

**COAL COMBUSTION RESIDUAL RULE
2017 ANNUAL GROUNDWATER MONITORING REPORT**

**SANDOW STEAM ELECTRIC STATION
AX LANDFILL
ROCKDALE, TEXAS**

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1.0 INTRODUCTION

Luminant Generation Company LLC (Luminant) operated the Sandow Steam Electric Station (Sandow) located approximately 7 miles southwest of Rockdale in Milam County, Texas. The AX Landfill (the Site) was constructed primarily to receive Coal Combustion Residuals (CCRs), including fly ash and bed ash, from Unit 5. The AX Landfill is located approximately 7,500 feet south of Unit No. 5 on former mined land that is part of the Sandow Lignite Mine (Figure 1). Disposal of CCRs in the AX Landfill began in May 2015.

The CCR Rule (40 CFR 257 Subpart D - *Standards for the Receipt of Coal Combustion Residuals in Landfills and Surface Impoundments*) has been promulgated by the EPA to regulate the management and disposal of CCRs as solid waste under Resource Conservation and Recovery Act (RCRA) Subtitle D. The final CCR Rule was published in the Federal Register on April 17, 2015. The effective date of the CCR Rule was October 19, 2015. The AX Landfill, which includes Cells 1, 2, and 2A, meets the definition of a CCR landfill and is subject to groundwater monitoring system requirements of the CCR Rule.

1.1 CCR Unit Groundwater Monitoring Applicability

Section 257.90 of the CCR Rule requires that existing CCR landfills and surface impoundments be in compliance with the following groundwater monitoring requirements no later than October 17, 2017:

- Install a groundwater monitoring system as required under Section 257.91;
- Develop a groundwater sampling and analysis program to include selection of the statistical procedures to be used for evaluating groundwater monitoring data as required under Section 257.93;
- Initiate a detection monitoring program to include obtaining a minimum of eight independent samples for each background and downgradient monitoring well as required under Section 257.94; and
- Begin evaluating the groundwater monitoring data for statistically significant increases over background levels for the constituents listed in Appendix III of this part as required under Section 257.94.

Pastor, Behling & Wheeler, LLC (PBW) was retained by Luminant to evaluate the CCR groundwater monitoring system and develop and implement a CCR groundwater sampling and analysis program at the

Site. To document these activities, PBW prepared the following reports, which were placed in the facility's operating record to comply with Section 257.105(h) of the CCR Rule:

- CCR Groundwater Monitoring System Certification (PBW, 2017a);
- CCR Monitoring Well Design, Installation, Development, and Decommissioning Report (PBW, 2017b); and
- CCR Statistical Analysis Plan (PBW, 2017c).

For existing CCR landfills and surface impoundments, the owner or operator must 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. The CCR Rule requires that the owner or operator of a CCR unit prepare the initial annual groundwater monitoring and corrective action report for the unit no later than January 31, 2018, and annually thereafter. Per Section 257.90(e) 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.

1.2 Groundwater Sampling and Analysis Requirements

1.2.1 Background Monitoring Requirements

The CCR Rule requires that background groundwater quality be established in background well(s) for each of the groundwater constituents required in the detection monitoring or assessment monitoring program that applies to the CCR unit. Background groundwater quality may be established at wells that are not located hydraulically upgradient from the CCR unit if the samples accurately represent the quality of background groundwater that has not been affected by leakage from the CCR unit. Section 257.94(b) of the CCR Rule requires that a minimum of eight independent samples from each background and downgradient well associated with a CCR unit be collected and analyzed for the constituents listed in Appendix III and Appendix IV to Part 257 CCR Rule no later than October 17, 2017.

PBW was retained by Luminant to collect and analyze the required background well samples at the Site. Eight background groundwater monitoring events were performed using the AX Landfill CCR monitoring well system from October 2015 to December 2016. The background groundwater monitoring program is described in detail in Section 2 of this report.

