 36 GAS PLANT
PORTION OF E 1/2 OF NE 1/4 OF SECTION 36, T03N-R06E
HARTLAND TOWNSHIP, LIVINGSTON COUNTY, MICHIGAN
Source: USGS QUad: Kent Lake, 2015; West Highland, 2015; ECT, 2016.

ECT Environmental Consulting & Technology, Inc.

FIGURE 2
SITE AND SURROUNDING PROPERTIES MAP
HARTLAND 36 GAS PLANT
PORTION OF E 1/2 OF NE 1/4 OF SECTION 36, T03N-R06E
HARTLAND TOWNSHIP, LIVINGSTON COUNTY, MICHIGAN
Source: Google Earth, 2016; ECT, 2016.

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Legend

Monitor Well

Temporary Monitor Well

Soil Boring

Excavation Boundary

Fenceline (former)

BSP Location

ND

Not Detected at the Reporting Limit
Sulfolane concentrations from the
June 2020 sampling event.

FIGURE ADAPTED FROM SURVEY PERFORMED BY:

Gourdie-Fraser
Municipal | Development | Transportation

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

ECT Environmental Consulting & Technology, Inc.

HARTLAND 36 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

0 25' 50'

NORTH

FIGURE 3

APPENDIX B

TABLES

TABLE 1
GROUNDWATER ANALYTICAL SUMMARY & CLEANUP CRITERIA COMPARISON
Hartland 36 Gas Plant
Portion of E1/2 of NW1/4 of Section 36, T03N-R06E,
ECT Project #13-0685-2000

	MW-1			MW-2			MW-2D			MW-3			MW-3D			MW-4			MW-5			MW-6			MW-6D			MW-7		
Date	**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
6/19-21/18	ND	15.96	9.3	ND	10.66	15	ND	7.87	18	ND	8.43	11	ND	1.06	28	ND	9.86	21	ND	12.49	28	ND	10.58	56	ND	10.91	10	ND	10.49	17
9/18-20/18	ND	9.98	8.5	ND	12.08	15	ND	10.21	21	ND	9.56	16	ND	1.87	34	ND	11.86	23	ND	11.26	25	ND	5.56	57	ND	8.27	22	ND	13.67	24
12/17-18/18	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	10.03	41
3/25-26/19	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	15.99	44
6/24-26/19	ND	11.22	6.8	ND	7.00	17	ND	3.79	20	ND	11.36	15	ND	4.99	32	ND	11.47	27	ND	9.78	36	ND	6.25	61	ND	7.11	23	ND	12.22	20
9/23-24/19	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	12.78	25
12/3-4/19	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	9.65	29
1/2/20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2/13/20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
3/5-6/20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	49.87	22
4/2/20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
6/1-2/20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	18.32	23
% Decrease	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Sulfolane Criterion (µg/L)	**Non-detect - <10**																													
Sulfate Criterion (mg/L)	**250**																													

	MW-7D			MW-8			MW-9			MW-10			MW-11			MW-12S			MW-12D			MW-13			MW-13D		
Date	**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	---	---	--	---	---	--	---	---	--	---	---	--	---	---	--	---	---	--	---	---	--	ND	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
6/19-21/18	**180 (170)**	1.09	61 (57)	ND	8.58	30	ND	3.36	21	ND	9.98	39	ND	10.94	18	ND	9.09	22	ND	5.26	36	ND	8.08	93	**180**	2.42	**480**
9/18-20/18	**170**	1.32	58	ND	7.88	9.4	ND	1.66	29	ND	11.83	18	ND	11.00	45	ND	3.52	55	ND	4.27	34	ND	9.36	69	ND	5.06	**650**
12/17-18/18	**270 (300)**	12.68	37	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	10.41	94	ND	0.38	**740**
3/25-26/19	**1,700**	0.19	53	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	11.46	110	**16**	1.95	**740**
6/24-26/19	**510**	0.81	84	ND	12.70	17	ND	1.20	26	ND	8.50	61	ND	11.21	40	ND	5.84	27	ND	2.96	37	ND	8.54	140	**19**	2.61	**740**
9/23-24/19	**140**	2.58	57	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	8.93	140	ND	5.07	**750**
12/3-4/19	**1,200**	4.02	48	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	10.09	120	**37**	0.82	**660**
1/2/20	**2,400**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2/13/20	**1,500**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
3/5-6/20	ND	12.14	32	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	28.96	91	ND	7.08	**920**
4/2/20	**330**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**16**	---	---
6/1-2/20	ND	15.88	30	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	4.51	86	ND	6.56	**560**
% Decrease	82.63%	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	97.81%	---	---
Sulfolane Criterion (µg/L)	**Non-detect - <10**																										
Sulfate Criterion (mg/L)	**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) Concentrations shown in parenthesis are from duplicate sample.
7) % Decrease of sulfolane is the most recent sampling event relative to highest reported concentration since the pre-system startup event (9/11-13/17).
8) Sulfolane criterion established by EGLE-Oil, Gas, and Minerals Division (EGLE-OGMD).
9) Sulfate criterion - Part 201 Residential Generic Cleanup Criteria and Screening Levels (Part 201 Residential GCCSLs), dated January 10, 2018, per R299.44 (Table 1) of the Michigan Administrative Code.
10) Concentrations that are shaded ▭ and bold exceed cleanup criteria.

TABLE 1
GROUNDWATER ANALYTICAL SUMMARY & CLEANUP CRITERIA COMPARISON
Hartland 36 Gas Plant
Portion of E1/2 of NW1/4 of Section 36, T03N-R06E,
ECT Project #13-0685-2000

	MW-14S			MW-14D			MW-15			MW-15D			MW-15DD			MW-16			MW-16D			MW-17S			MW-17D		
Date	**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 (5,100)**	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
6/19-21/18	**52**	0.28	67	**2,600 (2,800)**	0.09	77 (77)	ND	7.98	39	ND	3.80	27	ND	0.53	42	ND	16.43	43	ND	8.12	24	**55**	8.61	68	ND (ND)	10.63	42 (41)
9/18-20/18	ND	4.90	140	**680**	2.89	110	ND	8.25	32	ND	7.45	20	ND	0.60	41	ND	8.12	21	ND	2.08	22	**32**	3.07	65	ND	3.83	49
12/17-18/18	ND	9.20	220	**290**	3.49	120	---	---	---	ND	6.77	22	---	---	---	---	---	---	---	---	---	ND	9.30	61	ND	9.75	47
3/25-26/19	ND	11.08	180	ND	5.71	120	---	---	---	ND	7.53	23	---	---	---	---	---	---	---	---	---	ND	5.77	80	ND	9.68	45
6/24-26/19	ND	9.88	160	**110**	5.82	120	ND	8.58	55	ND	5.65	28	ND	0.53	65	ND	11.24	23	ND	6.78	33	ND	1.43	69	ND	10.93	65
9/23-24/19	ND	5.96	100	**71**	2.83	150	---	---	---	ND	22.96	26	---	---	---	---	---	---	---	---	---	ND	4.78	73	ND	7.19	96
12/3-4/19	ND	8.66	93	**71**	10.21	150	---	---	---	ND	6.29	21	---	---	---	---	---	---	---	---	---	ND	7.98	61	ND	8.87	80
1/2/20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2/13/20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
3/5-6/20	ND	8.44	100	ND	11.39	130	---	---	---	ND	5.66	21	---	---	---	---	---	---	---	---	---	ND	3.26	56	ND	8.20	230
4/2/20	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
6/1-2/20	ND	5.62	120	ND	7.50	110	---	---	---	ND	6.87	24	---	---	---	---	---	---	---	---	---	ND	0.86	67	ND	5.71	**260**
% Decrease	100%	---	---	100%	---	---	---	---	---	100%	---	---	100%	---	---	---	---	---	---	---	---	100%	---	---	100%	---	---
Sulfolane Criterion (µg/L)	**Non-detect - <10**																										
Sulfate Criterion (mg/L)	**250**																										

	MW-18			MW-19S			MW-19D			MW-19DD			MW-20S			MW-20D			MW-21D			MW-22D			MW-23D		
Date	**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		2.03	57 (58)	**10,000**	2.00	51	ND	4.13	22	ND	5.32	9.4	ND	3.03	19
6/19-21/18	**14**	3.13	39	ND	11.14	36	**750**	1.08	63	ND	5.25	23	ND	4.80	56	**6,600**	3.99	58	ND	4.22	21	ND	12.97	8.0	ND	5.72	20
9/18-20/18	ND (ND)	0.67	49 (49)	ND	12.84	44	**170 (150)**	0.86	77 (77)	ND	6.89	20	ND	9.28	63	**22 (34)**	5.37	80 (81)	ND	5.77	21	ND	7.65	6.8	ND	3.12	21
12/17-18/18	ND	2.28	53	ND	8.95	47	**440**	3.02	83	---	---	---	ND	9.77	48	**19**	5.32	90	---	---	---	---	---	---	---	---	---
3/25-26/19	ND	1.09	47	ND	14.18	47	**350**	0.24	88	---	---	---	ND	12.20	62	ND (ND)	10.35	89 (84)	---	---	---	---	---	---	---	---	---
6/24-26/19	ND (ND)	0.97	45 (44)	ND	10.42	62	**98 (73)**	0.17	100 (94)	ND	7.27	23	ND	20.73	72	ND (ND)	10.86	94 (94)	ND	5.66	24	ND	9.20	8.3	ND	6.39	30
9/23-24/19	ND	1.60	43	ND	9.79	58	ND	8.39	110	---	---	---	ND	6.06	66	ND (ND)	6.26	84 (79)	---	---	---	---	---	---	---	---	---
12/3-4/19	ND	0.93	49	ND	11.40	62	**92**	0.57	92	---	---	---	ND	7.23	64	ND (ND)	6.15	84 (80)	---	---	---	---	---	---	---	---	---
1/2/20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2/13/20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
3/5-6/20	ND	7.25	71	ND	13.19	68	ND	9.24	100	---	---	---	ND	9.74	33	ND (ND)	4.20	88 (91)	---	---	---	---	---	---	---	---	---
4/2/20	---	---	---	---	---	---	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
6/1-2/20	ND	6.08	61	ND	11.36	72	ND	15.02	92	---	---	---	ND	11.51	36	ND (ND)	7.29	83 (85)	---	---	---	---	---	---	---	---	---
% Decrease	100%	---	---	100%	---	---	100%	---	---	---	---	---	100%	---	---	100%	---	---	---	---	---	---	---	---	---	---	---
Sulfolane Criterion (µg/L)	**Non-detect - <10**																										
Sulfate Criterion (mg/L)	**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) Concentrations shown in parenthesis are from duplicate sample.
7) % Decrease of sulfolane is the most recent sampling event relative to highest reported concentration since the pre-system startup event (9/11-13/17).
8) Sulfolane criterion established by EGLE-Oil, Gas, and Minerals Division (EGLE-OGMD).
9) Sulfate criterion - Part 201 Residential Generic Cleanup Criteria and Screening Levels (Part 201 Residential GCCSLs), dated January 10, 2018, per R299.44 (Table 1) of the Michigan Administrative Code.
10) Concentrations that are shaded ▭ and bold exceed cleanup criteria.

