



January 22, 2021

Texas Commission on Environmental Quality  
Industrial and Hazardous Waste Permits Section  
MC-130  
PO Box 13087  
Austin, Texas 78711-3087

**RE: Monticello Steam Electric Station – Bottom Ash Ponds – Notification of Closure**

On behalf of Golden Eagle Development, LLC (Golden Eagle) (CN605736982), ATON, LLC is submitting the 2020 Annual CCR Groundwater Monitoring Report for the bottom ash ponds at the former Monticello Steam Electric Station (MOSES).

Please contact me at (512 )566-6878 or [adam.kaiser@atonenv.com](mailto:adam.kaiser@atonenv.com) if you have any questions or comments.

Sincerely,

A handwritten signature in cursive script that reads "Adam J. Kaiser".

Adam J. Kaiser, PE  
Senior Project Engineer  
**ATON LLC**

CC: Golden Eagle Development



**CORRESPONDENCE COVER SHEET  
WASTE PERMITS DIVISION  
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**

Date: 1/22/2021  
 Facility Name: Monticello Steam Electric Station  
 Permit or Registration No.: SWR30081

Nature of Correspondence:  
 Initial/New  
 Response/Revision\*

\*If Response/Revision, please provide previous TCEQ Tracking No.:  
 (Previous TCEQ Tracking No. can be found in the Subject line of the TCEQ's response letter to your original submittal.)

This cover sheet should accompany all correspondences submitted to the Waste Permits Division and should be affixed to the front of your submittal as a cover page. Please check the appropriate box for the type of correspondence being submitted. For questions regarding this form, please contact the Waste Permits Division at (512) 239-2335.

**Table 1 - Municipal Solid Waste**

APPLICATIONS	REPORTS and RESPONSES
<input type="checkbox"/> New Notification	<input type="checkbox"/> Closure Report
<input type="checkbox"/> New Permit (including Subchapter T)	<input type="checkbox"/> Groundwater Alternate SRC Demonstration
<input type="checkbox"/> New Registration (including Subchapter T)	<input type="checkbox"/> Groundwater Corrective Action
<input type="checkbox"/> Major Amendment	<input checked="" type="checkbox"/> Groundwater Monitoring Report
<input type="checkbox"/> Minor Amendment	<input type="checkbox"/> Groundwater Statistical Evaluation
<input type="checkbox"/> Limited Scope Major Amendment	<input type="checkbox"/> Landfill Gas Corrective Action
<input type="checkbox"/> Notice Modification	<input type="checkbox"/> Landfill Gas Monitoring
<input type="checkbox"/> Non-Notice Modification	<input type="checkbox"/> Liner Evaluation Report
<input type="checkbox"/> Transfer/Name Change Modification	<input type="checkbox"/> Soil Boring Plan
<input type="checkbox"/> Temporary Authorization	<input type="checkbox"/> Special Waste Request
<input type="checkbox"/> Voluntary Revocation	<input type="checkbox"/> Other:
<input type="checkbox"/> Subchapter T Workplan	
<input type="checkbox"/> Other:	

**Table 2 - Industrial & Hazardous Waste**

APPLICATIONS	REPORTS and RESPONSES
<input type="checkbox"/> New	<input type="checkbox"/> Annual/Biennial Site Activity Report
<input type="checkbox"/> Renewal	<input type="checkbox"/> CfPT Plan/Result
<input type="checkbox"/> Post-Closure Order	<input type="checkbox"/> Closure Certification/Report
<input type="checkbox"/> Major Amendment	<input type="checkbox"/> Construction Certification/Report
<input type="checkbox"/> Minor Amendment	<input type="checkbox"/> CPT Plan/Result
<input type="checkbox"/> Class 3 Modification	<input type="checkbox"/> Extension Request
<input type="checkbox"/> Class 2 Modification	<input type="checkbox"/> Groundwater Monitoring Report
<input type="checkbox"/> Class 1 ED Modification	<input type="checkbox"/> Interim Status Change
<input type="checkbox"/> Class 1 Modification	<input type="checkbox"/> Interim Status Closure Plan
<input type="checkbox"/> Endorsement	<input type="checkbox"/> Soil Core Monitoring Report
<input type="checkbox"/> Temporary Authorization	<input type="checkbox"/> Treatability Study
<input type="checkbox"/> Voluntary Revocation	<input type="checkbox"/> Trial Burn Plan/Result
<input type="checkbox"/> 335.6 Notification	<input type="checkbox"/> Unsaturated Zone Monitoring Report
<input type="checkbox"/> Other:	<input type="checkbox"/> Waste Minimization Report
	<input type="checkbox"/> Other:



## **2020 Annual CCR Groundwater Monitoring Report Bottom Ash Ponds**

Former Monticello Steam Electric Station  
FM 127, Mt. Pleasant, Titus County, Texas

Prepared for:

**GOLDEN EAGLE DEVELOPMENT LLC**

Prepared by:

**ATON LLC**  
2275 Cassens Drive, Suite 118  
Fenton, Missouri 63026

January 22, 2021

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**ACRONYMS AND ABBREVIATIONS**

mg/L            Milligrams per Liter

NA             Not Applicable

## 1.0 INTRODUCTION

On behalf of Golden Eagle Development, LLC (Golden Eagle), ATON LLC (ATON) has prepared this report to satisfy annual groundwater monitoring and corrective action reporting requirements of the Coal Combustion Residuals (CCR) Rule for the Northeast Ash Water Retention Pond, West Ash Settling Pond, and Southwest Ash Settling Pond (Bottom Ash Ponds) at the Monticello Steam Electric Station (MOSES) in Mount Pleasant, Texas. The CCR units and CCR monitoring well network are shown on Figure 1. Golden Eagle acquired MOSES in December 2020 from Luminant Generation Company, LLC (Luminant).

The CCR Rule (40 Code of Federal Regulations (CFR) 257 Subpart D - *Standards for the Receipt of Coal Combustion Residuals in Landfills and Surface Impoundments*) has been promulgated by the United States Environmental Protection Agency (USEPA) to regulate the management and disposal of CCRs as solid waste under Resource Conservation and Recovery Act (RCRA) Subtitle D. This report is in accordance with 30 Texas Administrative Code (30 TAC) Chapter 352, Coal Combustion Residuals Waste Management which establishes a CCR registration and management program to regulate CCR waste and requires the Owner/Operator to obtain a CCR registration and implement a groundwater detection/monitoring program.

For existing CCR landfills and surface impoundments, the CCR Rule requires that the owner or operator prepare an annual groundwater monitoring and corrective action report to document the status of the groundwater monitoring and corrective action program for the CCR unit for the previous calendar year. Per 40 CFR 257.90(e) and 30 TAC Chapter 352, Subchapter H of the CCR Rule, the report should contain the following information, to the extent available:

- (1) A map, aerial image, or diagram showing the CCR unit and all background (or upgradient) and downgradient monitoring wells, to include the well identification numbers, that are part of the groundwater monitoring program for the CCR unit;
- (2) Identification of any monitoring wells that were installed or decommissioned during the preceding year, along with a narrative description of why those actions were taken;
- (3) In addition to all the monitoring data obtained under §257.90 through §257.98, a summary including the number of groundwater samples that were collected for analysis for each background and downgradient well, the dates the samples were collected, and whether the sample was required by the detection monitoring or assessment monitoring programs;
- (4) A narrative discussion of any transition between monitoring programs (*e.g.*, the date and circumstances for transitioning from detection monitoring to assessment monitoring in addition to identifying the constituent(s) detected at a statistically significant increase over background levels); and
- (5) Other information required to be included in the annual report as specified in §257.90 through §257.98.

## 2.0 MONITORING AND CORRECTIVE ACTION PROGRAM STATUS

The MOSES CCR Bottom Ash Ponds are currently in the Detection Monitoring Program. Luminant collected the initial Detection Monitoring Program groundwater samples from the Bottom Ash Ponds CCR monitoring well network in September 2017. Detection groundwater samples have been collected from the CCR groundwater monitoring network on a semi-annual basis in 2018 through 2020, as required by the CCR Rule. All CCR groundwater monitoring wells were sampled for Appendix III constituents during the detection monitoring sampling events. The following table provides a summary of the Detection Monitoring Program:

**Detection Monitoring Program Summary**

Sampling Dates	Parameters	SSIs	Assessment Monitoring Program Established
September 2017	Appendix III	No	No
June 2018	Appendix III	No	No
September 2018	Appendix III	No	No
May 2019	Appendix III	No	No
October 2019	Appendix III	No	No
April 2020	Appendix III	Yes	No
October/November 2020	Appendix III	Yes	No

The statistical background values and Appendix III analytical data are presented in Tables 1 and 2, respectively, and the 2020 laboratory analytical reports are provided in Appendix A. There were no SSIs of Appendix III parameters in 2017 through 2019; therefore, the CCR units remained in Detection Monitoring in 2020. The analytical data from the 2020 detection monitoring sampling events were evaluated using procedures described in the Statistical Analysis Plan (PBW 2017) to identify Statistically Significant Increases (SSIs) of Appendix III parameters over background concentrations. In 2020, there was an SSI for one parameter; however, the issue was identified as an equipment malfunction and is being resolved as described below.

### **3.0 KEY ACTIONS COMPLETED IN 2020**

Detection Monitoring Program groundwater monitoring events were completed in April and October/November 2020. The number of groundwater samples that were collected for analysis for each background and downgradient well, the dates the samples were collected, and the analytical results for the groundwater samples are summarized in Table 2. A map showing the CCR units and monitoring wells is provided as Figure 1.

No CCR wells were installed or decommissioned in 2020.