1.2.2 Detection Monitoring Requirements

Groundwater detection monitoring must be performed at each CCR unit (CCR Rule Section 257.94). The following constituents must be included in the detection monitoring program (from Appendix III of the CCR Rule):

- Boron
- Calcium
- Chloride
- Fluoride
- pH
- Sulfate
- Total Dissolved Solids (TDS)

The monitoring frequency for these constituents must be at least semi-annual during the active life of the CCR unit and post-closure period. The reported concentrations of the detection monitoring constituents must be compared to the respective CCR unit background concentration developed for each constituent. If a statistically significant increase over background is determined for one or more of the constituents listed above at any monitoring well at the CCR unit waste boundary, within 90 days the owner or operator

must:

- Establish an assessment monitoring program as described in Section 257.95 of the Rule; or
- Demonstrate that a source other than the CCR unit caused the statistically significant increase over background levels for a constituent or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. If a successful demonstration is completed within the 90-day period, the owner or operator of the CCR unit may continue with the detection monitoring program. If at the end of the 90-day period in 257.94(e)(2), the owner or operator is unable to successfully make an alternate source demonstration, the assessment monitoring program is triggered and the owner or operator has 90 days to complete the sampling required under 257.95(d).

Detection monitoring performed at the Site is discussed in Section 4.0 of this report.

1.2.3 Assessment Monitoring Requirements

Assessment monitoring is required under the CCR Rule whenever a statistically significant increase over background levels has been detected for one or more of the detection monitoring constituents listed above (CCR Rule Section 257.95). The following constituents must be included in the assessment monitoring program (from Appendix IV of the CCR Rule):

- Antimony
- Arsenic
- Barium
- Beryllium
- Cadmium
- Chromium
- Cobalt
- Fluoride
- Lead
- Lithium
- Mercury
- Molybdenum
- Selenium
- Thallium
- Radium 226 and 228 combined

Assessment monitoring performed at the Site is discussed in Section 5.0 of this report.

2.0 GROUNDWATER MONITORING SYSTEM

2.1 Description of AX Landfill Cells 1, 2, and 2A

The AX Landfill consists of Cells 1, 2, and 2A and covers an area of approximately 169 acres. The AX Landfill is located approximately 7,500 feet south of Sandow Unit 5 on reclaimed mine land that is leased by Luminant from Alcoa (Figure 2). The landfill is used primarily to manage fly ash and bed ash generated from Unit No. 5. Fly ash and bed ash are transported to the landfill in trucks and placed in the landfill as dry material.

AX Landfill Cells 1, 2, and 2A are lined landfill cells. Construction of Cell 1 was completed in July 2013 and construction of Cells 2 and 2A was initiated in May 2015. Cell 2 was completed in October 2015 and Cell 2A was completed in July 2016. Placement of Unit No. 5 CCR began in Cell 1 in May 2015 and Cell 2 in September 2016. As of the date of this report, CCR has not been placed in Cell 2A.

2.2 Local Geology and Hydrogeology

The AX Landfill is located in the former Sandow Lignite Mine, which is located in the outcrop area of the Eocene-aged Wilcox Group (Barnes, 1974). The Wilcox Group in the vicinity of the Site is divided into the Hooper Formation, the Simsboro Formation, and the Calvert Bluff Formation (listed from oldest to youngest). The overburden interval and lignite seams mined at the Sandow Lignite Mine are part of the Calvert Bluff Formation.

The AX Landfill is constructed within overburden spoil material that was previously excavated and backfilled during lignite mining operations at the Sandow Lignite Mine. Based on soil borings completed in the spoil material, the spoil consists of a highly heterogeneous mixture of sand, silty and clayey sand, and clay. The mine spoil extends from ground surface to depths ranging from approximately 100 feet below ground surface (bgs) on the northwest side of the AX Landfill to more than 160 feet bgs on the southeast side of the AX Landfill. Native material encountered below the spoil zone generally consists of lignite or native clay (PBW, 2017a). The uppermost aquifer at the Site occurs under unconfined conditions within the overburden spoil and extends to the base of the spoil where lignite and/or clay confining units are encountered.