TABLE 2
SULFOLANE GROUNDWATER ANALYTICAL SUMMARY & CLEANUP CRITERIA COMPARISON
Hartland 36 Gas Plant
Portion of E1/2 of NW1/4 of 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
MW-1	20.1 - 25.1	ND	ND	ND	---	ND	---	---	---	---	---	ND	---	---	---	ND	ND	---	ND
MW-2	19.1 - 24.1	ND	ND	ND	---	ND	---	---	---	---	---	ND	---	---	---	ND	ND	---	ND
MW-2D	27.7 - 29.7	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	ND	ND	---	ND
MW-3	22.0 - 27.0	ND	---	ND	---	ND	---	---	---	ND	---	ND	---	---	---	ND	ND	---	ND
MW-3D	30.0 - 32.0	---	---	---	---	---	---	---	---	---	ND	ND	---	---	---	ND	ND	---	ND
MW-4	23.1 - 28.1	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
MW-6	25.4 - 30.4	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
MW-7	25.2 - 30.2	**880**	**44**	**510**	ND	**210**	---	---	---	ND	---	ND	---	---	---	**12**	ND	---	ND
MW-7D	39.2 - 44.2	---	---	---	---	---	---	---	**3,100**	---	---	**3,000**	---	---	---	**2,600**	**1,900**	---	**4,100**
MW-8	24.6 - 29.6	---	---	---	ND	ND	---	---	---	ND	---	ND	---	---	---	ND	ND	---	ND
MW-9	23.6 - 28.6	---	---	---	ND	ND	---	---	---	ND	---	ND	---	---	---	ND	ND	---	ND
MW-10	21.2 - 26.2	---	---	---	ND	ND	---	---	---	ND	---	ND	---	---	---	ND	ND	---	ND
MW-11	21.7 - 26.7	---	---	---	ND	ND	---	---	---	ND	---	ND	---	---	---	ND	ND	---	ND
MW-12S	20.5 - 25.5	---	---	---	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
MW-13	19.1 - 24.1	---	---	---	**6,600**	**8,800**	---	---	---	**3,500**	---	**5,100**	**7,000**	**3,700**	**97**	ND	ND	---	ND
MW-13D	27.7 - 29.7	---	---	---	---	---	---	**7,800**	---	**8,300**	---	**5,400**	**6,900**	**1,100**	**420**	**290**	**730**	---	**480**
MW-14S	18.6 - 23.6	---	---	---	---	---	---	46	---	**460**	---	**540**	**490**	**160**	**520**	**94**	**120**	---	**100**
MW-14D	36.7 - 41.7	---	---	---	---	---	---	**7,900**	---	**10,000**	---	**7,600**	**9,800**	**8,600**	**8,200**	**7,800**	**7,700**	---	**7,100**
MW-15	19.3 - 24.3	---	---	---	ND	ND	---	---	---	ND	---	ND	---	---	---	ND	ND	---	ND
MW-15D	37.9 - 42.9	---	---	---	---	---	---	---	---	---	**4,600**	**3,200**	---	---	---	**670**	**230**	---	ND
MW-15DD	50 - 55	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**33**	**48**	ND
MW-16	19.5 - 24.5	---	---	---	ND	ND	---	---	---	ND	---	ND	ND	ND	ND	ND	ND	---	ND
MW-16D	31.4 - 33.4	---	---	---	---	---	---	---	---	---	ND	ND	---	---	---	ND	ND	---	ND
MW-17S	19.9 - 24.9	---	---	---	---	---	---	**3,900**	---	**5,100**	---	**3,000**	---	---	---	**5,300**	**3,100**	---	**2,400**
MW-17D	35.4 - 37.4	---	---	---	---	---	---	**440**	---	**510**	---	**400**	---	---	---	**390**	**400**	---	**51**
MW-18	19.9 - 24.9	---	---	---	---	---	---	**6,800**	---	**6,800**	---	**4,300**	---	**2,100**	**4,800**	**3,800**	**2,200**	---	**660**
MW-19S	22.6 - 27.6	---	---	---	---	---	---	**2,700**	---	**1,500**	---	**1,300**	---	---	---	**24**	**33**	---	ND
MW-19D	43.0 - 48.0	---	---	---	---	---	---	**7,000**	---	**7,600**	---	**4,300**	---	---	---	**7,000**	**5,900**	---	**3,200**
MW-19DD	57 - 62	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND	---	ND
MW-20S	17.8 - 22.8	---	---	---	---	---	---	---	**25**	---	---	**97**	---	---	---	**160**	**63**	---	**49**
MW-20D	31.0 - 33.0	---	---	---	---	---	---	---	**8,700**	---	---	**8,300**	---	---	---	**11,000**	**12,000**	---	**12,000**
MW-21D	52.3 - 57.3	---	---	---	---	---	---	---	ND	---	---	ND	---	---	---	ND	ND	---	ND
MW-22D	36.4 - 41.4	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	ND	ND	---	ND
MW-23D	28.1 - 30.1	---	---	---	---	---	---	---	---	---	---	ND	---	---	---	ND	ND	---	ND
EGLE-OGMD Cleanup Criteria		**Non-detect - <10 µg/L**																	
Collection Method		LF		Bailer/PP	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 EGLE-Oil, Gas, and Minerals Division (EGLE-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.

TABLE 2
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)	1/25/2018	2/27/2018	3/28-29/2018	6/19-21/2018	9/18-20/2018	12/17-18/2018	3/25-26/19	6/24-26/2019	9/23-24/2019	12/3-4/19	1/2/2020	2/13/2020	3/5-6/2020	4/2/2020	6/1-2/2020
MW-1	20.1 - 25.1	---	---	ND	ND	ND	---	---	ND	---	---	---	---	---	---	---
MW-2	19.1 - 24.1	---	---	ND	ND	ND	---	---	ND	---	---	---	---	---	---	---
MW-2D	27.7 - 29.7	---	---	ND	ND	ND	---	---	ND	---	---	---	---	---	---	---
MW-3	22.0 - 27.0	---	---	ND	ND	ND	---	---	ND	---	---	---	---	---	---	---
MW-3D	30.0 - 32.0	---	---	ND	ND	ND	---	---	ND	---	---	---	---	---	---	---
MW-4	23.1 - 28.1	---	---	ND	ND	ND	---	---	ND	---	---	---	---	---	---	---
MW-5	18.0 - 23.0	---	---	ND	ND	ND	---	---	ND	---	---	---	---	---	---	---
MW-6	25.4 - 30.4	---	---	ND	ND	ND	---	---	ND	---	---	---	---	---	---	---
MW-6D	39.4 - 44.4	---	---	ND	ND	ND	---	---	ND	---	---	---	---	---	---	---
MW-7	25.2 - 30.2	---	---	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND	---	ND
MW-7D	39.2 - 44.2	---	**1,200**	**820**	**180**	**170**	**300**	**1,700**	**510**	**140**	**1,200**	**2,400**	**1,500**	ND	**330**	ND
MW-8	24.6 - 29.6	---	---	ND	ND	ND	---	---	ND	---	---	---	---	---	---	---
MW-9	23.6 - 28.6	---	---	ND	ND	ND	---	---	ND	---	---	---	---	---	---	---
MW-10	21.2 - 26.2	---	---	ND	ND	ND	---	---	ND	---	---	---	---	---	---	---
MW-11	21.7 - 26.7	---	---	ND	ND	ND	---	---	ND	---	---	---	---	---	---	---
MW-12S	20.5 - 25.5	---	---	ND	ND	ND	---	---	ND	---	---	---	---	---	---	---
MW-12D	39.7 - 44.7	---	---	ND	ND	ND	---	---	ND	---	---	---	---	---	---	---
MW-13	19.1 - 24.1	---	---	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND	---	ND
MW-13D	27.7 - 29.7	**400**	ND	ND	**180**	ND	ND	**16**	**19**	ND	**37**	---	---	ND	**16**	ND
MW-14S	18.6 - 23.6	**85**	ND	ND	**52**	ND	ND	ND	ND	ND	ND	---	---	ND	---	ND
MW-14D	36.7 - 41.7	**5,400**	**4,000**	**5,100**	**2,800**	**680**	**290**	ND	**110**	**71**	**71**	---	---	ND	ND	ND
MW-15	19.3 - 24.3	---	---	ND	ND	ND	---	---	ND	---	---	---	---	---	---	---
MW-15D	37.9 - 42.9	---	---	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND	---	ND
MW-15DD	50 - 55	---	---	ND	ND	ND	---	---	ND	---	---	---	---	---	---	---
MW-16	19.5 - 24.5	---	---	ND	ND	ND	---	---	ND	---	---	---	---	---	---	---
MW-16D	31.4 - 33.4	---	---	ND	ND	ND	---	---	ND	---	---	---	---	---	---	---
MW-17S	19.9 - 24.9	**510**	**460**	**52**	**55**	**32**	ND	ND	ND	ND	ND	---	---	ND	---	ND
MW-17D	35.4 - 37.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND	---	ND
MW-18	19.9 - 24.9	**2,300**	**2,000**	**980**	**14**	ND	ND	ND	ND	ND	ND	---	---	ND	---	ND
MW-19S	22.6 - 27.6	---	---	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND	---	ND
MW-19D	43.0 - 48.0	ND	ND	**290**	**750**	**170**	**440**	**350**	**98**	ND	**92**	---	---	ND	ND	ND
MW-19DD	57 - 62	---	---	ND	ND	ND	---	---	ND	---	---	---	---	---	---	---
MW-20S	17.8 - 22.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	---	---	ND	---	ND
MW-20D	31.0 - 33.0	**10,000**	**9,300**	**10,000**	**6,600**	**34**	**19**	ND	ND	ND	ND	---	---	ND	---	ND
MW-21D	52.3 - 57.3	---	---	ND	ND	ND	---	---	ND	---	---	---	---	---	---	---
MW-22D	36.4 - 41.4	---	---	ND	ND	ND	---	---	ND	---	---	---	---	---	---	---
MW-23D	28.1 - 30.1	---	---	ND	ND	ND	---	---	ND	---	---	---	---	---	---	---
EGLE-OGMD Cleanup Criteria		**Non-detect - <10 µg/L**														
Collection Method		LF										Bailer		LF	Bailer	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 EGLE-Oil, Gas, and Minerals Division (EGLE-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

LABORATORY ANALYTICAL REPORTS

09-Jun-2020

Nick Summerland
Lambda Energy Resources
1510 Thomas Rd
Kalkaska, MI 49646

Re: **Lambda (Hartland 6.1.20)** Work Order: **20060143**

Dear Nick,

ALS Environmental received 11 samples on 02-Jun-2020 10:30 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 22.

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

Date: 09-Jun-20

Client: Lambda Energy Resources
Project: Lambda (Hartland 6.1.20)
Work Order: **20060143**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
20060143-01	MW-7s	Groundwater		6/1/2020 10:50	6/2/2020 10:30	☐
20060143-02	MW-7d	Groundwater		6/1/2020 11:35	6/2/2020 10:30	☐
20060143-03	MW-19d	Groundwater		6/1/2020 12:25	6/2/2020 10:30	☐
20060143-04	MW-19s	Groundwater		6/1/2020 13:05	6/2/2020 10:30	☐
20060143-05	MW-18	Groundwater		6/1/2020 13:55	6/2/2020 10:30	☐
20060143-06	MW-15D	Groundwater		6/1/2020 10:50	6/2/2020 10:30	☐
20060143-07	MW-20S	Groundwater		6/1/2020 11:30	6/2/2020 10:30	☐
20060143-08	MW-20D	Groundwater		6/1/2020 12:10	6/2/2020 10:30	☐
20060143-09	MW-17S	Groundwater		6/1/2020 13:25	6/2/2020 10:30	☐
20060143-10	MW-17D	Groundwater		6/1/2020 14:10	6/2/2020 10:30	☐
20060143-11	MW-DUPE	Groundwater		6/1/2020	6/2/2020 10:30	☐

ALS Group, USA

Date: *09-Jun-20*

Client: Lambda Energy Resources
Project: Lambda (Hartland 6.1.20)
Work Order: 20060143
Sample ID: MW-7s
Lab ID: 20060143-01
Collection Date: 6/1/2020 10:50 AM
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW846 8270D**		Prep: SW3510 6/5/20 18:34	Analyst: **EE**
Sulfolane	ND		10	µg/L	1	6/6/2020 09:49 AM
Surr: 2-Fluorobiphenyl	*65.9*		*26-79*	*%REC*	1	6/6/2020 09:49 AM
Surr: 4-Terphenyl-d14	*94.3*		*43-106*	*%REC*	1	6/6/2020 09:49 AM
Surr: Nitrobenzene-d5	*65.3*		*29-80*	*%REC*	1	6/6/2020 09:49 AM
SULFATE			**A4500-SO4 E-11**			Analyst: **JDR**
Sulfate	**23**		**1.0**	**mg/L**	1	6/3/2020 05:23 PM