#### **4.0 PROBLEMS ENCOUNTERED AND ACTIONS TO RESOLVE THE PROBLEMS**

An SSI was noted for pH in downgradient monitoring wells W-30 and W-34. A review of all the data indicated a pH increase in most monitoring wells, upgradient and down-gradient, in comparison to historical measurements. In response to the increase in pH measurements, maintenance on the water quality sensors and an evaluation of the calibration procedures was conducted. The assessment concluded that the pH instrumentation was faulty and measuring higher than the calibration standards. New water quality components have been ordered and will be utilized in 2021.

## **5.0 KEY ACTIVITIES PLANNED FOR 2020**

The following key activities are planned for 2020:

- Continue the Detection Monitoring Program in accordance with 40 CFR § 257.94.
- Complete evaluation of Appendix III analytical data from the downgradient wells and compare results to statistical background values to determine whether an SSI has occurred.
- If an SSI is identified, potential alternate sources (i.e., a source other than the CCR unit caused the SSI or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality) will be evaluated. If an alternate source is identified to be the cause of the SSI, a written demonstration will be completed within 90 days of SSI determination and included in the Annual Groundwater Monitoring Report.
- If an alternate source is not identified to be the cause of the SSI, an Assessment Monitoring Program will be established in accordance with 40 CFR § 257.94(e)(2).

## **6.0 REFERENCES**

Pastor, Behling & Wheeler, LLC, 2017. Coal Combustion Residual Rule Statistical Analysis Plan, Monticello Steam Electric Station, Ash Ponds, Mount Pleasant, Texas.

## Signature Page



Adam J. Kaiser, P.E.  
Texas PE No 126387, Expires 3/31/2020



1/22/2021

## **TABLES**

**Table 1**  
**Statistical Background Values**  
**MOSES Bottom Ash Ponds**

<b>Parameter</b>	<b>Statistical Background Value</b>
Boron (B) (mg/L)	8.52
Calcium (Ca) (mg/L)	311
Chloride (Cl) (mg/L)	184
Fluoride (F) (mg/L)	2.93
field pH (s.u.)	4.99 - 7.14
Sulfate (SO <sub>4</sub> ) (mg/L)	1,190
Total Dissolved Solids (TDS) (mg/L)	2,150

**Table 2**  
**Analytical Results**  
**MOSES CRR Monitoring 2020**

Sample Location	Date Sampled	B (mg/L)	Ca (mg/L)	Cl (mg/L)	F (mg/L)	pH (s.u.)	SO <sub>4</sub> (mg/L)	TDS (mg/L)
<b>Upgradient Wells</b>								
W-31	10/15/15	3.74	130	66.2	0.136	5.67	808	1510
	12/07/15	3.81	136	51.2	0.275 J	5.86	714	1250
	02/22/16	3.65	130	49.2	0.124	5.79	694	1500
	04/04/16	3.8	119	48.9	0.22 J	6.06	737	1220
	06/06/16	3.84	104	47.8	<0.1	6.17	701	1150
	08/08/16	2.67	92.4	58.4	<0.1	6.11	396	862
	10/12/16	1.74	71.7	55.1	0.112	6.13	292	654
	12/29/16	3.15	89.7	49.3	<0.1	4.99	729	1150
	09/20/17	3.88	96.3	49.8	<0.100	6.72	316	696
	06/08/18	3.28	86.3	48.6	0.302 J	6.72	577	925
	09/10/18	3.19	86.5	46.3	0.215 J	4.84	595	973
	05/09/19	0.881	36.5	54	0.155 J	6.87	115	319
	10/30/19	1.29	35.6	49.1	0.102 J	6.84	131	343
<b>04/26/20</b>	<b>0.79</b>	<b>34.4</b>	<b>51.1</b>	<b>0.0866 J</b>	<b>7.41</b>	<b>86</b>	<b>279</b>	
<b>10/31/20</b>	<b>1.27</b>	<b>36.9</b>	<b>48.3</b>	<b>0.0769 J</b>	<b>6.60</b>	<b>156</b>	<b>384</b>	
W-32	10/15/15	5.85	282	160	0.44	6.72	1040	1970
	12/07/15	6.76	260	122	1.19	6.74	872	1610
	02/22/16	6.95	247	124	0.79	6.74	850	1870
	04/04/16	6.5	239	139	1.01	6.73	844	1380
	06/06/16	6.18	192	105	0.758	6.71	694	1440
	08/08/16	4.43	261	110	0.544	6.71	945	1650
	10/12/16	6.32	284	134	0.339	6.19	986	1820
	12/29/16	6.38	310	147	0.573	6.46	1210	1950
	09/20/17	5.81	270	118	0.375 J	6.79	901	1920
	06/08/18	5.79	380	149	1.71	6.74	1340	2390
	09/10/18	5.38	370	140	1.19	6.56	1270	2200
	05/09/19	3.83	91	21.9	1.83	6.73	236	479
	10/30/19	4.24	130	35.0	1.7	6.91	363	746
<b>04/26/20</b>	<b>1.96</b>	<b>48.6</b>	<b>9.7</b>	<b>2.29</b>	<b>8.72</b>	<b>96</b>	<b>290</b>	
<b>10/31/20</b>	<b>2.85</b>	<b>64.8</b>	<b>12.5</b>	<b>1.34</b>	<b>8.16</b>	<b>141</b>	<b>344</b>	
W-33	10/15/15	6.36	311	162	2.01	7.14	1080	1630
	12/07/15	6.68	252	120	2.8	7.12	853	1680
	02/22/16	7.52	243	124	2.4	7.11	790	1960
	04/04/16	7.24	278	171	2.5	7.14	935	1540
	06/06/16	7.08	229	120	2.12	7.10	700	1490
	08/08/16	6.37	215	108	1.92	6.97	655	1300
	10/12/16	5.15	237	111	2.43	6.84	797	1540
	12/29/16	5.23	275	125	2.25	6.82	965	1730
	09/20/17	5.89	271	112	2.04	6.73	863	1970
	06/08/18	6.01	364	142	3.59	6.55	1200	2230
	09/10/18	5.45	351	132	2.99	6.78	1160	2120
	05/09/19	3.41	93.7	36.7	1.41	6.85	443	775
	10/30/19	5.18	169	39.7	1.21	6.68	477	911
<b>04/26/20</b>	<b>3.43</b>	<b>96.4</b>	<b>17.7</b>	<b>3.13</b>	<b>8.35</b>	<b>171</b>	<b>580</b>	
<b>11/01/20</b>	<b>2.33</b>	<b>80.9</b>	<b>10.8</b>	<b>3.73</b>	<b>8.39</b>	<b>104</b>	<b>387</b>	
<b>Downgradient Wells</b>								
W-29	10/15/15	4.58	111	101	0.317 J	6.21	861	1680
	12/07/15	3.47	86.6	81.1	0.358 J	6.22	501	1020
	02/22/16	4.98	114	82.3	0.24	6.27	909	1840
	04/04/16	3.32	169	75.9	0.229 J	6.17	465	850
	06/06/16	5.77	162	85.5	<0.1	6.29	696	1230
	08/08/16	5.7	153	85.6	<0.1	6.32	1100	1850
	10/12/16	6.42	174	82.4	0.4	6.19	1140	1720
	12/29/16	6.52	185	82.5	0.23 J	6.14	1150	1860
	09/20/17	4.84	128	80.6	<0.100	6.85	882	1540
	06/08/18	3.7	127	87.9	0.374 J	6.62	694	1310
	09/10/18	4.14	140	81.5	0.405	6.30	858	1630
	05/10/19	1.94	95.4	92.1	0.210 J	6.85	361	727
	10/30/19	1.69	100	86.1	0.238 J	6.52	252	621
	<b>04/26/20</b>	<b>1.36</b>	<b>70</b>	<b>88.2</b>	<b>0.138 J</b>	<b>6.70</b>	<b>270</b>	<b>563</b>
<b>11/01/20</b>	<b>1.24</b>	<b>84</b>	<b>88.1</b>	<b>0.197</b>	<b>6.98</b>	<b>214</b>	<b>517</b>	