2.3 AX Landfill Groundwater Monitoring System

The CCR groundwater monitoring well system at the AX Landfill consists of nine monitoring wells (AXMW-1, AXMW-2, AX-23, AX-24, AX-25, AX-26, AX-27, AX-28, and AX-29) that are each screened in the uppermost aquifer at the Site. The locations of the CCR monitoring wells are shown on Figure 2. Well construction information and survey data for the CCR wells are summarized in Table 1. Wells were installed in 2012 and 2015. No wells were added to or removed from the CCR groundwater monitoring system in 2017.

2.4 Groundwater Potentiometric Surface

Static water levels measured during the background monitoring period 2017 detection monitoring event indicated water elevations ranging from 383.59 feet above mean sea level (amsl) to 458.55 feet amsl, and depths to water ranging from 19.65 feet bgs to 77.32 feet bgs (Table 2).

Groundwater elevations were generally highest on the west side of the landfill and lowest on the east side of the landfill, with an inferred groundwater flow direction to the east (Figure 3). Based on the inferred groundwater flow direction, the location of each CCR monitoring well relative to the AX Landfill is as follows:

Upgradient Wells	Downgradient Wells
AXMW-1	AX-24
AXMW-2	AX-25
AX-23	AX-26
AX-29	AX-27
	AX-28

3.0 BACKGROUND GROUNDWATER MONITORING PROGRAM

Eight background groundwater monitoring events were performed using the AX Landfill CCR monitoring well system from October 2015 to December 2016. The results of the background monitoring events are described in this section.

3.1 Background Groundwater Monitoring Results

The AX Landfill CCR groundwater monitoring wells were sampled approximately every two months from October 2015 to December 2016 (eight sampling events) to fulfill the background monitoring period sampling requirements of the CCR Rule. Background sample data are summarized in Table 3 (Appendix III) and Table 4 (Appendix IV). Laboratory analytical reports for the data are presented in Appendix A.

3.2 Background Statistical Evaluation Procedures

Statistical analysis of groundwater monitoring data is required as part of detection monitoring and assessment monitoring under Section 257.93 of the CCR Rule. Section 257.93 of the CCR Rule provides several options for statistically evaluating the groundwater data. The owner or operator of the CCR unit must select one of the following statistical methods specified in paragraphs (f)(1) through (5) of Section 257.93 to be use in evaluating groundwater monitoring data for each specified constituent:

- (1) A parametric analysis of variance followed by multiple comparison procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's mean and the background mean levels for each constituent.
- (2) An analysis of variance based on ranks followed by multiple comparison procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's median and the background median levels for each constituent.
- (3) A tolerance or prediction interval procedure, in which an interval for each constituent is established from the distribution of the background data and the level of each constituent in each compliance well is compared to the upper tolerance or prediction limit.
- (4) A control chart approach that gives control limits for each constituent.
- (5) Another statistical test method that meets the performance standards of paragraph (g) of this section.

The following statistical evaluation approaches were selected to demonstrate groundwater compliance for the AX Landfill under the CCR Rule:

- Use of intrawell data evaluations, which compare new sample data to historical data at each groundwater monitoring well independently.
- Use of prediction limits for data comparisons. This approach is a common statistical method used to evaluate groundwater compliance for Subtitle D landfill facilities and is one of the approved options for groundwater quality data statistical evaluation under the CCR Rule.

The evaluation procedures used for the AX Landfill background groundwater data conforms with the Rule requirements shown above, as well as EPA's *Unified Guidance: Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities* (EPA, 2009) and the American Society for Testing and Materials (ASTM) standard D6312-17, *Developing Appropriate Statistical Approaches for Groundwater Detection Monitoring Programs at waste Disposal Facilities* (ASTM, 2017). The statistical approach used for establishing prediction limits based on the background data are described in detail in the Statistical Analysis Plan for the Site (PBW, 2017c).