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

Client: Lambda Energy Resources
Project: Lambda (Hartland 6.1.20) **Work Order:** 20060143
Sample ID: MW-7d **Lab ID:** 20060143-02
Collection Date: 6/1/2020 11:35 AM **Matrix:** GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW846 8270D**		Prep: SW3510 6/5/20 18:34	Analyst: **EE**
Sulfolane	ND		10	µg/L	1	6/6/2020 10:10 AM
Surr: 2-Fluorobiphenyl	*40.3*		*26-79*	*%REC*	1	6/6/2020 10:10 AM
Surr: 4-Terphenyl-d14	*81.5*		*43-106*	*%REC*	1	6/6/2020 10:10 AM
Surr: Nitrobenzene-d5	*38.8*		*29-80*	*%REC*	1	6/6/2020 10:10 AM
SULFATE			**A4500-SO4 E-11**			Analyst: **JDR**
Sulfate	**30**		**1.0**	**mg/L**	1	6/3/2020 05:23 PM

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

Client: Lambda Energy Resources
Project: Lambda (Hartland 6.1.20) **Work Order:** 20060143
Sample ID: MW-19d **Lab ID:** 20060143-03
Collection Date: 6/1/2020 12:25 PM **Matrix:** GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW846 8270D**		Prep: SW3510 6/5/20 18:34	Analyst: **EE**
Sulfolane	ND		10	µg/L	1	6/6/2020 10:31 AM
Surr: 2-Fluorobiphenyl	*62.1*		*26-79*	*%REC*	1	6/6/2020 10:31 AM
Surr: 4-Terphenyl-d14	*91.5*		*43-106*	*%REC*	1	6/6/2020 10:31 AM
Surr: Nitrobenzene-d5	*60.9*		*29-80*	*%REC*	1	6/6/2020 10:31 AM
SULFATE			**A4500-SO4 E-11**			Analyst: **JDR**
Sulfate	**92**		**1.0**	**mg/L**	1	6/3/2020 05:23 PM

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

Client: Lambda Energy Resources
Project: Lambda (Hartland 6.1.20) **Work Order:** 20060143
Sample ID: MW-19s **Lab ID:** 20060143-04
Collection Date: 6/1/2020 01:05 PM **Matrix:** GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW846 8270D**		Prep: SW3510 6/5/20 18:34	Analyst: **EE**
Sulfolane	ND		10	µg/L	1	6/6/2020 10:52 AM
Surr: 2-Fluorobiphenyl	*60.4*		*26-79*	*%REC*	1	6/6/2020 10:52 AM
Surr: 4-Terphenyl-d14	*91.7*		*43-106*	*%REC*	1	6/6/2020 10:52 AM
Surr: Nitrobenzene-d5	*59.6*		*29-80*	*%REC*	1	6/6/2020 10:52 AM
SULFATE			**A4500-SO4 E-11**			Analyst: **JDR**
Sulfate	**72**		**1.0**	**mg/L**	1	6/3/2020 05:23 PM

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

Client: Lambda Energy Resources
Project: Lambda (Hartland 6.1.20) **Work Order:** 20060143
Sample ID: MW-18 **Lab ID:** 20060143-05
Collection Date: 6/1/2020 01:55 PM **Matrix:** GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW846 8270D**		Prep: SW3510 6/5/20 18:34	Analyst: **EE**
Sulfolane	ND		10	µg/L	1	6/6/2020 09:28 AM
Surr: 2-Fluorobiphenyl	*61.7*		*26-79*	*%REC*	1	6/6/2020 09:28 AM
Surr: 4-Terphenyl-d14	*94.1*		*43-106*	*%REC*	1	6/6/2020 09:28 AM
Surr: Nitrobenzene-d5	*58.9*		*29-80*	*%REC*	1	6/6/2020 09:28 AM
SULFATE			**A4500-SO4 E-11**			Analyst: **JDR**
Sulfate	**61**		**1.0**	**mg/L**	1	6/3/2020 05:23 PM

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

Client: Lambda Energy Resources
Project: Lambda (Hartland 6.1.20) **Work Order:** 20060143
Sample ID: MW-15D **Lab ID:** 20060143-06
Collection Date: 6/1/2020 10:50 AM **Matrix:** GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW846 8270D**		Prep: SW3510 6/5/20 18:34	Analyst: **EE**
Sulfolane	ND		10	µg/L	1	6/6/2020 11:13 AM
Surr: 2-Fluorobiphenyl	*56.9*		*26-79*	*%REC*	1	6/6/2020 11:13 AM
Surr: 4-Terphenyl-d14	*87.3*		*43-106*	*%REC*	1	6/6/2020 11:13 AM
Surr: Nitrobenzene-d5	*55.0*		*29-80*	*%REC*	1	6/6/2020 11:13 AM
SULFATE			**A4500-SO4 E-11**			Analyst: **JDR**
Sulfate	**24**		**1.0**	**mg/L**	1	6/3/2020 05:23 PM

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

Client: Lambda Energy Resources
Project: Lambda (Hartland 6.1.20) **Work Order:** 20060143
Sample ID: MW-20S **Lab ID:** 20060143-07
Collection Date: 6/1/2020 11:30 AM **Matrix:** GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW846 8270D**		Prep: SW3510 6/5/20 18:34	Analyst: **EE**
Sulfolane	ND		10	µg/L	1	6/6/2020 11:34 AM
Surr: 2-Fluorobiphenyl	*57.7*		*26-79*	*%REC*	1	6/6/2020 11:34 AM
Surr: 4-Terphenyl-d14	*86.6*		*43-106*	*%REC*	1	6/6/2020 11:34 AM
Surr: Nitrobenzene-d5	*53.7*		*29-80*	*%REC*	1	6/6/2020 11:34 AM
SULFATE			**A4500-SO4 E-11**			Analyst: **JDR**
Sulfate	**36**		**1.0**	**mg/L**	1	6/3/2020 05:23 PM

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

Client: Lambda Energy Resources
Project: Lambda (Hartland 6.1.20) **Work Order:** 20060143
Sample ID: MW-20D **Lab ID:** 20060143-08
Collection Date: 6/1/2020 12:10 PM **Matrix:** GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW846 8270D**		Prep: SW3510 6/5/20 18:34	Analyst: **EE**
Sulfolane	ND		10	µg/L	1	6/6/2020 11:56 AM
Surr: 2-Fluorobiphenyl	*53.3*		*26-79*	*%REC*	1	6/6/2020 11:56 AM
Surr: 4-Terphenyl-d14	*84.1*		*43-106*	*%REC*	1	6/6/2020 11:56 AM
Surr: Nitrobenzene-d5	*50.4*		*29-80*	*%REC*	1	6/6/2020 11:56 AM
SULFATE			**A4500-SO4 E-11**			Analyst: **JDR**
Sulfate	**83**		**1.0**	**mg/L**	1	6/3/2020 05:23 PM

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

Client: Lambda Energy Resources
Project: Lambda (Hartland 6.1.20) **Work Order:** 20060143
Sample ID: MW-17S **Lab ID:** 20060143-09
Collection Date: 6/1/2020 01:25 PM **Matrix:** GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW846 8270D**		Prep: SW3510 6/5/20 18:34	Analyst: **EE**
Sulfolane	ND		10	µg/L	1	6/6/2020 12:17 PM
Surr: 2-Fluorobiphenyl	*42.9*		*26-79*	*%REC*	1	6/6/2020 12:17 PM
Surr: 4-Terphenyl-d14	*74.4*		*43-106*	*%REC*	1	6/6/2020 12:17 PM
Surr: Nitrobenzene-d5	*37.9*		*29-80*	*%REC*	1	6/6/2020 12:17 PM
SULFATE			**A4500-SO4 E-11**			Analyst: **JDR**
Sulfate	**67**		**1.0**	**mg/L**	1	6/3/2020 05:23 PM

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

Client: Lambda Energy Resources
Project: Lambda (Hartland 6.1.20) **Work Order:** 20060143
Sample ID: MW-17D **Lab ID:** 20060143-10
Collection Date: 6/1/2020 02:10 PM **Matrix:** GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW846 8270D**		Prep: SW3510 6/5/20 18:34	Analyst: **EE**
Sulfolane	ND		10	µg/L	1	6/6/2020 12:38 PM
Surr: 2-Fluorobiphenyl	*47.9*		*26-79*	*%REC*	1	6/6/2020 12:38 PM
Surr: 4-Terphenyl-d14	*85.8*		*43-106*	*%REC*	1	6/6/2020 12:38 PM
Surr: Nitrobenzene-d5	*45.4*		*29-80*	*%REC*	1	6/6/2020 12:38 PM
SULFATE			**A4500-SO4 E-11**			Analyst: **JDR**
Sulfate	**260**		**4.0**	**mg/L**	4	6/3/2020 05:23 PM

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

ALS Group, USA

Date: *09-Jun-20*

Client: Lambda Energy Resources
Project: Lambda (Hartland 6.1.20)
Work Order: 20060143
Sample ID: MW-DUPE
Lab ID: 20060143-11
Collection Date: 6/1/2020
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW846 8270D**		Prep: SW3510 6/5/20 18:34	Analyst: **EE**
Sulfolane	ND		10	µg/L	1	6/6/2020 12:59 PM
Surr: 2-Fluorobiphenyl	*40.5*		*26-79*	*%REC*	1	6/6/2020 12:59 PM
Surr: 4-Terphenyl-d14	*79.6*		*43-106*	*%REC*	1	6/6/2020 12:59 PM
Surr: Nitrobenzene-d5	*40.5*		*29-80*	*%REC*	1	6/6/2020 12:59 PM
SULFATE			**A4500-SO4 E-11**			Analyst: **JDR**
Sulfate	**85**		**1.0**	**mg/L**	1	6/3/2020 05:23 PM

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

Client: Lambda Energy Resources
Project: Lambda (Hartland 6.1.20)
Work Order: 20060143

Case Narrative

Batch R289961, Method SO4_4500E_DISC_W, Sample 20060143-05BMS/MSD The MS/MSD recovery for Sulfate was below the lower control limit. The corresponding result in the parent sample may be biased low for this analyte: sulfate Client Sample ID : MW-18

ALS Group, USA

Date: 09-Jun-20

Client: Lambda Energy Resources

Work Order: 20060143

Project: Lambda (Hartland 6.1.20)

QC BATCH REPORT

Batch ID: **156976** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK Sample ID: **SBLKW1-156976-156976** Units: **µg/L** Analysis Date: **6/6/2020 05:35 AM**

Client ID: Run ID: **SVMS8_200605A** SeqNo: **6468135** Prep Date: **6/5/2020** 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	*26.59*	0	*50*	0	*53.2*	*26-79*	0			
Surr: 4-Terphenyl-d14	*40.34*	0	*50*	0	*80.7*	*43-106*	0			
Surr: Nitrobenzene-d5	*26.6*	0	*50*	0	*53.2*	*29-80*	0			

LCS Sample ID: **SLCSW1-156976-156976** Units: **µg/L** Analysis Date: **6/6/2020 05:56 AM**

Client ID: Run ID: **SVMS8_200605A** SeqNo: **6468136** Prep Date: **6/5/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	87.44	10	100	0	87.4	30-100	0			
Surr: 2-Fluorobiphenyl	*28.86*	0	*50*	0	*57.7*	*26-79*	0			
Surr: 4-Terphenyl-d14	*44.47*	0	*50*	0	*88.9*	*43-106*	0			
Surr: Nitrobenzene-d5	*29.92*	0	*50*	0	*59.8*	*29-80*	0			

MS Sample ID: **20060143-05A MS** Units: **µg/L** Analysis Date: **6/6/2020 08:45 AM**