**Table 2**  
**Analytical Results**  
**MOSES CRR BAP Monitoring 2020**

Sample Location	Date Sampled	B (mg/L)	Ca (mg/L)	Cl (mg/L)	F (mg/L)	pH (s.u.)	SO <sub>4</sub> (mg/L)	TDS (mg/L)
W-30	10/15/15	6.06	133	106	0.58	5.78	919	1490
	12/07/15	7.04	135	98.3	0.809	5.95	875	1530
	02/22/16	6.83	138	96.3	0.721	5.94	873	1790
	04/04/16	6.28	141	95.2	0.961	5.93	925	1460
	06/06/16	6.89	132	94.9	0.359 J	5.96	884	1460
	08/08/16	5.94	136	85.7	0.451	6.23	848	1550
	10/12/16	6.51	130	79.9	0.788	6.02	817	1300
	12/29/16	8.54	192	85.3	0.501	5.34	863	1510
	09/20/17	5.76	127	76.5	0.394 J	6.85	734	1570
	06/08/18	5.06	127	87.8	0.916	6.78	724	1280
	09/10/18	4.53	115	81.1	0.906	5.25	713	1230
	05/09/19	5.13	115	97.5	0.848	6.72	734	1300
	10/30/19	5.06	161	59.4	0.573	6.43	755	1330
<b>04/26/20</b>	<b>4.18</b>	<b>135</b>	<b>51.4</b>	<b>0.693</b>	<b>7.49</b>	<b>763</b>	<b>1150</b>	
<b>10/31/20</b>	<b>4.26</b>	<b>141</b>	<b>44.0</b>	<b>0.675</b>	<b>7.11</b>	<b>735</b>	<b>1140</b>	
W-34	10/15/15	2.38	124	87.1	0.38 J	6.55	453	878
	12/07/15	4.1	153	82.2	0.494	6.58	671	1500
	02/22/16	3.44	117	85.9	0.422	6.59	641	1570
	04/04/16	2.09	86.9	80.7	0.287 J	6.63	378	817
	06/06/16	2.12	66.2	73	<0.1	6.64	343	795
	08/08/16	3.56	121	98.4	<0.1	6.52	634	1030
	10/12/16	3.13	110	84.9	0.293	6.57	556	935
	12/29/16	6.1	158	122	0.336 J	6.03	937	1620
	09/20/17	5.36	181	117	0.244 J	6.75	873	1720
	06/08/18	4.95	180	116	0.902	6.85	835	1540
	09/10/18	4.53	161	114	0.656	6.64	819	1530
	05/09/19	1.51	64.7	45.1	0.348 J	6.78	164	568
	10/30/19	4.11	154	103	0.322 J	6.62	677	1260
<b>04/26/20</b>	<b>4.26</b>	<b>182</b>	<b>108</b>	<b>0.438</b>	<b>7.67</b>	<b>817</b>	<b>1370</b>	
<b>11/01/20</b>	<b>5.47</b>	<b>217</b>	<b>114</b>	<b>0.345</b>	<b>7.50</b>	<b>930</b>	<b>1560</b>	
W-35	10/15/15	5.58	175	98.2	<0.1	6.05	893	1720
	12/07/15	6.13	177	90.2	0.128 J	6.16	861	1580
	02/22/16	6.29	160	85.4	<0.1	6.12	824	1650
	04/04/16	6.16	169	91.3	<0.1	6.09	835	1310
	06/06/16	6.17	158	98.5	<0.1	6.36	858	1460
	08/08/16	6.07	159	97.8	<0.1	6.41	810	1470
	10/12/16	6.25	150	97.8	0.1	6.12	793	1320
	12/29/16	6.89	151	110	<0.1	5.06	839	1370
	09/20/17	6.27	186	120	<0.100	6.74	854	1650
	06/08/18	5.81	200	128	0.163 J	6.55	925	1660
	09/10/18	5.7	204	132	<0.1	5.42	940	1580
	05/10/19	5.46	182	75.5	<0.1	6.94	501	865
	10/30/19	3.63	111	95.5	<0.100	6.92	682	1280
	10/30/2019 DUP	4.57	142	99.1	<0.100	6.92	699	1280
<b>4/26/2020</b>	<b>5.30</b>	<b>209</b>	<b>129</b>	<b>&lt;0.150</b>	<b>6.50</b>	<b>984</b>	<b>1600</b>	
<b>11/1/2020</b>	<b>5.95</b>	<b>207</b>	<b>118</b>	<b>&lt;0.064</b>	<b>6.73</b>	<b>945</b>	<b>1550</b>	

Notes:

1. Shaded cells exceeded Statistical Background Values
2. Abbreviations: mg/L - milligrams per liter; TDS - total dissolved solids; s.u. - standard units.
3. J - concentration is below method quantitation limit; result is an estimate.
4. Samples from the Current Period are bold.



## FIGURES



Source: Google Maps

Date: January 2021

**Figure 1**

NOT TO SCALE

**N↑**



**ATON**

Site Name: **Monticello SES**  
**Mt. Pleasant, Texas**

## **APPENDIX A - 2020 LABORATORY ANALYTICAL REPORTS**

## Commercial Liability Partners, LLC

Sample Delivery Group: L1282231  
Samples Received: 11/05/2020  
Project Number:  
Description: Golden Eagle Groundwater

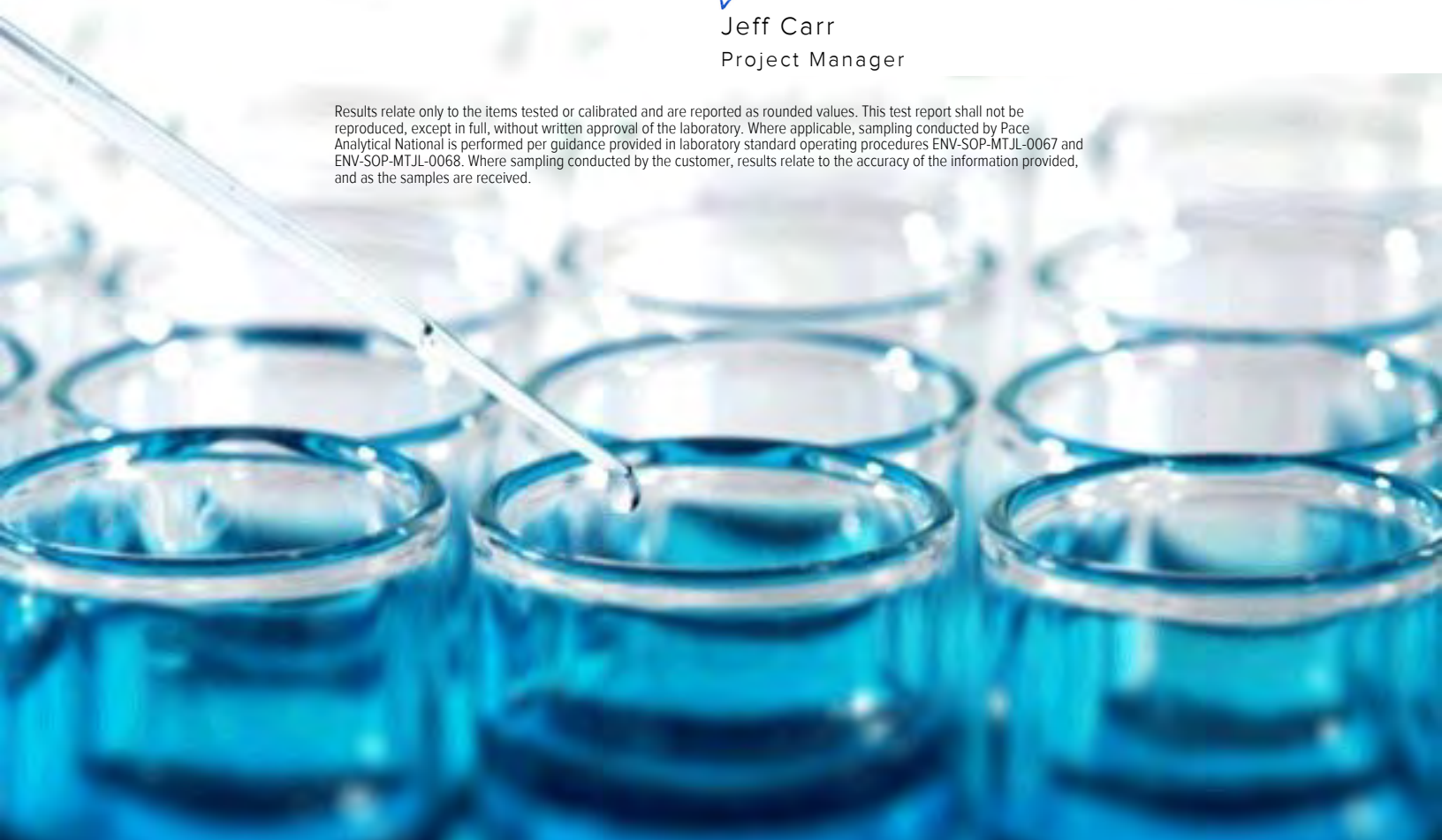
Report To: Adam Kaiser  
2275 Cassens Drive  
Suite 118  
Fenton, MO 63026

Entire Report Reviewed By:



Jeff Carr  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.





<b>Cp: Cover Page</b>	<b>1</b>	<b>1</b> Cp
<b>Tc: Table of Contents</b>	<b>2</b>	
<b>Ss: Sample Summary</b>	<b>3</b>	<b>2</b> Tc
<b>Cn: Case Narrative</b>	<b>5</b>	
<b>Tr: TRRP Summary</b>	<b>6</b>	<b>3</b> Ss
TRRP form R	<b>7</b>	
TRRP form S	<b>8</b>	<b>4</b> Cn
TRRP Exception Reports	<b>9</b>	<b>5</b> Tr
<b>Sr: Sample Results</b>	<b>10</b>	
W-29 L1282231-01	<b>10</b>	<b>6</b> Sr
W-30 L1282231-02	<b>11</b>	
W-31 L1282231-03	<b>12</b>	<b>7</b> Qc
W-32 L1282231-04	<b>13</b>	<b>8</b> Gl
W-33 L1282231-05	<b>14</b>	
W-34 L1282231-06	<b>15</b>	<b>9</b> Al
W-35 L1282231-07	<b>16</b>	<b>10</b> Sc
<b>Qc: Quality Control Summary</b>	<b>17</b>	
Gravimetric Analysis by Method 2540 C-2011	<b>17</b>	
Wet Chemistry by Method 9056A	<b>18</b>	
Metals (ICPMS) by Method 6020	<b>20</b>	
<b>Gl: Glossary of Terms</b>	<b>21</b>	
<b>Al: Accreditations &amp; Locations</b>	<b>22</b>	
<b>Sc: Sample Chain of Custody</b>	<b>23</b>	

# SAMPLE SUMMARY



## W-29 L1282231-01 GW

Collected by  
Jeff Norfleet  
Collected date/time  
11/01/20 11:00  
Received date/time  
11/05/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1572699	1	11/07/20 07:45	11/07/20 09:13	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1573984	1	11/11/20 11:08	11/11/20 11:08	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1573984	5	11/11/20 11:19	11/11/20 11:19	ELN	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1573790	1	11/10/20 23:35	11/11/20 18:38	JDG	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1573790	1	11/10/20 23:35	11/12/20 16:08	LD	Mt. Juliet, TN