4.0 DETECTION GROUNDWATER MONITORING PROGRAM

In accordance with CCR Rule Section 257.94, detection monitoring groundwater samples are collected on a semi-annual basis from the AX Landfill CCR groundwater monitoring network.

4.1 Detection Monitoring Results

PBW collected the initial detection monitoring groundwater samples from the AX Landfill CCR monitoring wells in October 2017 and evaluation of the data commenced by October 17, 2017. The detection monitoring results are summarized in Table 5. Laboratory analytical reports for the detection monitoring samples are included in Appendix B. The evaluation of these data will be completed in 2018, and the evaluation will be summarized in the 2018 Annual Groundwater Monitoring Report.

4.2 CCR Detection Monitoring Activities Planned for 2018

In accordance with CCR Rule Section 257.94, detection monitoring groundwater samples will be collected on a semi-annual basis in 2018 and the analytical data from both sampling events will be included in the 2018 Annual Groundwater Monitoring Report. A statistical evaluation of the 2017 detection monitoring data and the first semi-annual 2018 detection monitoring data will be summarized in the 2018 Annual Groundwater Monitoring Report. If a statistically significant increase over background is determined for one or more of the detection monitoring constituents at any monitoring well at the CCR unit waste boundary, Luminant will comply with the applicable CCR Rule requirements in 257.94(e)(2).

5.0 ASSESSMENT GROUNDWATER MONITORING PROGRAM

Assessment groundwater monitoring was not performed at the Site during 2017. Assessment monitoring will be performed during 2018 if required based on the 2017/2018 detection monitoring results.

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6.0 REFERENCES

- ASTM, 2017. Standard Guide for Developing Appropriate Statistical Approaches for Groundwater Detection Monitoring Programs at Waste Disposal Facilities - D6312-17.
- Barnes, Virgil E., 1974. Geologic Atlas of Texas, Austin Sheet. Texas Bureau of Economic Geology.
- Environmental Protection Agency (EPA), 2009. Unified Guidance Document: Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, EPA 530-R-09-007, March 2009.
- Pastor, Behling & Wheeler, LLC, 2017a. Coal Combustion Residual Rule Groundwater Monitoring System Certification, Sandow 5 Generating Plant, AX Landfill, Rockdale, Texas. October 16, 2017.
- Pastor, Behling & Wheeler, LLC, 2017b. Coal Combustion Residual Rule Monitoring Well Design, Installation, Development, and Decommissioning Report, Sandow 5 Generating Plant, AX Landfill, Rockdale, Texas. October 13, 2017.
- Pastor, Behling & Wheeler, LLC, 2017c. Coal Combustion Residual Rule Statistical Analysis Plan, Sandow 5 Generating Plant, AX Landfill, Rockdale, Texas. October 11, 2017.

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Tables

TABLE 1
CCR WELL CONSTRUCTION SUMMARY
SANDOW AX LANDFILL

Well ID	Date Installed	Northing	Easting	Ground Elevation (ft amsl)	TOC Elevation (ft amsl)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Screen Length (ft)	Total Design Depth (ft bgs)	Casing Diameter (in)
AX-23	10/15/15	335065	3028456	479.78	482.26	65	85	20	85	4
AX-24	10/15/15	336503	3031537	466.48	468.74	61	81	20	81	2
AX-25	10/16/15	335806	3032212	441.11	443.62	65	75	10	75	2
AX-26	10/14/15	334521	3031007	456.34	458.60	55	75	20	75	2
AX-27	10/14/15	333747	3030177	476.82	479.47	78	98	20	98	4
AX-28	10/13/15	332787	3029656	460.75	463.26	25	45	20	45	2
AX-29	10/13/15	333162	3028622	484.96	487.73	45	65	20	65	2
AXMW-1	11/28/12	336064	3029088	471.88	473.65	33	53	20	53	2
AXMW-2	11/28/12	334057	3028201	480.54	482.25	43	63	20	63	2