Client ID: **MW-18** Run ID: **SVMS8_200605A** SeqNo: **6468137** Prep Date: **6/5/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	73	10	100	0	73	30-100	0			
Surr: 2-Fluorobiphenyl	*29.83*	0	*50*	0	*59.7*	*26-79*	0			
Surr: 4-Terphenyl-d14	*46.17*	0	*50*	0	*92.3*	*43-106*	0			
Surr: Nitrobenzene-d5	*28.4*	0	*50*	0	*56.8*	*29-80*	0			

MSD Sample ID: **20060143-05A MSD** Units: **µg/L** Analysis Date: **6/6/2020 09:07 AM**

Client ID: **MW-18** Run ID: **SVMS8_200605A** SeqNo: **6468138** Prep Date: **6/5/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	66.27	10	100	0	66.3	30-100	73	9.66	30	
Surr: 2-Fluorobiphenyl	*25.09*	0	*50*	0	*50.2*	*26-79*	29.83	*17.3*	*40*	
Surr: 4-Terphenyl-d14	*46.89*	0	*50*	0	*93.8*	*43-106*	46.17	*1.55*	*40*	
Surr: Nitrobenzene-d5	*24.09*	0	*50*	0	*48.2*	*29-80*	28.4	*16.4*	*40*	

The following samples were analyzed in this batch:

20060143-01A	20060143-02A	20060143-03A
20060143-04A	20060143-05A	20060143-06A
20060143-07A	20060143-08A	20060143-09A
20060143-10A	20060143-11A	

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

Client: Lambda Energy Resources
Work Order: 20060143
Project: Lambda (Hartland 6.1.20)

QC BATCH REPORT

Batch ID: **R289961** Instrument ID **GALLERY** Method: **A4500-SO4 E-11**

MBLK Sample ID: **MB-R289961-R289961** Units: **mg/L** Analysis Date: **6/3/2020 05:23 PM**
Client ID: Run ID: **GALLERY_200603C** SeqNo: **6458605** 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: **20060143-05BMS** Units: **mg/L** Analysis Date: **6/3/2020 05:23 PM**
Client ID: **MW-18** Run ID: **GALLERY_200603C** SeqNo: **6458613** Prep Date: DF: **4**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	104.4	4.0	50	61.47	85.9	95-118	0			S

MSD Sample ID: **20060143-05BMSD** Units: **mg/L** Analysis Date: **6/3/2020 05:23 PM**
Client ID: **MW-18** Run ID: **GALLERY_200603C** SeqNo: **6458614** Prep Date: DF: **4**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	102.8	4.0	50	61.47	82.7	95-118	104.4	1.55	10	S

LCS1 Sample ID: **LCS1-R289961** Units: **mg/L** Analysis Date: **6/3/2020 05:23 PM**
Client ID: Run ID: **GALLERY_200603C** SeqNo: **6458606** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	10.64	1.0	10	0	106	90-119	0			

LCS2 Sample ID: **LCS2-R289961** Units: **mg/L** Analysis Date: **6/3/2020 05:23 PM**
Client ID: Run ID: **GALLERY_200603C** SeqNo: **6458626** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	52.83	1.0	50	0	106	95-118	0			

The following samples were analyzed in this batch:

20060143-01B	20060143-02B	20060143-03B
20060143-04B	20060143-05B	20060143-06B
20060143-07B	20060143-08B	20060143-09B
20060143-10B	20060143-11B	

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

ALS Group, USA

Date: 09-Jun-20

Client: Lambda Energy Resources
Project: Lambda (Hartland 6.1.20)
WorkOrder: **20060143**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	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
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
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.

Acronym	Description
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

Units Reported	Description
µg/L	Micrograms per Liter
mg/L	Milligrams per Liter

ALS Group, USA

Sample Receipt Checklist

Client Name: **LAMBDA-KAL** Date/Time Received: **02-Jun-20 10:30**

Work Order: **20060143** Received by: **DS**

Checklist completed by Diane Shaw (eSignature) 02-Jun-20 (Date) Reviewed by: Gary Byar (eSignature) 02-Jun-20 (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):	3.0/3.0, 3.8/3.8 c	SR1	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	6/2/2020 12:19:49 PM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:	_		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

ALS Environmental

Chain of Custody Form

Cincinnati, OH +1 513 733 5336 | Fort Collins, CO +1 970 490 1511 | Houston, TX +1 281 530 5656 | Spring City, PA +1 610 948 4903 | South Charleston, WV +1 304 356 3168
Everett, WA +1 425 356 2600 | Holland, MI +1 616 399 6070 | Middletown, PA +1 717 944 5541 | Salt Lake City, UT +1 801 266 7700 | York, PA +1 717 505 5280

Page 1 of 2

COC ID: 37019

ALS Project Manager: | ALS Work Order #: 20060143

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	HARTLAND 36 GAS PLANT	A	Sulfolane (1) AmberLiter
Work Order		Project Number		B	Sulfate (1) 125p
Company Name	ECT, INC.	Bill To Company	LAMBDA ENERGY	C	
Send Report To	Jeremy Lewandowski	Invoice Attn	Nick Summerland	D	
Address	3399 Veteran's Dr.	Address	1510 Thomas Rd	E	
				F	
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI 49646	G	
Phone	231-946-8200	Phone	231-258-6411	H	
Fax	231-946-8208	Fax		I	
e-Mail Address	jlewandowski@ectinc.com	e-Mail Address	michigan.invoices@lambdaenergyllc.com	J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW-7s	6/1/2020	10:50	GW	-	2	X	X									
2	MW-7d	6/1/2020	11:35	GW	-	2	X	X									
3	MW-19d	6/1/2020	12:25	GW	-	2	X	X									
4	MW-19s	6/1/2020	13:05	GW	-	2	X	X									
5	MW-18	6/1/2020	13:55	GW	-	2	X	X									
6 (5)	MW-18 MS/MSD	6/1/2020	13:55	GW	-	4	X	X									
7																	
8																	
9	Blue Cooler																
10																	

Sampler(s) Please Print & Sign: Ty Martin, Jim Kamik [signature]

Shipment Method: UPS GROUND

Turnaround Time in Business Days (BD): ☐ Other ____ ☐ 10 BD ☒ 5 BD ☐ 3 BD ☐ 2 BD ☐ 1 BD

Results Due Date:

Relinquished by:	Date:	Time:	Received by:
[signature]	6/1/2020	1530	UPS
Relinquished by: UPS	Date: 6/2/20	Time: 1030	Received by (Laboratory): [signature]
Logged by (Laboratory): DES	Date: 6/2/20	Time: 1215	Checked by (Laboratory): GRB

Notes: ALS Project: MERITENERGY - MISC

Cooler ID	Cooler Temp
SR1	3.0°C
pH2c	

QC Package: (Check One Box Below)
- ☒ Level II Std QC
- ☐ Level III Std QC/Raw Date
- ☐ Level IV SW846/CLP
- ☐ Other ____
- ☐ TRRP Checklist
- ☐ TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

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.

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Houston, TX +1 281 530 5656
Spring City, PA +1 610 948 4903
South Charleston, WV +1 304 356 3168
Middletown, PA +1 717 944 5541
Salt Lake City, UT +1 801 266 7700
York, PA +1 717 505 5280

Chain of Custody Form

Page 2 of 2

COC ID: 37020

ALS Environmental

ALS Project Manager:

ALS Work Order #: 2006143

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	(1) 125 p
Company Name	ECT, Inc.	Bill To Company	Lambda Energy	C	
Send Report To	Jeremy Lewandowski	Invoice Attn	Nick Summerland	D	
Address	3399 Veterans Drive	Address	1510 Thomas Road	E	
				F	
City/State/Zip	Traverse City, MI 49684	City/State/Zip	Kalkaska, MI 49646	G	
Phone	231-946-8200	Phone	231-258-6411	H	
Fax	231-946-8208	Fax		I	
e-Mail Address	jlewandowski@ectinc.com	e-Mail Address	michigan_invoices@lambdaenergyllc.com		

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
6	MW-15D	6/1/2020	1050	GW	—	2	X	X									
7	MW-20S	6/1/2020	1130	GW	—	2	X	X									
8	MW-20D	6/1/2020	1210	GW	—	2	X	X									
9	MW-17S	6/1/2020	1325	GW	—	2	X	X									
10	MW-17D	6/1/2020	1410	GW	—	2	X	X									
11	MW-DUPE	6/1/2020	—	GW	—	2	X	X									
7																	
8																	
9																	
10																	

RED COOLER

Sampler(s) Please Print & Sign: T. Martin

Shipment Method: UPS GROUND

Turnaround Time in Business Days (BD): ☐ 10 BD ☒ 5 BD ☐ 3 BD ☐ 2 BD ☐ 1 BD ☐ Other

Results Due Date:

Relinquished by:		Date: 6/1/2020	Time: 1530	Received by: UPS	
Relinquished by: UPS		Date: 6/2/20	Time: 1030	Received by (Laboratory):	
Logged by (Laboratory): DFS		Date: 6/2/20	Time: 1215	Checked by (Laboratory): GRB	

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Notes: ALS Project: Merit Energy - MISC

Cooler ID	Cooler Temp
SP1	3.8°C
pH 2+	

QC Package: (Check One Box Below)

- ☒ Level II Std QC
- ☐ Level III Std QC/Raw Date
- ☐ Level IV SW846/CLP
- ☐ Other
- ☐ TRRP Checklist
- ☐ TRRP Level IV

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.

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

50 LBS **1 OF 1**

MI 495 9-04

SHIP TO:

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

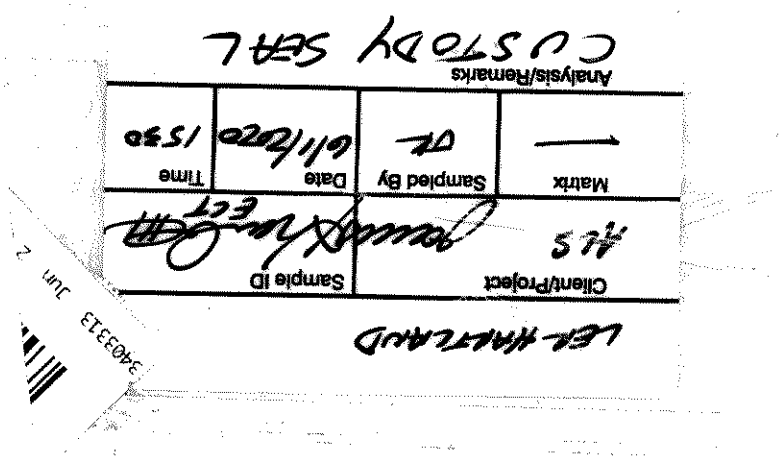
UPS NEXT DAY AIR **1**
TRACKING #: 1Z V54 9W4 01 5081 6242

REF 1:130685, 2000

BILLING: 3RD PARTY

WS 22.0.17 KONICA MINOLT 28.0A 04/2020

Fold here and place in label pouch



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

50 LBS **1 OF 1**

MI 495 9-04

UPS NEXT DAY AIR **1**
TRACKING #: 1Z V54 9W4 01 5088 9432

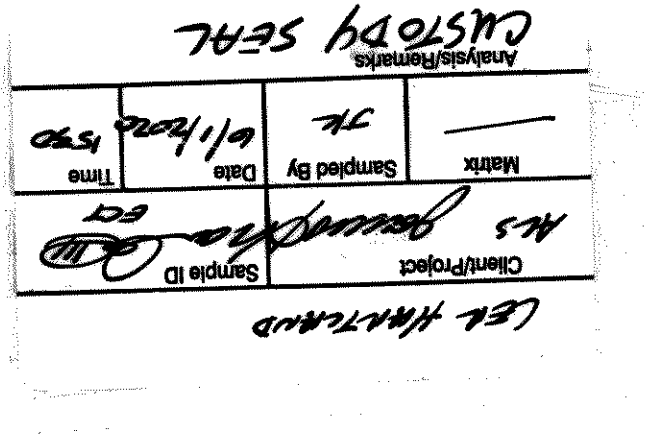
SHIP TO:
SAMPLE RECEIVING
(616) 399-6070
ALS ENVIRONMENTAL
3352 128TH AVENUE
HOLLAND MI 49424-9263

REF 1:130685, 2000

BILLING: 3RD PARTY

WS 22.0.17 KONICA MINOLT 28.0A 04/2020

Fold here and place in label pouch



09-Jun-2020

Nick Summerland
Lambda Energy Resources
1510 Thomas Rd
Kalkaska, MI 49646

Re: **Lambda (Hartland 36 Gas Plant)** Work Order: **20060273**

Dear Nick,

ALS Environmental received 4 samples on 03-Jun-2020 10:30 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 13.