1  
Cp

2  
Tc

3  
Ss

4  
Cn

## W-30 L1282231-02 GW

Collected by  
Jeff Norfleet  
Collected date/time  
10/31/20 13:00  
Received date/time  
11/05/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1572699	1	11/07/20 07:45	11/07/20 09:13	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1573984	1	11/11/20 11:30	11/11/20 11:30	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1573984	10	11/11/20 11:41	11/11/20 11:41	ELN	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1573790	1	11/10/20 23:35	11/11/20 18:41	JDG	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1573790	5	11/10/20 23:35	11/12/20 17:56	LD	Mt. Juliet, TN

5  
Tr

6  
Sr

7  
Qc

8  
Gl

## W-31 L1282231-03 GW

Collected by  
Jeff Norfleet  
Collected date/time  
10/31/20 12:00  
Received date/time  
11/05/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1572699	1	11/07/20 07:45	11/07/20 09:13	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1573984	1	11/11/20 11:51	11/11/20 11:51	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1573984	5	11/11/20 18:33	11/11/20 18:33	ELN	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1573790	1	11/10/20 23:35	11/11/20 18:46	JDG	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1573790	1	11/10/20 23:35	11/12/20 16:15	LD	Mt. Juliet, TN

9  
Al

10  
Sc

## W-32 L1282231-04 GW

Collected by  
Jeff Norfleet  
Collected date/time  
10/31/20 14:00  
Received date/time  
11/05/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1572699	1	11/07/20 07:45	11/07/20 09:13	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1573984	1	11/11/20 12:57	11/11/20 12:57	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1573984	5	11/11/20 13:07	11/11/20 13:07	ELN	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1573790	1	11/10/20 23:35	11/11/20 18:49	JDG	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1573790	5	11/10/20 23:35	11/12/20 18:00	LD	Mt. Juliet, TN

## W-33 L1282231-05 GW

Collected by  
Jeff Norfleet  
Collected date/time  
11/01/20 12:00  
Received date/time  
11/05/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1572699	1	11/07/20 07:45	11/07/20 09:13	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1573984	1	11/11/20 13:18	11/11/20 13:18	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1573984	5	11/11/20 18:55	11/11/20 18:55	ELN	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1573790	1	11/10/20 23:35	11/11/20 18:53	JDG	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1573790	5	11/10/20 23:35	11/12/20 18:03	LD	Mt. Juliet, TN

# SAMPLE SUMMARY



## W-34 L1282231-06 GW

Collected by  
Jeff Norfleet

Collected date/time  
11/01/20 10:00

Received date/time  
11/05/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1572699	1	11/07/20 07:45	11/07/20 09:13	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1573984	1	11/11/20 13:29	11/11/20 13:29	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1573984	20	11/11/20 19:28	11/11/20 19:28	ELN	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1573790	1	11/10/20 23:35	11/11/20 18:57	JDG	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1573790	10	11/10/20 23:35	11/12/20 18:06	LD	Mt. Juliet, TN

1  
Cp

2  
Tc

3  
Ss

4  
Cn

5  
Tr

## W-35 L1282231-07 GW

Collected by  
Jeff Norfleet

Collected date/time  
11/01/20 09:00

Received date/time  
11/05/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1572699	1	11/07/20 07:45	11/07/20 09:13	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1573984	1	11/11/20 13:51	11/11/20 13:51	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1573984	20	11/11/20 14:02	11/11/20 14:02	ELN	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1573790	1	11/10/20 23:35	11/11/20 23:30	JDG	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1573790	10	11/10/20 23:35	11/12/20 18:10	LD	Mt. Juliet, TN

6  
Sr

7  
Qc

8  
Gl

9  
Al

10  
Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Jeff Carr  
Project Manager

- <sup>1</sup>Cp
- <sup>2</sup>Tc
- <sup>3</sup>Ss
- <sup>4</sup>Cn
- <sup>5</sup>Tr
- <sup>6</sup>Sr
- <sup>7</sup>Qc
- <sup>8</sup>Gl
- <sup>9</sup>Al
- <sup>10</sup>Sc





This data package consists of this signature page, the laboratory review checklist, and the following reportable data as applicable:

- R1 - Field chain-of-custody documentation;
- R2 - Sample identification cross-reference;
- R3 - Test reports (analytical data sheets) for each environmental sample that includes:
  - a. Items consistent with NELAC Chapter 5,
  - b. dilution factors,
  - c. preparation methods,
  - d. cleanup methods, and
  - e. if required for the project, tentatively identified compounds (TICs).
- R4 - Surrogate recovery data including:
  - a. Calculated recovery (%R), and
  - b. The laboratory's surrogate QC limits.
- R5 - Test reports/summary forms for blank samples;
- R6 - Test reports/summary forms for laboratory control samples (LCSs) including:
  - a. LCS spiking amounts,
  - b. Calculated %R for each analyte, and
  - c. The laboratory's LCS QC limits.
- R7 - Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - a. Samples associated with the MS/MSD clearly identified,
  - b. MS/MSD spiking amounts,
  - c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,
  - d. Calculated %Rs and relative percent differences (RPDs), and
  - e. The laboratory's MS/MSD QC limits
- R8 - Laboratory analytical duplicate (if applicable) recovery and precision:
  - a. The amount of analyte measured in the duplicate,
  - b. The calculated RPD, and
  - c. The laboratory's QC limits for analytical duplicates.
- R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
- R10 - Other problems or anomalies.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Jeff Carr  
Project Manager

# Laboratory Review Checklist: Reportable Data



Laboratory Name: Pace Analytical National			LRC Date: 11/13/2020 11:40				
Project Name: Golden Eagle Groundwater			Laboratory Job Number: L1282231-01, 02, 03, 04, 05, 06 and 07				
Reviewer Name: Jeff Carr			Prep Batch Number(s): WG1572699, WG1573790 and WG1573984				
# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?			X		
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?		X			1
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TICs reported?			X		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?			X		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			2
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3. NA = Not applicable;

4. NR = Not reviewed;

5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

# Laboratory Review Checklist: Supporting Data



Laboratory Name: Pace Analytical National		LRC Date: 11/13/2020 11:40					
Project Name: Golden Eagle Groundwater		Laboratory Job Number: L1282231-01, 02, 03, 04, 05, 06 and 07					
Reviewer Name: Jeff Carr		Prep Batch Number(s): WG1572699, WG1573790 and WG1573984					
# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?			X		
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?			X		
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?	X				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	Proficiency test reports					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed	X				
<p>1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.</p> <p>2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);</p> <p>3. NA = Not applicable;</p> <p>4. NR = Not reviewed;</p> <p>5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).</p>							

# Laboratory Review Checklist: Exception Reports



Laboratory Name: Pace Analytical National		LRC Date: 11/13/2020 11:40	
Project Name: Golden Eagle Groundwater		Laboratory Job Number: L1282231-01, 02, 03, 04, 05, 06 and 07	
Reviewer Name: Jeff Carr		Prep Batch Number(s): WG1572699, WG1573790 and WG1573984	
ER # <sup>1</sup>	Description		
1	9056A WG1573984 R3592497-4 and 5: The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).		
2	6020 WG1573790 Boron: Percent Recovery is outside of established control limits.		
1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period. 2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable); 3. NA = Not applicable; 4. NR = Not reviewed; 5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).			



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	517		2.82	10.0	10.0	1	11/07/2020 09:13	<a href="#">WG1572699</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	88.1		0.379	1.00	1.00	1	11/11/2020 11:08	<a href="#">WG1573984</a>
Fluoride	0.197		0.0640	0.150	0.150	1	11/11/2020 11:08	<a href="#">WG1573984</a>
Sulfate	214		2.97	5.00	25.0	5	11/11/2020 11:19	<a href="#">WG1573984</a>

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Tr

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron	1.24		0.00963	0.0300	0.0300	1	11/12/2020 16:08	<a href="#">WG1573790</a>
Calcium	84.0		0.0936	1.00	1.00	1	11/11/2020 18:38	<a href="#">WG1573790</a>

<sup>6</sup> Sr

<sup>7</sup> Qc

<sup>8</sup> Gl

<sup>9</sup> Al

<sup>10</sup> Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	1140		2.82	10.0	10.0	1	11/07/2020 09:13	<a href="#">WG1572699</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	44.0		0.379	1.00	1.00	1	11/11/2020 11:30	<a href="#">WG1573984</a>
Fluoride	0.675		0.0640	0.150	0.150	1	11/11/2020 11:30	<a href="#">WG1573984</a>
Sulfate	735		5.94	5.00	50.0	10	11/11/2020 11:41	<a href="#">WG1573984</a>

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Tr

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron	4.26		0.0482	0.0300	0.150	5	11/12/2020 17:56	<a href="#">WG1573790</a>
Calcium	141		0.0936	1.00	1.00	1	11/11/2020 18:41	<a href="#">WG1573790</a>

<sup>6</sup> Sr

<sup>7</sup> Qc

<sup>8</sup> Gl

<sup>9</sup> Al

<sup>10</sup> Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	384		2.82	10.0	10.0	1	11/07/2020 09:13	<a href="#">WG1572699</a>

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	48.3		0.379	1.00	1.00	1	11/11/2020 11:51	<a href="#">WG1573984</a>
Fluoride	0.0769	J	0.0640	0.150	0.150	1	11/11/2020 11:51	<a href="#">WG1573984</a>
Sulfate	156		2.97	5.00	25.0	5	11/11/2020 18:33	<a href="#">WG1573984</a>

3 Ss

4 Cn

5 Tr

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron	1.27		0.00963	0.0300	0.0300	1	11/12/2020 16:15	<a href="#">WG1573790</a>
Calcium	36.9		0.0936	1.00	1.00	1	11/11/2020 18:46	<a href="#">WG1573790</a>