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

ALS Group, USA

Date: 09-Jun-20

Client: Lambda Energy Resources
Project: Lambda (Hartland 36 Gas Plant)
Work Order: **20060273**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
20060273-01	MW-14D	Groundwater		6/2/2020 10:05	6/3/2020 10:30	☐
20060273-02	MW-14S	Groundwater		6/2/2020 10:25	6/3/2020 10:30	☐
20060273-03	MW-13D	Groundwater		6/2/2020 10:59	6/3/2020 10:30	☐
20060273-04	MW-13S	Groundwater		6/2/2020 11:50	6/3/2020 10:30	☐

ALS Group, USA

Date: *09-Jun-20*

Client: Lambda Energy Resources
Project: Lambda (Hartland 36 Gas Plant)
Work Order: 20060273
Sample ID: MW-14D
Lab ID: 20060273-01
Collection Date: 6/2/2020 10:05 AM
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW846 8270D**		Prep: SW3510 6/5/20 18:34	Analyst: **EE**
Sulfolane	ND		10	µg/L	1	6/6/2020 01:20 PM
Surr: 2-Fluorobiphenyl	*43.2*		*26-79*	*%REC*	1	6/6/2020 01:20 PM
Surr: 4-Terphenyl-d14	*81.3*		*43-106*	*%REC*	1	6/6/2020 01:20 PM
Surr: Nitrobenzene-d5	*43.3*		*29-80*	*%REC*	1	6/6/2020 01:20 PM
SULFATE			**A4500-SO4 E-11**			Analyst: **JDR**
Sulfate	**110**		**4.0**	**mg/L**	4	6/3/2020 05:23 PM

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

Client: Lambda Energy Resources
Project: Lambda (Hartland 36 Gas Plant) **Work Order:** 20060273
Sample ID: MW-14S **Lab ID:** 20060273-02
Collection Date: 6/2/2020 10:25 AM **Matrix:** GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW846 8270D**		Prep: SW3510 6/5/20 18:34	Analyst: **EE**
Sulfolane	ND		10	µg/L	1	6/6/2020 01:41 PM
Surr: 2-Fluorobiphenyl	*44.0*		*26-79*	*%REC*	1	6/6/2020 01:41 PM
Surr: 4-Terphenyl-d14	*82.2*		*43-106*	*%REC*	1	6/6/2020 01:41 PM
Surr: Nitrobenzene-d5	*41.8*		*29-80*	*%REC*	1	6/6/2020 01:41 PM
SULFATE			**A4500-SO4 E-11**			Analyst: **JDR**
Sulfate	**120**		**4.0**	**mg/L**	4	6/3/2020 05:23 PM

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

Client: Lambda Energy Resources
Project: Lambda (Hartland 36 Gas Plant) **Work Order:** 20060273
Sample ID: MW-13D **Lab ID:** 20060273-03
Collection Date: 6/2/2020 10:59 AM **Matrix:** GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW846 8270D**		Prep: SW3510 6/5/20 18:34	Analyst: **EE**
Sulfolane	ND		100	µg/L	1	6/6/2020 02:02 PM
Surr: 2-Fluorobiphenyl	*48.0*		*26-79*	*%REC*	1	6/6/2020 02:02 PM
Surr: 4-Terphenyl-d14	*81.5*		*43-106*	*%REC*	1	6/6/2020 02:02 PM
Surr: Nitrobenzene-d5	*46.0*		*29-80*	*%REC*	1	6/6/2020 02:02 PM
SULFATE			**A4500-SO4 E-11**			Analyst: **JDR**
Sulfate	**560**		**10**	**mg/L**	10	6/3/2020 05:23 PM

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

ALS Group, USA

Date: *09-Jun-20*

Client: Lambda Energy Resources
Project: Lambda (Hartland 36 Gas Plant)
Work Order: 20060273
Sample ID: MW-13S
Lab ID: 20060273-04
Collection Date: 6/2/2020 11:50 AM
Matrix: GROUNDWATER

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
SEMI-VOLATILE ORGANIC COMPOUNDS			**SW846 8270D**		Prep: SW3510 6/5/20 18:34	Analyst: **EE**
Sulfolane	ND		10	µg/L	1	6/6/2020 02:24 PM
Surr: 2-Fluorobiphenyl	*52.6*		*26-79*	*%REC*	1	6/6/2020 02:24 PM
Surr: 4-Terphenyl-d14	*98.1*		*43-106*	*%REC*	1	6/6/2020 02:24 PM
Surr: Nitrobenzene-d5	*53.1*		*29-80*	*%REC*	1	6/6/2020 02:24 PM
SULFATE			**A4500-SO4 E-11**			Analyst: **JDR**
Sulfate	**86**		**4.0**	**mg/L**	4	6/3/2020 05:23 PM

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

ALS Group, USA

Date: 09-Jun-20

Client: Lambda Energy Resources
Project: Lambda (Hartland 36 Gas Plant)
Work Order: 20060273

Case Narrative

Batch R289961 The MS/MSD data for Sulfate is not related to this project's saples. NO data requires qualification.

ALS Group, USA

Date: 09-Jun-20

Client: Lambda Energy Resources

Work Order: 20060273

Project: Lambda (Hartland 36 Gas Plant)

QC BATCH REPORT

Batch ID: **156976** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK Sample ID: **SBLKW1-156976-156976** Units: **µg/L** Analysis Date: **6/6/2020 05:35 AM**

Client ID: Run ID: **SVMS8_200605A** SeqNo: **6468135** Prep Date: **6/5/2020** 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	*26.59*	0	*50*	0	*53.2*	*26-79*	0			
Surr: 4-Terphenyl-d14	*40.34*	0	*50*	0	*80.7*	*43-106*	0			
Surr: Nitrobenzene-d5	*26.6*	0	*50*	0	*53.2*	*29-80*	0			

LCS Sample ID: **SLCSW1-156976-156976** Units: **µg/L** Analysis Date: **6/6/2020 05:56 AM**

Client ID: Run ID: **SVMS8_200605A** SeqNo: **6468136** Prep Date: **6/5/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	87.44	10	100	0	87.4	30-100	0			
Surr: 2-Fluorobiphenyl	*28.86*	0	*50*	0	*57.7*	*26-79*	0			
Surr: 4-Terphenyl-d14	*44.47*	0	*50*	0	*88.9*	*43-106*	0			
Surr: Nitrobenzene-d5	*29.92*	0	*50*	0	*59.8*	*29-80*	0			

MS Sample ID: **20060143-05A MS** Units: **µg/L** Analysis Date: **6/6/2020 08:45 AM**

Client ID: Run ID: **SVMS8_200605A** SeqNo: **6468137** Prep Date: **6/5/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	73	10	100	0	73	30-100	0			
Surr: 2-Fluorobiphenyl	*29.83*	0	*50*	0	*59.7*	*26-79*	0			
Surr: 4-Terphenyl-d14	*46.17*	0	*50*	0	*92.3*	*43-106*	0			
Surr: Nitrobenzene-d5	*28.4*	0	*50*	0	*56.8*	*29-80*	0			

MSD Sample ID: **20060143-05A MSD** Units: **µg/L** Analysis Date: **6/6/2020 09:07 AM**

Client ID: Run ID: **SVMS8_200605A** SeqNo: **6468138** Prep Date: **6/5/2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfolane	66.27	10	100	0	66.3	30-100	73	9.66	30	
Surr: 2-Fluorobiphenyl	*25.09*	0	*50*	0	*50.2*	*26-79*	29.83	*17.3*	*40*	
Surr: 4-Terphenyl-d14	*46.89*	0	*50*	0	*93.8*	*43-106*	46.17	*1.55*	*40*	
Surr: Nitrobenzene-d5	*24.09*	0	*50*	0	*48.2*	*29-80*	28.4	*16.4*	*40*	

The following samples were analyzed in this batch:

20060273-01A 20060273-02A 20060273-03A
20060273-04A

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

Client: Lambda Energy Resources
Work Order: 20060273
Project: Lambda (Hartland 36 Gas Plant)

QC BATCH REPORT

Batch ID: **R289961** Instrument ID **GALLERY** Method: **A4500-SO4 E-11**

MBLK Sample ID: **MB-R289961-R289961** Units: **mg/L** Analysis Date: **6/3/2020 05:23 PM**
Client ID: Run ID: **GALLERY_200603C** SeqNo: **6458605** 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: **20060143-05BMS** Units: **mg/L** Analysis Date: **6/3/2020 05:23 PM**
Client ID: Run ID: **GALLERY_200603C** SeqNo: **6458613** Prep Date: DF: **4**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	104.4	4.0	50	61.47	85.9	95-118	0			S

MSD Sample ID: **20060143-05BMSD** Units: **mg/L** Analysis Date: **6/3/2020 05:23 PM**
Client ID: Run ID: **GALLERY_200603C** SeqNo: **6458614** Prep Date: DF: **4**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	102.8	4.0	50	61.47	82.7	95-118	104.4	1.55	10	S

LCS1 Sample ID: **LCS1-R289961** Units: **mg/L** Analysis Date: **6/3/2020 05:23 PM**
Client ID: Run ID: **GALLERY_200603C** SeqNo: **6458606** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	10.64	1.0	10	0	106	90-119	0			

LCS2 Sample ID: **LCS2-R289961** Units: **mg/L** Analysis Date: **6/3/2020 05:23 PM**
Client ID: Run ID: **GALLERY_200603C** SeqNo: **6458626** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sulfate	52.83	1.0	50	0	106	95-118	0			

The following samples were analyzed in this batch:

20060273-01B 20060273-02B 20060273-03B
20060273-04B

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

ALS Group, USA

Date: 09-Jun-20

Client: Lambda Energy Resources
Project: Lambda (Hartland 36 Gas Plant)
WorkOrder: **20060273**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	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
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
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.

Acronym	Description
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

Units Reported	Description
µg/L	Micrograms per Liter
mg/L	Milligrams per Liter

ALS Group, USA

Sample Receipt Checklist

Client Name: **LAMBDA-KAL** Date/Time Received: **03-Jun-20 10:30**

Work Order: **20060273** Received by: **DS**

Checklist completed by Diane Shaw (eSignature) 03-Jun-20 (Date) Reviewed by: Gary Byar (eSignature) 04-Jun-20 (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):	4.2/4.2 c	SR1	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	6/3/2020 12:58:58 PM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

ALS Environmental

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
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

Chain of Custody Form

Page 1 of ____

COC ID: 37021

ALS Project Manager: | ALS Work Order #: 20060273

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	HARTLAND 36 GAS PLANT	A	Sulfolane (1 Innuben Liter
Work Order		Project Number		B	Sulfate (1) 125p
Company Name	ECT, INC.	Bill To Company	LAMBDA ENERGY	C	
Send Report To	JEREMY LEWANDOWSKI	Invoice Attn	NICK SUMMERLAND	D	
Address	3349 VETERANS DRIVE	Address	1510 THOMAS ROAD	E	
				F	
City/State/Zip	TRAVERSE CITY, MI 49684	City/State/Zip	KALKASKA, MI 49646	G	
Phone	231-946-8200	Phone	231-758-6411	H	
Fax	231-946-8208	Fax		I	
e-Mail Address	jlewandowski@ectinc.com	e-Mail Address	michigan.invoices@lambdaenergyllc.com		

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW-14D	6/2/2020	1005	GW	—	2	X	X									
2	MW-14S	6/2/2020	1025	GW	—	2	X	X									
3	MW-13D	6/2/2020	1059	GW	—	2	X	X									
4	MW-13S	6/2/2020	1150	GW	—	2	X	X									
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: JIM KAMIK

Shipment Method: UPS GROUND

Turnaround Time in Business Days (BD): ☐ 10 BD ☒ 5 BD ☐ 3 BD ☐ 2 BD ☐ 1 BD ☐ Other ____

Results Due Date:

Relinquished by:		Date: 6/2/2020	Time: 1215	Received by: UPS
Relinquished by:	UPS	Date: 6/3/20	Time: 1030	Received by (Laboratory):
Logged by (Laboratory):	DES	Date: 6/3/20	Time: 1300	Checked by (Laboratory): GRB

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Notes: ALS project: MeritEnergy-Misc

Cooler ID	Cooler Temp
SR1	4.2
pH_{20}	

QC Package: (Check One Box Below)
☒ Level II Std QC ☐ Level III Std QC/Raw Date ☐ Level IV SW846/CLP ☐ Other ____ ☐ TRRP Checklist ☐ TRRP Level IV

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.