6 Sr

7 Qc

8 Gl

9 Al

10 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	344		2.82	10.0	10.0	1	11/07/2020 09:13	<a href="#">WG1572699</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	12.5		0.379	1.00	1.00	1	11/11/2020 12:57	<a href="#">WG1573984</a>
Fluoride	1.34		0.0640	0.150	0.150	1	11/11/2020 12:57	<a href="#">WG1573984</a>
Sulfate	141		2.97	5.00	25.0	5	11/11/2020 13:07	<a href="#">WG1573984</a>

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Tr

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron	2.85		0.0482	0.0300	0.150	5	11/12/2020 18:00	<a href="#">WG1573790</a>
Calcium	64.8		0.0936	1.00	1.00	1	11/11/2020 18:49	<a href="#">WG1573790</a>

<sup>6</sup> Sr

<sup>7</sup> Qc

<sup>8</sup> Gl

<sup>9</sup> Al

<sup>10</sup> Sc





Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	387		2.82	10.0	10.0	1	11/07/2020 09:13	<a href="#">WG1572699</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	10.8		0.379	1.00	1.00	1	11/11/2020 13:18	<a href="#">WG1573984</a>
Fluoride	3.73		0.0640	0.150	0.150	1	11/11/2020 13:18	<a href="#">WG1573984</a>
Sulfate	104		2.97	5.00	25.0	5	11/11/2020 18:55	<a href="#">WG1573984</a>

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Tr

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron	2.33		0.0482	0.0300	0.150	5	11/12/2020 18:03	<a href="#">WG1573790</a>
Calcium	80.9		0.0936	1.00	1.00	1	11/11/2020 18:53	<a href="#">WG1573790</a>

<sup>6</sup> Sr

<sup>7</sup> Qc

<sup>8</sup> Gl

<sup>9</sup> Al

<sup>10</sup> Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	1560		2.82	10.0	10.0	1	11/07/2020 09:13	<a href="#">WG1572699</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	114		7.58	1.00	20.0	20	11/11/2020 19:28	<a href="#">WG1573984</a>
Fluoride	0.345		0.0640	0.150	0.150	1	11/11/2020 13:29	<a href="#">WG1573984</a>
Sulfate	930		11.9	5.00	100	20	11/11/2020 19:28	<a href="#">WG1573984</a>

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Tr

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron	5.47		0.0963	0.0300	0.300	10	11/12/2020 18:06	<a href="#">WG1573790</a>
Calcium	217		0.0936	1.00	1.00	1	11/11/2020 18:57	<a href="#">WG1573790</a>

<sup>6</sup> Sr

<sup>7</sup> Qc

<sup>8</sup> Gl

<sup>9</sup> Al

<sup>10</sup> Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	1550		2.82	10.0	10.0	1	11/07/2020 09:13	<a href="#">WG1572699</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	118		7.58	1.00	20.0	20	11/11/2020 14:02	<a href="#">WG1573984</a>
Fluoride	U		0.0640	0.150	0.150	1	11/11/2020 13:51	<a href="#">WG1573984</a>
Sulfate	945		11.9	5.00	100	20	11/11/2020 14:02	<a href="#">WG1573984</a>

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Tr

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron	5.95		0.0963	0.0300	0.300	10	11/12/2020 18:10	<a href="#">WG1573790</a>
Calcium	207		0.0936	1.00	1.00	1	11/11/2020 23:30	<a href="#">WG1573790</a>

<sup>6</sup> Sr

<sup>7</sup> Qc

<sup>8</sup> Gl

<sup>9</sup> Al

<sup>10</sup> Sc



Method Blank (MB)

(MB) R3590633-1 11/07/20 09:13

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Dissolved Solids	U		2.82	10.0

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Tr

<sup>6</sup> Sr

<sup>7</sup> Qc

<sup>8</sup> Gl

<sup>9</sup> Al

<sup>10</sup> Sc

L1280731-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1280731-01 11/07/20 09:13 • (DUP) R3590633-3 11/07/20 09:13

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	339	342	1	0.881		5

L1282231-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1282231-07 11/07/20 09:13 • (DUP) R3590633-4 11/07/20 09:13

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Dissolved Solids	1550	1560	1	0.450		5

Laboratory Control Sample (LCS)

(LCS) R3590633-2 11/07/20 09:13

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Dissolved Solids	8800	7940	90.2	77.4-123	



Method Blank (MB)

(MB) R3592497-1 11/11/20 10:29

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Chloride	U		0.379	1.00
Fluoride	U		0.0640	0.150
Sulfate	U		0.594	5.00

1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

L1282231-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1282231-03 11/11/20 11:51 • (DUP) R3592497-3 11/11/20 12:02

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Chloride	48.3	48.6	1	0.488		15
Fluoride	0.0769	0.0754	1	1.97	↓	15

L1282292-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1282292-06 11/11/20 17:17 • (DUP) R3592497-6 11/11/20 17:28

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Chloride	11.4	11.4	1	0.662		15
Fluoride	U	U	1	0.000		15
Sulfate	3.16	3.17	1	0.506	↓	15

L1282231-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1282231-03 11/11/20 18:33 • (DUP) R3592497-8 11/11/20 18:44

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Sulfate	156	156	5	0.129		15

Laboratory Control Sample (LCS)

(LCS) R3592497-2 11/11/20 10:40

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	mg/l	mg/l	%	%	
Chloride	40.0	39.1	97.8	80.0-120	
Fluoride	8.00	8.15	102	80.0-120	
Sulfate	40.0	39.8	99.4	80.0-120	



L1282231-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1282231-03 11/11/20 11:51 • (MS) R3592497-4 11/11/20 12:13 • (MSD) R3592497-5 11/11/20 12:24

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	48.3	100	100	104	103	1	80.0-120	E	E	0.264	15
Fluoride	5.00	0.0769	4.85	4.70	95.4	92.5	1	80.0-120			3.09	15
Sulfate	50.0	171	221	220	101	98.9	1	80.0-120	E	E	0.509	15

L1282292-06 Original Sample (OS) • Matrix Spike (MS)

(OS) L1282292-06 11/11/20 17:17 • (MS) R3592497-7 11/11/20 17:39

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	11.4	64.6	106	1	80.0-120	
Fluoride	5.00	U	4.78	95.6	1	80.0-120	
Sulfate	50.0	3.16	55.7	105	1	80.0-120	

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Tr

<sup>6</sup> Sr

<sup>7</sup> Qc

<sup>8</sup> Gl

<sup>9</sup> Al

<sup>10</sup> Sc



Method Blank (MB)

(MB) R3592390-9 11/11/20 22:36

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Calcium	U		0.0936	1.00

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Tr

<sup>6</sup> Sr

Method Blank (MB)

(MB) R3592538-1 11/12/20 15:22

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Boron	U		0.00963	0.0300

<sup>7</sup> Qc

<sup>8</sup> Gl

Laboratory Control Sample (LCS)

(LCS) R3592390-10 11/11/20 22:40

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Calcium	5.00	4.75	95.1	80.0-120	

<sup>9</sup> Al

Laboratory Control Sample (LCS)

(LCS) R3592538-2 11/12/20 15:26

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Boron	0.0500	0.0527	105	80.0-120	

<sup>10</sup> Sc

L1282303-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1282303-01 11/11/20 22:44 • (MS) R3592390-12 11/11/20 22:52 • (MSD) R3592390-13 11/11/20 22:56

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Calcium	5.00	21.6	26.3	26.6	93.2	98.9	1	75.0-125			1.07	20

L1282303-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1282303-01 11/12/20 15:29 • (MS) R3592538-4 11/12/20 16:01 • (MSD) R3592538-5 11/12/20 16:04

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Boron	0.0500	0.913	1.01	1.03	195	236	1	75.0-125	<u>V</u>	<u>V</u>	2.03	20



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
MQL	Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
SDL	Sample Detection Limit.
U	Not detected at the Sample Detection Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
V	The sample concentration is too high to evaluate accurate spike recoveries.







Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.  
 \* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

## State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico <sup>1</sup>	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	90010	South Carolina	84004
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana <sup>1</sup>	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

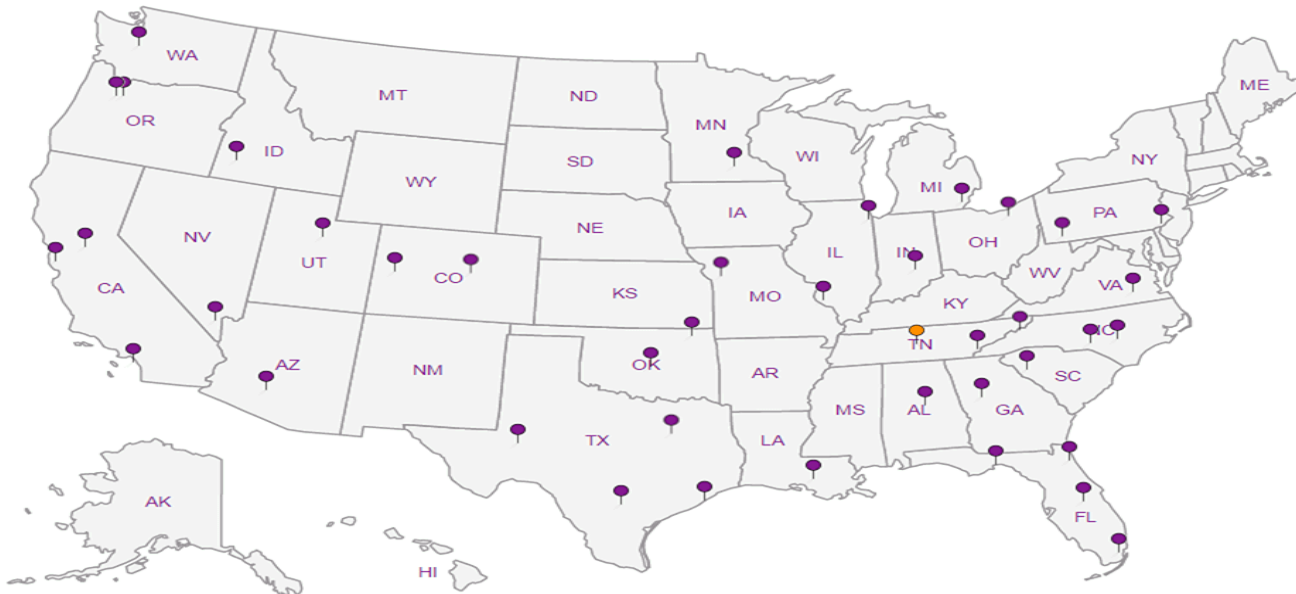
## Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

## Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



1 Cp

2 Tc

3 Ss

4 Cn

5 Tr

6 Sr

7 Qc

8 Gl

9 Al

10 Sc

# Commercial Liability Partners, LLC

2275 Cassens Drive  
Suite 118  
Fenton, MO 63026

Report to:  
**Adam Kaiser**

Project Description:  
Golden Eagle Groundwater

Phone: 314-624-1604

Collected by (print):  
**Jeff Norfleet**

Collected by (signature):  
*Jeff Norfleet*

Immediately Packed on Ice N  Y

### Billing Information:

Mr. Ronald Carroll  
2275 Cassens Drive  
Suite 118  
Fenton, MO 63026

Email To:  
adam.kaiser@atonenv.com; jeffnorfleet@hotmail.com

City/State Collected:

Please Circle:  
PT MT CT ET

Client Project #

Lab Project #  
**COMLIAFMO-GOLDEAGLE**

Site/Facility ID #

P.O. #

Rush? (Lab MUST Be Notified)

Same Day  Five Day  
 Next Day  5 Day (Rad Only)  
 Two Day  10 Day (Rad Only)  
 Three Day

Quote #

Date Results Needed

No. of Cntrs

Sample ID

Comp/Grab

Matrix \*

Depth

Date

Time

No. of Cntrs

W-29

Grab

GW

21.3

11-1-20

1100

3

X

X

X

W-30

GW

13.5

10-31-20

1300

3

X

X

X

W-31

GW

13.1

10-31-20

1200

3

X

X

X

W-32

GW

10.5

10-31-20

1400

3

X

X

X

W-33

GW

24.3

11-1-20

1200

3

X

X

X

W-34

GW

21

11-1-20

1000

3

X

X

X

W-35

GW

21.7

11-1-20

0900

3

X

X

X

Pres Chk

Anions - Cl, F, SO4 125mlHDPE-NoPres

B, Ca - 6020 250mlHDPE-HNO3

TDS 250mlHDPE-NoPres

Analysis / Container / Preservative

Chain of Custody

Page 01



12065 Lebanon Rd  
Mount Juliet, TN 37122  
Phone: 615-758-5858  
Phone: 800-767-5859  
Fax: 615-758-5859



SDG # **U282231**

**H232**

Acctnum: **COMLIAFMO**

Template: **T175182**

Prelogin: **P800336**

PM: 206 - Jeff Carr

PB: **cf 9/28/2020**

Shipped Via: **FedEX Ground**

Remarks | Sample # (lab only)

-01

-02

-03

-04

-05

-06

-07

\* Matrix:  
SS - Soil AIR - Air F - Filter  
GW - Groundwater B - Bioassay  
WW - WasteWater  
DW - Drinking Water  
OT - Other

Remarks:

pH \_\_\_\_\_ Temp \_\_\_\_\_

Flow \_\_\_\_\_ Other \_\_\_\_\_

Samples returned via:  
 UPS  FedEx  Courier

Tracking # **9186 2503 6534**

Trip Blank Received: Yes / No  
HCL / MeOH  
TBR

**Sample Receipt Checklist**  
COC Seal Present/Intact:  Y  N  
COC Signed/Accurate:  Y  N  
Bottles arrive intact:  Y  N  
Correct bottles used:  Y  N  
Sufficient volume sent:  Y  N  
**If Applicable**  
VOA Zero Headspace:  Y  N  
Preservation Correct/Checked:  Y  N  
RAD Screen <0.5 mR/hr:  Y  N

Relinquished by: (Signature)

*Jeff Norfleet*

Date:

11-3-20

Time:

1700

Received by: (Signature)

Temp: \_\_\_\_\_ °C  
Bottles Received: **21**

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Date: **11-5-20** Time: **900**

Hold:

Condition:  
NCF /  OK

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

*Happas*

May 06, 2020

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

## Commercial Liability Partners, LLC

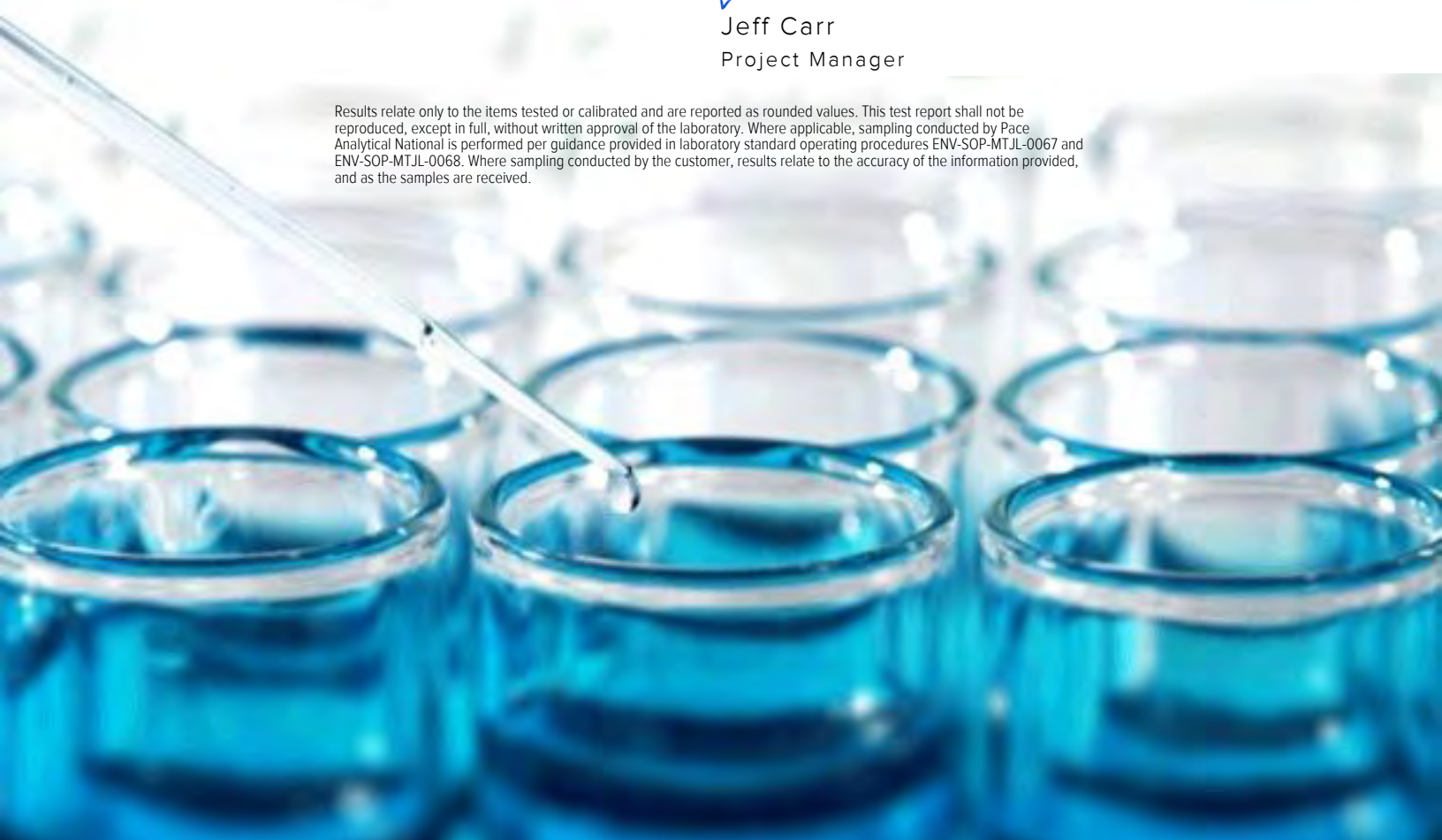
Sample Delivery Group: L1213343  
Samples Received: 04/29/2020  
Project Number:  
Description: Golden Eagle Groundwater  
Site: CCR  
Report To: Adam Kaiser  
2275 Cassens Drive  
Suite 118  
Fenton, MO 63026

Entire Report Reviewed By:



Jeff Carr  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.