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

50 LBS **1 OF 1**

MI 495 9-04

UPS NEXT DAY AIR **1**
TRACKING #: 1Z V54 9W4 01 5050 5426

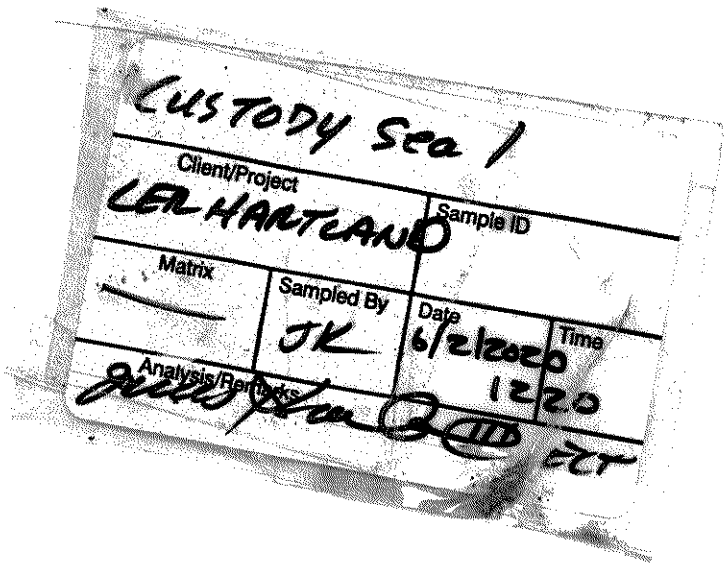
SHIP TO:
SAMPLE RECEIVING
(616) 399-6070
ALS ENVIRONMENTAL
3352 128TH AVENUE
HOLLAND MI 49424-9263

REF 1:130685, 2000

BILLING: 3RD PARTY

WS 22.0.17 KONICA MINOLT 28.0A 04/2020

Fold here and place in label pouch



APPENDIX D

LOW-FLOW SAMPLING FIELD FORMS

CLIENT: Lambda Energy
LOCATION: 13390 Lone Tree Road
Hartland Township, Michigan
PROJECT: 130685.2000

Monitoring Location: Hartland #36
Sample ID: MW-7S
Well Type: 2" PVC

INSPECTION

Label on well?	YES (circled) NO REMEDIED
Is reference mark visible?	YES (circled) NO REMEDIED
Standing water present?	YES NO (circled) REMEDIED
Indication of surface runoff in well?	YES NO (circled) REMEDIED
Is cement pad in good repair?	YES (circled) NO REMEDIED
Is protective casing locked and in good repair?	YES (circled) NO REMEDIED
Is inner cap in place and properly sealing well?	YES (circled) NO REMEDIED
Is well casing in visibly good repair?	YES (circled) NO REMEDIED

Repair Notes:

STATIC WATER LEVEL

Date: 6/1/2020 Time: 10:08

Top of Casing Elevation:
Depth to Water: 21.60
Elevation of Water:

Measured with: ELECTRONIC TAPE (circled) CHALKED TAPE OTHER
Well depth verified? YES NO (circled)

WELL PURGING

Date: 6/1/2020 Start Time: 10:10

Purge Method: PERISTALTIC (circled) BLADDER OTHER

Measured Well Depth: 33.00' 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)
10:25	21.65	-.05	250	9.61	502	22.21	5.94	42.2	2.63
10:30	21.65	-.05	250	9.45	478	21.15	6.23	94.9	2.36
10:35	21.65	-.05	250	9.28	465	20.15	6.35	91.1	1.81
10:40	21.65	-.05	250	9.36	457	19.47	6.44	89.3	1.80
10:45	21.65	-.05	250	9.32	456	18.32	6.51	88.1	1.67
Stabilization Criteria:				+/- 3%	+/- 3%	+/- 10% (if > 0.5 mg/l)	+/- 0.1 Units	+/- 10 mV	+/- 10 % (if > 5 NTU)

Total Volume Purged (gal): 2 gallons

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time:	10:45	
Temperature:	9.32	deg. C
Specific Conductance:	456	umhos/cm
Dissolved Oxygen:	18.32	mg/L
pH:	6.51	S.U.
ORP:	88.1	mV
Turbidity:	1.67	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: 10:50
Appearance of Sample: Clear, no odor
Sample Duplicate ?: NO
Sample Method: LOW FLOW

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass (boxed) plastic	yes no (boxed)	None (boxed), HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic (boxed)	yes no (boxed)	None (boxed), HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	Sulfate
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [signature]
Chain of Custody No.
Name (SIGNATURE):

CLIENT:	**Lambda Energy**	Monitoring Location:	Hartland #36
LOCATION:	**13390 Lone Tree Road**	Sample ID:	MW-7d
	Hartland Township, Michigan	Well Type:	2" PVC
PROJECT:	**130685.2000**		

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: 6/1/2020 Time: 10:58

Top of Casing Elevation:
Depth to Water: 22.16 Measured with: (ELECTRONIC TAPE) CHALKED TAPE OTHER
Elevation of Water: Well depth verified? YES (NO)

WELL PURGING

Purge Method: (PERISTALTIC) BLADDER OTHER____ Date: 6/1/2020 Start Time: 11:00

Measured Well Depth: 48.50 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)
11:15	22.18	-.02	250	9.67	423	16.20	6.88	93.5	1.96
11:20	22.18	-.02	250	9.84	419	15.71	7.00	90.3	1.74
11:25	22.18	-.02	250	9.80	417	16.15	7.03	88.8	1.59
11:30	22.18	-.02	250	9.78	417	15.88	6.98	87.5	1.55
			Stabilization Criteria:	+/- 3%	+/- 3%	+/- 10% (if > 0.5 mg/l)	+/- 0.1 Units	+/- 10 mV	+/- 10 % (if > 5 NTU)

Total Volume Purged (gal): 1.75

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

			CALIBRATION CHECK	Standard (conc.)	Reading		Mark if Recalibrated
Time:	11:38						
Temperature:	9.78	deg. C					
Specific Conductance:	417	umhos/cm	Specific Cond.:			umhos/cm	
Dissolved Oxygen:	15.88	mg/L	Dissolved Oxygen:			mg/L	
pH:	6.98	S.U.	pH:			S.U.	
ORP:	87.5	mV	Eh:			mV	
Turbidity:	1.55	NTU	Turbidity:			NTU	

SAMPLE COLLECTION

Time: 11:35 Sample Duplicate ?: NO
Appearance of Sample: Clear, no odor Sample Method: Low Flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	(glass) plastic	yes (no)	(None), HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass (plastic)	yes (no)	(None), HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	Sulfate
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Chain of Custody No.

Name (SIGNATURE): [signature] Name (SIGNATURE):

CLIENT: Lambda Energy
LOCATION: 13390 Lone Tree Road
Hartland Township, Michigan
PROJECT: 130685.2000

Monitoring Location: Hartland #36
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
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: 6/1/2020 Time: 0917

Top of Casing Elevation: ______
Depth to Water: 17.19
Elevation of Water: ______

Measured with: (ELECTRONIC TAPE) CHALKED TAPE OTHER
Well depth verified? YES (NO)

WELL PURGING

Date: 6/1/2020 Start Time: 10:17

Purge Method: (PERISTALTIC) BLADDER OTHER______

Measured Well Depth: 46.0'
Screen Length: ______
Depth to Screen Midpoint: ______

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. ~~(umho/cm)~~ (uS/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
10:17	17.19	—	start	—	—	—	—	—	—
initial	17.20	0.01	200	12.3	0.569	7.84	7.36	223.9	1.99
10:30	17.20	0.01	200	12.4	0.552	7.39	7.38	214.0	0.78
10:35	17.20	0.01	200	12.5	0.523	6.92	7.43	195.6	0.64
10:40	17.20	0.01	200	12.5	0.520	6.92	7.44	191.4	0.61
10:45	17.20	0.01	200	12.5	0.518	6.87	7.44	189.8	0.59
Stabilization Criteria:				+/- 3% ✓	+/- 3% ✓	+/- 10% ✓ (if > 0.5 mg/l)	+/- 0.1 Units ✓	+/- 10 mV ✓	+/- 10 % ✓ (if > 5 NTU)

Total Volume Purged (gal): ≈2 gal. clear - trace fine part. @ purge start

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time:	1049	
Temperature:	12.5	deg. C
Specific Conductance:	0.517	~~umhos/cm~~ mS/cm
Dissolved Oxygen:	6.86	mg/L
pH:	7.44	S.U.
ORP:	188.3	mV
Turbidity:	0.55	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: 1050
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_2SO_4, ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass [plastic]	yes [no]	[None], HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	Sulfate
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [signature]
Chain of Custody No. ______
Name (SIGNATURE): ______

CLIENT:	**Lambda Energy**	**Monitoring Location:**	Hartland #36
LOCATION:	**13390 Lone Tree Road**	**Sample ID:**	MW-17D
	Hartland Township, Michigan	**Well Type:**	2" PVC
PROJECT:	**130685.2000**		

INSPECTION

Label on well?	(YES) NO REMEDIED	Is cement pad in good repair?	YES NO REMEDIED N/A
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: 6/1/2020 Time: NR

Top of Casing Elevation:
Depth to Water: 17.12 Measured with: (ELECTRONIC TAPE) CHALKED TAPE OTHER
Elevation of Water: Well depth verified? (YES) NO

WELL PURGING

Purge Method: (PERISTALTIC) BLADDER OTHER Date: 6/1/2020 Start Time: 1335

Measured Well Depth: 40.75 Screen Length: Depth to Screen Midpoint:

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. mS/cm ~~(umho/cm)~~	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
initial	17.12	—	—	—	—	—	—	—	—
1340	17.27	0.15	200	13.6	0.78	2.78	7.28	166.4	10.6
1345	17.27	0.15	200	13.4	0.81	3.34	7.30	166.1	9.45
1350	17.28	0.16	200	13.2	0.809	4.30	7.37	165.6	7.94
1355	17.28	0.16	200	13.0	0.96	6.25	7.43	169.0	6.22
1400	17.28	0.16	200	13.1	0.98	5.88	7.43	168.4	6.29
1405	17.28	0.16	200	15.1	0.98	5.71	7.43	168.3	6.26
			Stabilization Criteria:	+/- 3%	+/- 3%	+/- 10% (if > 0.5 mg/l)	+/- 0.1 Units	+/- 10 mV	+/- 10 % (if > 5 NTU)

Total Volume Purged (gal): numerous bubbles, clear @ purge start

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

			CALIBRATION CHECK Standard (conc.)	Reading		Mark if Recalibrated
Time:	1407					
Temperature:	13.1	deg. C				
Specific Conductance:	0.98	umhos/cm	Specific Cond.:		umhos/cm	
Dissolved Oxygen:	5.50	mg/L	Dissolved Oxygen:		mg/L	
pH:	7.43	S.U.	pH:		S.U.	
ORP:	167.9	mV	Eh:		mV	
Turbidity:	6.27	NTU	Turbidity:		NTU	