<b>Cp: Cover Page</b>	<b>1</b>	<b>1</b> Cp
<b>Tc: Table of Contents</b>	<b>2</b>	
<b>Ss: Sample Summary</b>	<b>3</b>	<b>2</b> Tc
<b>Cn: Case Narrative</b>	<b>5</b>	
<b>Sr: Sample Results</b>	<b>6</b>	<b>3</b> Ss
W-29 L1213343-01	<b>6</b>	
W-30 L1213343-02	<b>7</b>	<b>4</b> Cn
W-31 L1213343-03	<b>8</b>	<b>5</b> Sr
W-32 L1213343-04	<b>9</b>	
W-33 L1213343-05	<b>10</b>	<b>6</b> Qc
W-34 L1213343-06	<b>11</b>	
W-35 L1213343-07	<b>12</b>	<b>7</b> Gl
<b>Qc: Quality Control Summary</b>	<b>13</b>	<b>8</b> Al
Gravimetric Analysis by Method 2540 C-2011	<b>13</b>	
Wet Chemistry by Method 9056A	<b>14</b>	
Metals (ICPMS) by Method 6020	<b>16</b>	<b>9</b> Sc
<b>Gl: Glossary of Terms</b>	<b>17</b>	
<b>Al: Accreditations &amp; Locations</b>	<b>18</b>	
<b>Sc: Sample Chain of Custody</b>	<b>19</b>	

# SAMPLE SUMMARY



## W-29 L1213343-01 GW

Collected by  
Jeff Norfleet  
Collected date/time  
04/26/20 12:00  
Received date/time  
04/29/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1468581	1	05/02/20 18:18	05/02/20 22:37	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1468675	1	04/30/20 19:39	04/30/20 19:39	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1468675	5	04/30/20 20:12	04/30/20 20:12	ELN	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1469553	1	05/04/20 22:33	05/05/20 07:14	LAT	Mt. Juliet, TN

1  
Cp

2  
Tc

3  
Ss

4  
Cn

5  
Sr

6  
Qc

7  
Gl

8  
Al

9  
Sc

## W-30 L1213343-02 GW

Collected by  
Jeff Norfleet  
Collected date/time  
04/26/20 10:30  
Received date/time  
04/29/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1468581	1	05/02/20 18:18	05/02/20 22:37	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1468675	1	04/30/20 20:22	04/30/20 20:22	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1468675	10	04/30/20 20:33	04/30/20 20:33	ELN	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1469553	1	05/04/20 22:33	05/05/20 07:37	LAT	Mt. Juliet, TN

## W-31 L1213343-03 GW

Collected by  
Jeff Norfleet  
Collected date/time  
04/26/20 10:00  
Received date/time  
04/29/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1468581	1	05/02/20 18:18	05/02/20 22:37	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1468675	1	04/30/20 20:44	04/30/20 20:44	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1468675	10	04/30/20 20:55	04/30/20 20:55	ELN	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1469553	1	05/04/20 22:33	05/05/20 08:41	LAT	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1469553	1	05/04/20 22:33	05/05/20 12:44	LD	Mt. Juliet, TN

## W-32 L1213343-04 GW

Collected by  
Jeff Norfleet  
Collected date/time  
04/26/20 09:30  
Received date/time  
04/29/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1468581	1	05/02/20 18:18	05/02/20 22:37	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1468675	1	04/30/20 21:06	04/30/20 21:06	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1468675	10	04/30/20 21:17	04/30/20 21:17	ELN	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1469553	1	05/04/20 22:33	05/05/20 08:44	LAT	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1469553	1	05/04/20 22:33	05/05/20 12:47	LD	Mt. Juliet, TN

## W-33 L1213343-05 GW

Collected by  
Jeff Norfleet  
Collected date/time  
04/26/20 09:00  
Received date/time  
04/29/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1468581	1	05/02/20 18:18	05/02/20 22:37	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1468675	1	04/30/20 21:28	04/30/20 21:28	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1468675	10	04/30/20 21:38	04/30/20 21:38	ELN	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1469553	1	05/04/20 22:33	05/05/20 08:48	LAT	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1469553	1	05/04/20 22:33	05/05/20 12:51	LD	Mt. Juliet, TN

## W-34 L1213343-06 GW

Collected by  
Jeff Norfleet  
Collected date/time  
04/26/20 11:00  
Received date/time  
04/29/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1468581	1	05/02/20 18:18	05/02/20 22:37	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1468675	1	04/30/20 21:49	04/30/20 21:49	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1468675	10	04/30/20 22:22	04/30/20 22:22	ELN	Mt. Juliet, TN

# SAMPLE SUMMARY



## W-34 L1213343-06 GW

Collected by: Jeff Norfleet  
 Collected date/time: 04/26/20 11:00  
 Received date/time: 04/29/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020	WG1469553	1	05/04/20 22:33	05/05/20 08:51	LAT	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1469553	1	05/04/20 22:33	05/05/20 12:54	LD	Mt. Juliet, TN

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

## W-35 L1213343-07 GW

Collected by: Jeff Norfleet  
 Collected date/time: 04/26/20 11:30  
 Received date/time: 04/29/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1468581	1	05/02/20 18:18	05/02/20 22:37	TH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1468675	1	04/30/20 22:33	04/30/20 22:33	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1468675	10	04/30/20 22:44	04/30/20 22:44	ELN	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1469553	1	05/04/20 22:33	05/05/20 08:54	LAT	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1469553	1	05/04/20 22:33	05/05/20 12:57	LD	Mt. Juliet, TN

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Jeff Carr  
Project Manager

- <sup>1</sup> Cp
- <sup>2</sup> Tc
- <sup>3</sup> Ss
- <sup>4</sup> Cn
- <sup>5</sup> Sr
- <sup>6</sup> Qc
- <sup>7</sup> Gl
- <sup>8</sup> Al
- <sup>9</sup> Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Dissolved Solids	563		2.82	10.0	1	05/02/2020 22:37	<a href="#">WG1468581</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	88.2		0.379	1.00	1	04/30/2020 19:39	<a href="#">WG1468675</a>
Fluoride	0.138	J	0.0640	0.150	1	04/30/2020 19:39	<a href="#">WG1468675</a>
Sulfate	270		2.97	25.0	5	04/30/2020 20:12	<a href="#">WG1468675</a>

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Boron	1.36		0.0143	0.0300	1	05/05/2020 07:14	<a href="#">WG1469553</a>
Calcium	69.7		0.480	1.00	1	05/05/2020 07:14	<a href="#">WG1469553</a>

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc





Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Dissolved Solids	1150		5.64	20.0	1	05/02/2020 22:37	<a href="#">WG1468581</a>

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	51.4		0.379	1.00	1	04/30/2020 20:22	<a href="#">WG1468675</a>
Fluoride	0.693		0.0640	0.150	1	04/30/2020 20:22	<a href="#">WG1468675</a>
Sulfate	763		5.94	50.0	10	04/30/2020 20:33	<a href="#">WG1468675</a>

3 Ss

4 Cn

5 Sr

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Boron	4.18		0.0143	0.0300	1	05/05/2020 07:37	<a href="#">WG1469553</a>
Calcium	135		0.480	1.00	1	05/05/2020 07:37	<a href="#">WG1469553</a>

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Dissolved Solids	279		2.82	10.0	1	05/02/2020 22:37	<a href="#">WG1468581</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	51.1		0.379	1.00	1	04/30/2020 20:44	<a href="#">WG1468675</a>
Fluoride	0.0866	J	0.0640	0.150	1	04/30/2020 20:44	<a href="#">WG1468675</a>
Sulfate	85.9		5.94	50.0	10	04/30/2020 20:55	<a href="#">WG1468675</a>

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Boron	0.792		0.0143	0.0300	1	05/05/2020 12:44	<a href="#">WG1469553</a>
Calcium	34.4		0.480	1.00	1	05/05/2020 08:41	<a href="#">WG1469553</a>

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Dissolved Solids	290		2.82	10.0	1	05/02/2020 22:37	<a href="#">WG1468581</a>

<sup>1</sup> Cp

<sup>2</sup> Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	9.65		0.379	1.00	1	04/30/2020 21:06	<a href="#">WG1468675</a>
Fluoride	2.29		0.0640	0.150	1	04/30/2020 21:06	<a href="#">WG1468675</a>
Sulfate	95.8		5.94	50.0	10	04/30/2020 21:17	<a href="#">WG1468675</a>

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Boron	1.96		0.0143	0.0300	1	05/05/2020 12:47	<a href="#">WG1469553</a>
Calcium	48.6		0.480	1.00	1	05/05/2020 08:44	<a href="#">WG1469553</a>

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	580		2.82	10.0	1	05/02/2020 22:37	<a href="#">WG1468581</a>

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Chloride	17.7		0.379	1.00	1	04/30/2020 21:28	<a href="#">WG1468675</a>
Fluoride	3.13		0.0640	0.150	1	04/30/2020 21:28	<a href="#">WG1468675</a>
Sulfate	171		5.94	50.0	10	04/30/2020 21:38	<a href="#">WG1468675</a>

3 Ss

4 Cn

5 Sr

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Boron	3.43		0.0143	0.0300	1	05/05/2020 12:51	<a href="#">WG1469553</a>
Calcium	96.4		0.480	1.00	1	05/05/2020 08:48	<a href="#">WG1469553</a>

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	1370		5.64	20.0	1	05/02/2020 22:37	<a href="#">WG1468581</a>

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Chloride	108		3.79	10.0	10	04/30/2020 22:22	<a href="#">WG1468675</a>
Fluoride	0.438		0.0640	0.150	1	04/30/2020 21:49	<a href="#">WG1468675</a>
Sulfate	817		5.94	50.0	10	04/30/2020 22:22	<a href="#">WG1468675</a>

3 Ss

4 Cn

5 Sr

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Boron	4.26		0.0143	0.0300	1	05/05/2020 12:54	<a href="#">WG1469553</a>
Calcium	182		0.480	1.00	1	05/05/2020 08:51	<a href="#">WG1469553</a>

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Dissolved Solids	1600		5.64	20.0	1	05/02/2020 22:37	<a href="#">WG1468581</a>

1 Cp

2 Tc

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Chloride	129		3.79	10.0	10	04/30/2020 22:44	<a href="#">WG1468675</a>
Fluoride	U		0.0640	0.150	1	04/30/2020 22:33	<a href="#">WG1468675</a>
Sulfate	984		5.94	50.0	10	04/30/2020 22:44	<a href="#">WG1468675</a>