SAMPLE COLLECTION

Time: 1410 Sample Duplicate ?: NO
Appearance of Sample: clear, slight gray tint Sample Method: Low Flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	[glass] plastic	yes [no]	[None], HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass [plastic]	yes [no]	[None], HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	Sulfate
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [signature] Chain of Custody No.
Name (SIGNATURE):

CLIENT: Lambda Energy
LOCATION: 13390 Lone Tree Road
Hartland Township, Michigan
PROJECT: 130685.2000

Monitoring Location: Hartland #36
Sample ID: MW-17S
Well Type: 2" PVC

INSPECTION

Label on well?	(YES) NO REMEDIED	Is cement pad in good repair?	YES NO REMEDIED N/A
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: 6/1/2020 Time: NR

Top of Casing Elevation:
Depth to Water: 16.30
Elevation of Water:

Measured with: (ELECTRONIC TAPE) CHALKED TAPE OTHER
Well depth verified? (YES) NO

WELL PURGING

Purge Method: (PERISTALTIC) BLADDER OTHER________

Date: 6/1/2020 Start Time: 12.47

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. mS/cm ~~(umho/cm)~~	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
initial	16.30	—	—	—	—	—	—	—	—
1255	16.40	0.10'	250	12.5	0.750	2.56	7.12	221.5	1.02
1300	16.40	0.10'	250	12.6	0.750	1.33	7.12	198.4	0.62
1305	16.41	0.11'	250	12.9	0.750	0.96	7.13	193.2	0.62
1310	16.41	0.11'	250	12.8	0.750	0.83	7.13	191.9	0.62
1315	16.41	0.11'	250	12.5	0.760	0.86	7.13	189.5	0.65
Stabilization Criteria:				+/- 3%	+/- 3%	+/- 10% (if > 0.5 mg/l)	+/- 0.1 Units	+/- 10 mV	+/- 10 % (if > 5 NTU)

Total Volume Purged (gal):________ clean with stringy clumps of bacterial/algal? growth

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 1317
Temperature: 12.3 deg. C
Specific Conductance: 0.760 umhos/cm
Dissolved Oxygen: 0.86 mg/L
pH: 7.14 S.U.
ORP: 179.2 mV
Turbidity: 0.72 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: 1325
Appearance of Sample: Clean
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_2SO_4, ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass [plastic]	yes [no]	[None], HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	Sulfate
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Chain of Custody No.________
Name (SIGNATURE): [signature]
Name (SIGNATURE):

#l

CLIENT:	**Lambda Energy**	**Monitoring Location:**	**Hartland #36**
LOCATION:	**13390 Lone Tree Road**	**Sample ID:**	**MW-** 18 /MS/MSD
	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
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: 6/1/2020 Time: 13:19

Top of Casing Elevation:
Depth to Water: 18.67
Elevation of Water:

Measured with: (ELECTRONIC TAPE) CHALKED TAPE OTHER
Well depth verified? YES (NO)

WELL PURGING

Date: 6/1/2020 Start Time: 13:20

Purge Method: (PERISTALTIC) BLADDER OTHER

Measured Well Depth: 27.50 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)
13:35	18.72	-.05	250	10.27	576	6.42	7.04	101.5	3.17
13:40	18.72	-.05	250	10.30	578	6.24	7.19	97.7	2.84
13:45	18.72	-.05	250	10.23	581	6.19	7.14	92.2	2.34
13:50	18.72	-.05	250	10.36	583	6.08	7.14	90.1	2.21
Stabilization Criteria:				+/- 3%	+/- 3%	+/- 10% (if > 0.5 mg/l)	+/- 0.1 Units	+/- 10 mV	+/- 10 % (if > 5 NTU)

Total Volume Purged (gal): 1.75

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time:	13:50	
Temperature:	10.36	deg. C
Specific Conductance:	583	umhos/cm
Dissolved Oxygen:	6.08	mg/L
pH:	7.14	S.U.
ORP:	90.1	mV
Turbidity:	2.21	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: 13:55

Appearance of Sample: Clear, no odor

Sample Duplicate ?: yes. MS/MSD
Sample Method: LOW FLOW

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	[glass] plastic	yes [no]	[None], HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass [plastic]	yes [no]	[None], HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	Sulfate
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [signature]

Chain of Custody No.

Name (SIGNATURE):

CLIENT: Lambda Energy
LOCATION: 13390 Lone Tree Road
Hartland Township, Michigan
PROJECT: 130685.2000

Monitoring Location: Hartland #36
Sample ID: MW-19d
Well Type: 2" PVC

INSPECTION

Label on well?	YES (circled) NO REMEDIED
Is reference mark visible?	YES NO (circled) REMEDIED
Standing water present?	YES NO (circled) REMEDIED
Indication of surface runoff in well?	YES NO (circled) REMEDIED
Is cement pad in good repair?	YES (circled) NO REMEDIED
Is protective casing locked and in good repair?	YES (circled) NO REMEDIED
Is inner cap in place and properly sealing well?	YES (circled) NO REMEDIED
Is well casing in visibly good repair?	YES (circled) NO REMEDIED

Repair Notes:

STATIC WATER LEVEL

Date: 6/1/2020 Time: 11:48

Top of Casing Elevation:
Depth to Water: 19.58
Elevation of Water:

Measured with: ELECTRONIC TAPE (circled) CHALKED TAPE OTHER
Well depth verified? YES NO (circled)

WELL PURGING

Purge Method: PERISTALTIC (circled) BLADDER OTHER
Date: ~~[struck out]~~ 6/1/2020 Start Time: 11:50
Measured Well Depth: 50.00' 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)
12:05	19.64	-.06	250	9.88	565	15.58	6.95	102.0	4.11
12:10	19.64	-.06	250	9.88	574	15.34	7.07	98.0	3.84
12:15	19.64	-.06	250	9.89	579	14.97	7.11	96.3	2.26
12:20	19.64	-.06	250	9.91	583	15.02	7.09	94.7	1.89
Stabilization Criteria:				+/- 3%	+/- 3%	+/- 10% (if > 0.5 mg/l)	+/- 0.1 Units	+/- 10 mV	+/- 10 % (if > 5 NTU)

Total Volume Purged (gal): 1.75

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 12:20
Temperature: 9.91 deg. C
Specific Conductance: 583 umhos/cm
Dissolved Oxygen: 15.02 mg/L
pH: 7.09 S.U.
ORP: 94.7 mV
Turbidity: 1.89 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: 12:25
Appearance of Sample: Clear, no odor
Sample Duplicate ?: NO
Sample Method: LOW FLOW

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	glass (boxed) plastic	yes no (boxed)	None (boxed), HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass plastic (boxed)	yes no (boxed)	None (boxed), HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	Sulfate
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [signature]
Chain of Custody No.
Name (SIGNATURE):

CLIENT:	**Lambda Energy**	**Monitoring Location:**	**Hartland #36**
LOCATION:	**13390 Lone Tree Road**	**Sample ID:**	**MW-** 19s
	Hartland Township, Michigan	**Well Type:**	2" PVC
PROJECT:	**130685.2000**		

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: 6/1/2020 Time: 12:34

Top of Casing Elevation:
Depth to Water: 19.64
Elevation of Water:

Measured with: (ELECTRONIC TAPE) CHALKED TAPE OTHER
Well depth verified? YES (NO)

WELL PURGING

Purge Method: (PERISTALTIC) BLADDER OTHER________ Date: 6/1/2020 Start Time: 12:35

Measured Well Depth: 30.27 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)
12:50	19.80	-.16	250	9.43	401	11.35	7.66	90.8	2.77
12:55	19.80	-.16	250	9.51	400	11.33	7.67	89.1	2.14
13:00	19.80	-.16	250	9.47	401	11.36	7.68	86.1	1.85
			Stabilization Criteria:	+/- 3%	+/- 3%	+/- 10% (if > 0.5 mg/l)	+/- 0.1 Units	+/- 10 mV	+/- 10 % (if > 5 NTU)

Total Volume Purged (gal): 1.5

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time:	13:00	
Temperature:	9.47	deg. C
Specific Conductance:	401	umhos/cm
Dissolved Oxygen:	11.36	mg/L
pH:	7.68	S.U.
ORP:	86.1	mV
Turbidity:	1.85	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: 13:05 Sample Duplicate ?: NO
Appearance of Sample: Clear, no odor. Sample Method: Low Flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	(glass) plastic	yes (no)	(None), HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass (plastic)	yes (no)	(None), HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	Sulfate
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [signature] Chain of Custody No.________
Name (SIGNATURE):

CLIENT:	**Lambda Energy**	**Monitoring Location:**	**Hartland #36**
LOCATION:	**13390 Lone Tree Road**	**Sample ID:**	**MW-** 20S
	Hartland Township, Michigan	**Well Type:**	2" PVC
PROJECT:	**130685.2000**		

INSPECTION

Label on well?	(YES) NO REMEDIED	Is cement pad in good repair?	YES NO REMEDIED n/A
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: 6/1/2020 Time: NR

Top of Casing Elevation: ______

Depth to Water: 18.90 Measured with: (ELECTRONIC TAPE) CHALKED TAPE OTHER

Elevation of Water: ______ Well depth verified? (YES) ~~NO~~ JR

WELL PURGING

Date: 6/1/2020 Start Time: 1107

Purge Method: (PERISTALTIC) BLADDER OTHER______

Measured Well Depth: 25.19 Screen Length: ______ Depth to Screen Midpoint: ______

Time	Water Level (feet) saft	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. mS/cm ~~(umho/cm)~~	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
initial	18.90								
1110	18.95	0.05	200	11.7	0.419	10.34	7.82	201.5	4.45
1115	18.95	0.05	200	11.7	0.419	10.18	7.82	200.3	3.97
1120	18.95	0.05	200	11.7	0.419	10.30	7.83	198.9	3.26
1125	18.95	0.05	200	11.4	0.413	11.51	7.91	191.6	2.62
Stabilization Criteria:				+/- 3% ✓	+/- 3% ✓	+/- 10% ✓ (if > 0.5 mg/l)	+/- 0.1 Units ✓	+/- 10 mV ✓	+/- 10 % ✓ (if > 5 NTU)

Total Volume Purged (gal): 2 1/2 clear; trace particulates @ purge start

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

			CALIBRATION CHECK			Mark if Recalibrated
			Standard (conc.)	Reading		
Time:	1126					
Temperature:	11.0	deg. C				
Specific Conductance:	0.414	~~umhos/cm~~ mS/cm	Specific Cond.:		umhos/cm	
Dissolved Oxygen:	10.39	mg/L	Dissolved Oxygen:		mg/L	
pH:	7.93	S.U.	pH:		S.U.	
ORP:	185.8	mV	Eh:		mV	
Turbidity:	204	NTU	Turbidity:		NTU	

SAMPLE COLLECTION

Time: 1130 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_2SO_4, ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass [plastic]	yes [no]	[None], HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	Sulfate
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [signature] Chain of Custody No.______

Name (SIGNATURE):______

CLIENT: Lambda Energy
LOCATION: 13390 Lone Tree Road
Hartland Township, Michigan
PROJECT: 130685.2000

Monitoring Location: Hartland #36 (MW DUPE)
Sample ID: MW-20D + Duplicate
Well Type: 2" PVC

INSPECTION

Label on well?	YES (NO) REMEDIED	Is cement pad in good repair?	YES NO REMEDIED N/A
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: 6/1/2020 Time: NR

Top of Casing Elevation:
Depth to Water: 18.76
Elevation of Water:

Measured with: (ELECTRONIC TAPE) CHALKED TAPE OTHER
Well depth verified? (YES) NO

WELL PURGING

Purge Method: (PERISTALTIC) BLADDER OTHER

Date: 6/1/2020 Start Time: 1140

Measured Well Depth: 35.28'
50 ft

Screen Length:
Depth to Screen Midpoint:

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	mS/cm ~~Spec Cond. (umho/cm)~~	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
initial	18.76								
1145	19.82	1.06	150	12.4	0.587	7.00	7.77	190.1	26.2
1150	19.82	1.06	150	12.6	0.589	6.81	7.77	189.5	23.8
1155	19.82	1.06	150	12.9	0.606	7.18	7.76	192.6	3.97
1200	19.82	1.06	150	12.9	0.606	7.22	7.75	192.1	3.27
1205	19.82	1.06	150	13.1	0.608	7.29	7.74	188.1	1.59
Stabilization Criteria:				+/- 3% ✓	+/- 3% ✓	+/- 10% ✓ (if > 0.5 mg/l)	+/- 0.1 Units ✓	+/- 10 mV ✓	+/- 10 % ✓ (if > 5 NTU)

Total Volume Purged (gal): brown tint/silty @ purge start

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time: 12:07
Temperature: 13.2 deg. C
Specific Conductance: 0.608 ~~umhos/cm~~ mS/cm
Dissolved Oxygen: 6.92 mg/L
pH: 7.74 S.U.
ORP: 187.0 mV
Turbidity: 1.39 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

Time: 12:10
Sample Duplicate ?: YES
Appearance of Sample: clear, trace fine particulates
Sample Method: Low Flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
2	1000 ml	[glass] plastic	yes [no]	[None], HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	Sulfolane + DUPE (MW-DUP
2	125 ml	glass [plastic]	yes [no]	[None], HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	Sulfate + DUPE MW-DUP
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [signature]
Chain of Custody No.
Name (SIGNATURE):

CLIENT:	**Lambda Energy**	**Monitoring Location:**	Hartland #36
LOCATION:	**13390 Lone Tree Road**	**Sample ID:**	MW- 14D
	Hartland Township, Michigan	**Well Type:**	2" PVC
PROJECT:	**130685.2000**		

INSPECTION

Label on well?	(YES) NO REMEDIED	Is cement pad in good repair?	YES NO REMEDIED N/A
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: 6/1/2020 Time: NR

Top of Casing Elevation:

Depth to Water: 17.45

Elevation of Water:

Measured with: (ELECTRONIC TAPE) CHALKED TAPE OTHER

Well depth verified? (YES) NO

WELL PURGING

Purge Method: (PERISTALTIC) BLADDER OTHER

Date: 6/2/2020 Start Time: 0925

Measured Well Depth: 45.1'

Screen Length:

Depth to Screen Midpoint:

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. (~~umho/cm~~ mS/cm)	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
initial	17.45	—	—	—	—	—	—	—	—
6/2/2020	17.40	—	—	—	—	—	—	—	—
0930	17.41	0.01	200	12.2	0.80	8.79	7.24	257.1	9.40
0935	17.41	0.01	200	12.2	0.79	8.34	7.23	253.7	6.58
0940	17.41	0.01	200	12.0	0.79	7.95	7.24	248.9	5.45
0945	17.41	0.01	200	12.0	0.79	7.67	7.26	245.1	5.42
1000	17.41	0.01	200	12.0	0.79	7.50	7.27	242.9	2.75
			Stabilization Criteria:	+/- 3%	+/- 3%	+/- 10% (if > 0.5 mg/l)	+/- 0.1 Units	+/- 10 mV	+/- 10 % (if > 5 NTU)

Total Volume Purged (gal): clear, aeration obs. @ purge start

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

			CALIBRATION CHECK	Standard (conc.)	Reading		Mark if Recalibrated
Time:	10:01						
Temperature:	12.0	deg. C					
Specific Conductance:	0.79	~~umhos/cm~~ mS/cm	Specific Cond.:			umhos/cm	
Dissolved Oxygen:	7.50	mg/L	Dissolved Oxygen:			mg/L	
pH:	7.28	S.U.	pH:			S.U.	
ORP:	241.2	mV	Eh:			mV	
Turbidity:	2.62	NTU	Turbidity:			NTU	

SAMPLE COLLECTION

Time: 10:05

Sample Duplicate ?: NO

Appearance of Sample: Clear, trace aeration

Sample Method: Low flow

NO./BOTTLES:	SIZE:	TYPE:	FILTERED:	PRESERVATIVE:	PARAMETER:
1	1000 ml	[glass] plastic	yes [no]	[None], HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass [plastic]	yes [no]	[None], HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	Sulfate
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Chain of Custody No.

Name (SIGNATURE): [signature]

Name (SIGNATURE):

CLIENT:	**Lambda Energy**	**Monitoring Location:**	**Hartland #36**
LOCATION:	**13390 Lone Tree Road**	**Sample ID:**	**MW-**14S
	Hartland Township, Michigan	**Well Type:**	2" PVC
PROJECT:	**130685.2000**		

INSPECTION

Label on well?	(YES) NO REMEDIED	Is cement pad in good repair?	YES NO REMEDIED N/A
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: 6/1/2020 Time: NR

Top of Casing Elevation:
Depth to Water: 17.63
Elevation of Water:

Measured with: (ELECTRONIC TAPE) CHALKED TAPE OTHER
Well depth verified? (YES) NO

WELL PURGING

Purge Method: (PERISTALTIC) BLADDER OTHER______ Date: 6/2/2020 Start Time: 1008

Measured Well Depth: 26.52' Screen Length: ______ Depth to Screen Midpoint: ______

Time	Water Level (feet) ok JK	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. mS/cm ~~(umho/cm)~~	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
initial	17.63	—	—	—	—	—	—	—	—
6/2/2020	17.60	—	—	—	—	—	—	—	—
1010	17.62	0.02	200	12.2	1.14	5.86	7.02	222.8	1.37
1015	17.62	0.02	200	12.2	1.15	5.84	7.02	222.6	1.24
1020	17.62	0.02	200	11.9	1.17	5.62	7.02	219.4	0.02
Stabilization Criteria:				+/- 3%	+/- 3%	+/- 10% (if > 0.5 mg/l)	+/- 0.1 Units	+/- 10 mV	+/- 10 % (if > 5 NTU)

Total Volume Purged (gal): ______ clean, trace bac./alg. growth @ purge start

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

			CALIBRATION CHECK Standard (conc.)	Reading		Mark if Recalibrated
Time:	1027					
Temperature:	11.9	deg. C				
Specific Conductance:	1.17	umhos/cm	Specific Cond.:		umhos/cm	
Dissolved Oxygen:	5.51	mg/L	Dissolved Oxygen:		mg/L	
pH:	7.02	S.U.	pH:		S.U.	
ORP:	218.4	mV	Eh:		mV	
Turbidity:	0.03	NTU	Turbidity:		NTU	

SAMPLE COLLECTION

Time: 1025 Sample Duplicate ?: No
Appearance of Sample: clear, no 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_2SO_4, ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass [plastic]	yes [no]	[None], HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	Sulfate
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): James Olsen @ TP Chain of Custody No. ______
Name (SIGNATURE): ______

CLIENT: Lambda Energy
LOCATION: 13390 Lone Tree Road
Hartland Township, Michigan
PROJECT: 130685.2000

Monitoring Location: Hartland #36
Sample ID: MW-13D
Well Type: 2" PVC

INSPECTION

Label on well?	(YES) NO REMEDIED	Is cement pad in good repair?	YES NO REMEDIED N/A
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

17.91' 6/2/2020

Date: 6/1/2020 Time: NR

Top of Casing Elevation:
Depth to Water: 17.97
Elevation of Water:

Measured with: (ELECTRONIC TAPE) CHALKED TAPE OTHER
Well depth verified? (YES) NO

WELL PURGING

Purge Method: PERISTALTIC BLADDER OTHER

Date: 6/2/2020 Start Time: 1042

Measured Well Depth: 32.2'
Screen Length:
Depth to Screen Midpoint:

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. ~~(umho/cm)~~ mS/cm	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
initial	~~17.97'~~								
6/2/2020	17.91'								
1045	18.03	250	0.12'	14.2	1.26	7.33	7.56	228.3	3.13
1050	18.05	250	0.14	14.2	1.26	7.20	7.56	226.9	2.36
~~1051~~	18.05	250	0.14	14.2	1.28	~~7.~~ 6.85	7.56	224.6	2.02
1056	18.05	250	0.14	14.2	1.29	6.56	7.56	216.9	1.72
Stabilization Criteria:				+/- 3%	+/- 3%	+/- 10% (if > 0.5 mg/l)	+/- 0.1 Units	+/- 10 mV	+/- 10 % (if > 5 NTU)

Total Volume Purged (gal): clean @ purge start

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

Time:	1056	
Temperature:	14.1	deg. C
Specific Conductance:	1.31	umhos/cm
Dissolved Oxygen:	6.15	mg/L
pH:	7.55	S.U.
ORP:	207.7	mV
Turbidity:	1.68	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: 1059
Appearance of Sample: clean, no app. Particulates
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_2SO_4, ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass [plastic]	yes [no]	[None], HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	Sulfate
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Name (SIGNATURE): [signature]
Chain of Custody No.
Name (SIGNATURE):

CLIENT:	**Lambda Energy**	Monitoring Location:	Hartland #36
LOCATION:	**13390 Lone Tree Road**	Sample ID:	MW- 13S
	Hartland Township, Michigan	Well Type:	2" PVC
PROJECT:	**130685.2000**		

INSPECTION

Label on well?	(YES) NO REMEDIED	Is cement pad in good repair?	YES NO REMEDIED N/A
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: 6/1/2020 Time: NR

Top of Casing Elevation:

Depth to Water: 18.65 Measured with: (ELECTRONIC TAPE) CHALKED TAPE OTHER

Elevation of Water: Well depth verified? (YES) NO

WELL PURGING

Date: 6/2/2020 Start Time: 1125

Purge Method: (PERISTALTIC) BLADDER OTHER

Measured Well Depth: 30.30' Screen Length: Depth to Screen Midpoint:

Time	Water Level (feet)	Drawdown (feet)	Pumping Rate (ml/min)	Temp (°C)	Spec Cond. mS/cm ~~(umho/cm)~~	Diss Oxy (mg/l)	pH (S.U.)	ORP (mV)	Turbidity (NTU)
initial	18.65	—	—	—	—			—	—
6/2/2020	18.70								
1130	18.72	0.02	200	17.0	1.02	5.20	7.58	183.6	9.97
1135	18.72	0.02	200	16.7	1.02	5.22	7.59	183.5	3.60
1140	18.72	0.02	200	15.2	0.92	4.77	7.59	181.6	0.02
1145	18.72	0.02	200	15.2	0.88	4.58	7.59	180.5	0.02
1150	18.72	0.02	200	15.2	0.87	4.51	7.59	180.6	0.02
Stabilization Criteria:				+/- 3%	+/- 3%	+/- 10% (if > 0.5 mg/l)	+/- 0.1 Units	+/- 10 mV	+/- 10 % (if > 5 NTU)

Total Volume Purged (gal): clear, slight gray tint @ purge start

Stabilization Criteria Reference Doc. USEPA EQASOP-GW 001 Rev #3, January 19, 2010

FIELD ANALYSIS

			CALIBRATION CHECK	Standard (conc.)	Reading		Mark if Recalibrated
Time:	1147						
Temperature:	15.1	deg. C					
Specific Conductance:	0.86	umhos/cm	Specific Cond.:			umhos/cm	
Dissolved Oxygen:	4.46	mg/L	Dissolved Oxygen:			mg/L	
pH:	7.59	S.U.	pH:			S.U.	
ORP:	180.5	mV	Eh:			mV	
Turbidity:	0.02	NTU	Turbidity:			NTU	

SAMPLE COLLECTION

Time: 1150 Sample Duplicate ?: NO

Appearance of Sample: clear, no app. 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_2SO_4, ZnAc, TSP, BAK	Sulfolane
1	125 ml	glass [plastic]	yes [no]	[None] HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	Sulfate
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	
	ml	glass plastic	yes no	None, HCl, HNO_3, NaOH, H_2SO_4, ZnAc, TSP, BAK	

SAMPLING PERSONNEL

Chain of Custody No.

Name (SIGNATURE): [signature] Name (SIGNATURE):