3 Ss

4 Cn

5 Sr

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Boron	5.30		0.0143	0.0300	1	05/05/2020 12:57	<a href="#">WG1469553</a>
Calcium	209		0.480	1.00	1	05/05/2020 08:54	<a href="#">WG1469553</a>

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3524416-1 05/02/20 22:37

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		2.82	10.0

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L1212222-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1212222-03 05/02/20 22:37 • (DUP) R3524416-3 05/02/20 22:37

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1840	1880	1	1.88		5

Sample Narrative:

OS: In hold sample out of line with conductivity. Reporting OOH data as the more accurate of the two

Laboratory Control Sample (LCS)

(LCS) R3524416-2 05/02/20 22:37

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8730	99.2	85.0-115	



Method Blank (MB)

(MB) R3523970-1 04/30/20 15:40

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Chloride	U		0.379	1.00
Fluoride	U		0.0640	0.150
Sulfate	U		0.594	5.00

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L1213018-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1213018-01 04/30/20 16:34 • (DUP) R3523970-3 04/30/20 16:45

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Fluoride	0.388	0.412	1	6.00		15

L1213519-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1213519-01 05/01/20 13:43 • (DUP) R3523981-1 05/01/20 13:58

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	mg/l	mg/l		%		%
Chloride	11.7	11.5	1	1.68		15
Fluoride		0.000	1	0.000		15
Sulfate	25.8	25.9	1	0.191		15

Laboratory Control Sample (LCS)

(LCS) R3523970-2 04/30/20 15:51

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	mg/l	mg/l	%	%	
Chloride	40.0	39.4	98.5	80.0-120	
Fluoride	8.00	8.05	101	80.0-120	
Sulfate	40.0	38.3	95.8	80.0-120	

L1213018-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1213018-02 04/30/20 16:56 • (MS) R3523970-4 04/30/20 17:07 • (MSD) R3523970-5 04/30/20 17:18

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Fluoride	5.00	0.390	5.42	5.38	101	99.8	1	80.0-120			0.811	15





L1213519-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1213519-01 05/01/20 13:43 • (MS) R3523981-2 05/01/20 14:13

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>
Chloride	50.0	11.7	59.6	95.7	1	80.0-120	
Fluoride	5.00		4.91	98.1	1	80.0-120	
Sulfate	50.0	25.8	74.4	97.2	1	80.0-120	

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Method Blank (MB)

(MB) R3524728-1 05/05/20 07:07

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
Boron	U		0.0143	0.0300
Calcium	U		0.480	1.00

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc

Laboratory Control Sample (LCS)

(LCS) R3524728-2 05/05/20 07:11

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	mg/l	mg/l	%	%	
Boron	0.500	0.468	93.6	80.0-120	
Calcium	5.00	4.92	98.5	80.0-120	

L1213343-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1213343-01 05/05/20 07:14 • (MS) R3524728-4 05/05/20 07:20 • (MSD) R3524728-5 05/05/20 07:24

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Boron	0.500	1.36	1.80	1.94	88.3	115	1	75.0-125			7.11	20
Calcium	5.00	69.7	74.1	74.0	89.1	86.6	1	75.0-125			0.165	20



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Qualifier Description

J	The identification of the analyte is acceptable; the reported value is an estimate.
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Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.  
 \* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

## State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico <sup>1</sup>	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	90010	South Carolina	84004
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana <sup>1</sup>	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

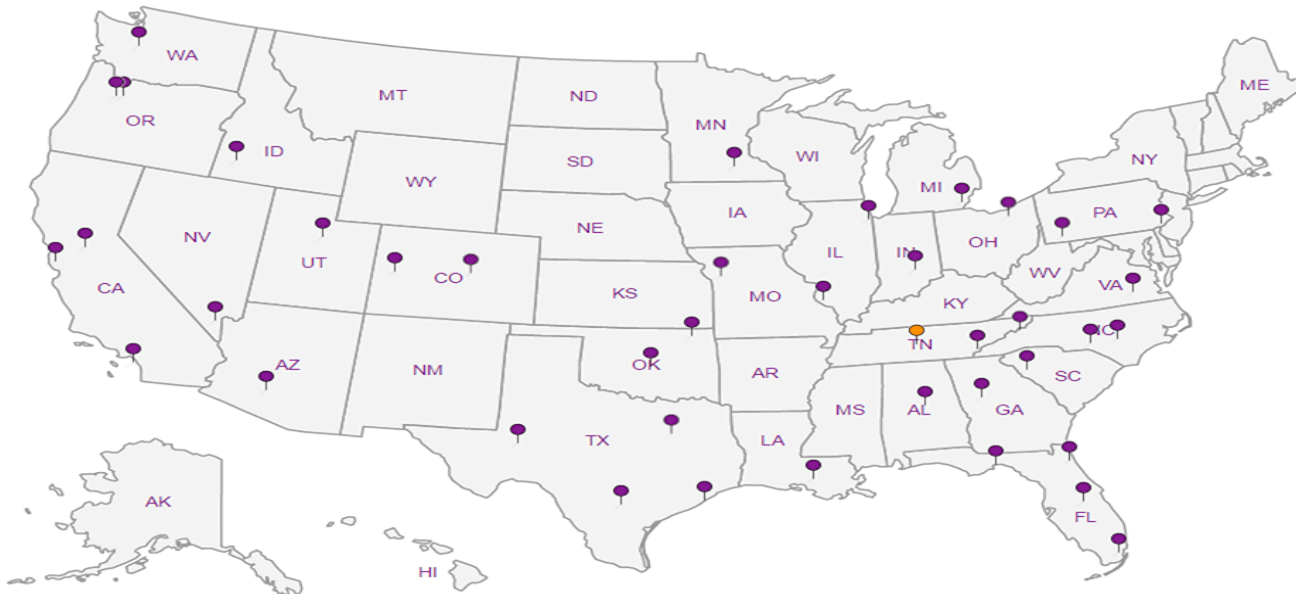
## Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

## Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl


8 Al

9 Sc

**Aton, LLC**  
 2275 Cassens Drive  
 Suite 118  
 Fenton, MO 63026

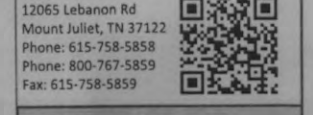
Billing Information:  
 Mr. Ronald Carroll  
 2275 Cassens Drive  
 Suite 118  
 Fenton, MO 63026

Pres Chk  
 Analysis / Container / Preservative

Chain of Custody Page 1 of 1  
  
 12065 Lebanon Rd  
 Mount Juliet, TN 37122  
 Phone: 615-758-5858  
 Phone: 800-767-5859  
 Fax: 615-758-5859

Report to: Jeff Norfleet  
 Adam Kaiser

Email To: jeffnorfleet@hotmail.com  
 adam.kaiser@atonenv.com



Project Description:  
 Golden Eagle Groundwater

City/State Collected: TX

Please Circle:  
 PT MT CT ET

Phone: 314-686-4514

Client Project #

Lab Project #

SDG # L1213343

A152

Collected by (print):  
 Jeff Norfleet

Site/Facility ID #  
 CCR

P.O. #

Collected by (signature):  
 Jeff Norfleet

Rush? (Lab MUST Be Notified)  
 \_\_\_ Same Day \_\_\_ Five Day  
 \_\_\_ Next Day \_\_\_ 5 Day (Rad Only)  
 \_\_\_ Two Day \_\_\_ 10 Day (Rad Only)  
 \_\_\_ Three Day

Quote #  
 Date Results Needed

Immediately Packed on Ice N \_\_\_ Y

No. of Cntrs

Acctnum: ATONSLM0  
 Template:  
 Prelogin:  
 PM: 206 - Jeff Carr  
 PB:  
 Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
	Grab	GW				3
W-29			19.2	4-26-20	1200	
W-30			15.4	4-26-20	1030	
W-31			11.6	4-26-20	1000	
W-32			12.2	4-26-20	0930	
W-33			22.0	4-26-20	0900	
W-34			22.1	4-26-20	1100	
W-35			22.4	4-26-20	1130	

Baron - HNO3	Calcium - HNO3	Chloride	Flouride	TDS	Sulfate
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Remarks	Sample # (lab only)
	01
	02
	03
	04
	05
	06
	07

\* Matrix:  
 SS - Soil AIR - Air F - Filter  
 GW - Groundwater B - Bioassay  
 WW - WasteWater  
 DW - Drinking Water  
 OT - Other

Remarks:  
 pH \_\_\_\_\_ Temp \_\_\_\_\_  
 Flow \_\_\_\_\_ Other \_\_\_\_\_  
 Samples returned via:  
 \_\_\_ UPS \_\_\_ FedEx \_\_\_ Courier  
 Tracking # 173880805273

Sample Receipt Checklist  
 COC Seal Present/Intact:  Y  N  
 COC Signed/Accurate:  Y  N  
 Bottles arrive intact:  Y  N  
 Correct bottles used:  Y  N  
 Sufficient volume sent:  Y  N  
 If Applicable  
 VOA Zero Headspace:  Y  N  
 Preservation Correct/Checked:  Y  N  
 RAD Screen <0.5 mR/hr:  Y  N

Relinquished by: (Signature)  
 Jeff Norfleet

Date: 4-28-20

Time: 0900

Received by: (Signature)

Trip Blank Received: Yes/No  
 HCL/ MeOH  
 TBR

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp: 45.0 °C  
 Bottles Received: 21

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)  
 Sandy yossif

Date: 1/29/20  
 Time: 9:00

Hold:  
 Condition:  
 NCF / OK