Notes:

1. Abbreviations: ft - feet; amsl - above mean sea level; bgs - below ground surface; TOC - top of casing; in - inches.

**TABLE 2
GROUNDWATER ELEVATION SUMMARY
SANDOW AX LANDFILL**

Well ID	TOC Elevation (ft amsl)	Date	Depth to Water (ft btoc)	Water Elevation (ft amsl)
AXMW-1	473.65	11/03/15	25.75	447.90
		12/17/15	25.67	447.98
		02/08/16	25.82	447.83
		04/25/16	25.55	448.10
		06/15/16	25.60	448.05
		08/09/16	26.52	447.13
		10/05/16	25.77	447.88
		12/22/16	26.31	447.34
AXMW-2	482.25	10/29/15	25.86	456.39
		12/17/15	24.75	457.50
		02/08/16	24.51	457.74
		04/26/16	23.72	458.53
		06/15/16	23.70	458.55
		08/10/16	24.35	457.90
		10/06/16	23.98	458.27
		12/22/16	24.26	457.99
AX-23	482.26	10/29/15	32.23	450.03
		12/17/15	31.60	450.66
		02/08/16	31.15	451.11
		04/26/16	30.26	452.00
		06/15/16	30.13	452.13
		08/09/16	30.49	451.77
		10/05/16	30.21	452.05
		12/21/16	30.08	452.18
AX-24	468.74	10/29/15	67.01	401.73
		12/18/15	66.67	402.07
		02/09/16	64.99	403.75
		04/25/16	60.80	407.94
		06/14/16	57.39	411.35
		08/09/16	53.90	414.84
		10/05/16	51.35	417.39
		12/21/16	48.98	419.76
AX-25	443.62	10/29/15	60.03	383.59
		12/18/15	52.99	390.63
		02/09/16	45.84	397.78
		04/25/16	37.94	405.68
		06/14/16	33.62	410.00
		08/10/16	34.78	408.84
		10/05/16	29.18	414.44
		12/21/16	27.44	416.18

**TABLE 2
GROUNDWATER ELEVATION SUMMARY
SANDOW AX LANDFILL**

Well ID	TOC Elevation (ft amsl)	Date	Depth to Water (ft btoc)	Water Elevation (ft amsl)
AX-26	458.60	11/03/15	63.71	394.89
		12/17/15	58.04	400.56
		02/08/16	54.21	404.39
		04/25/16	51.15	407.45
		06/14/16	46.30	412.30
		08/10/16	51.84	406.76
		10/06/16	47.41	411.19
		12/22/16	45.50	413.10
AX-27	479.47	11/03/15	77.32	402.15
		12/17/15	76.38	403.09
		02/08/16	75.04	404.43
		04/26/16	72.75	406.72
		06/14/16	71.62	407.85
		08/09/16	70.36	409.11
		10/06/16	69.11	410.36
		12/22/16	67.08	412.39
AX-28	463.26	11/03/15	40.38	422.88
		12/18/15	38.87	424.39
		02/08/16	38.71	424.55
		04/25/16	39.25	424.01
		06/15/16	39.18	424.08
		08/09/16	38.99	424.27
		10/05/16	38.69	424.57
		12/21/16	38.39	424.87
AX-29	487.73	10/29/15	59.10	428.63
		12/17/15	58.96	428.77
		02/08/16	58.56	429.17
		04/26/16	57.46	430.27
		06/14/16	57.02	430.71
		08/10/16	56.66	431.07
		10/06/16	56.13	431.60
		12/21/16	55.39	432.34

Notes:

1. Abbreviations: TOC - top of casing; ft - feet; amsl - above mean sea level.

TABLE 3
APPENDIX III BACKGROUND GROUNDWATER ANALYTICAL DATA
SANDOW AX LANDFILL

Sample Location	Date Sampled	B (mg/L)	Ca (mg/L)	Cl (mg/L)	Fl (mg/L)	pH (s.u.)	SO ₄ (mg/L)	TDS (mg/L)
AX-23	10/29/15	0.112	268	<0.002	0.211 J	7.95	426	1,640
	12/17/15	0.0466	10.8	11.5	<0.1	6.70	30	135
	02/08/16	0.287	177	124	0.273 J	6.36	459	1,250
	04/26/16	0.3	188	131	0.186 J	6.36	471	1,200
	06/15/16	0.0509	218	141	<0.1	6.60	502	1,730
	08/09/16	0.0987	53.4	40.8	<0.1	6.82	149	515
	10/05/16	0.293	246	156	0.179 J	6.22	562	1,680
	12/21/16	0.311	243	170	<0.1	-- ³	582	1,550
AX-24	10/29/15	0.0617	150	0.00476 J	0.148 J	6.57	695	1,640
	12/18/15	0.165	231	195	0.149 J	7.63	766	1,840
	02/09/16	0.0929	232	249	0.207	6.40	783	1,900
	04/25/16	0.12	232	299	<0.1	6.08	756	1,820
	06/14/16	0.0945	238	275	<0.1	6.29	776	1,980
	08/09/16	<0.5	273	273	<0.1	6.10	837	2,010
	10/05/16	0.0921	239	250	0.106 J	6.00	768	2,290
	12/21/16	0.112	228	365	<0.1	-- ³	1,010	1,890
AX-25	10/29/15	0.114	163	<0.002	0.28 J	7.17	303	1,050
	12/18/15	0.141	113	160	0.212 J	7.45	278	996
	02/09/16	0.172	242	457	0.342	7.10	410	2,080
	04/25/16	0.206	225	526	0.25 J	6.36	470	1,920
	06/14/16	0.219	252	513	0.207 J	6.56	474	2,210
	08/10/16	0.196	262	606	0.199 J	6.51	534	2,450
	10/05/16	0.184	250	503	0.292 J	6.33	446	2,710
	12/21/16	0.214	244	637	<0.1	-- ³	613	2,360
AX-26	11/03/15	0.301	789	2170	<0.1	7.18	996	6,430
	12/17/15	0.326	915	2220	0.304 J	6.69	1,050	6,440
	02/08/16	0.366	670	1420	0.119 J	7.02	1,100	4,610
	04/25/16	0.394	571	1200	<0.1	6.12	1,020	4,080
	06/14/16	0.36	591	972	<0.1	6.55	1,020	3,930
	08/10/16	0.311	587	1180	<0.1	6.34	1,060	4,210
	10/06/16	0.311	558	875	<0.1	6.34	931	3,390
	12/22/16	0.358	567	1170	<0.1	-- ³	941	4,250
AX-27	11/03/15	0.117	131	248	<0.1	7.30	172	971
	12/17/15	0.172	299	544	<0.1	6.27	371	1,920
	02/08/16	0.189	324	548	0.185 J	6.34	400	2,140
	04/26/16	0.196	295	557	<0.1	6.18	383	1,990
	06/14/16	0.194	338	610	<0.1	6.38	418	2,370
	08/09/16	0.178	359	670	<0.1	6.40	468	2,320
	10/06/16	0.216	356	600	<0.1	6.08	394	1,740
	12/22/16	0.209	366	741	<0.1	-- ³	478	2,640

TABLE 3
APPENDIX III BACKGROUND GROUNDWATER ANALYTICAL DATA
SANDOW AX LANDFILL

Sample Location	Date Sampled	B (mg/L)	Ca (mg/L)	Cl (mg/L)	Fl (mg/L)	pH (s.u.)	SO ₄ (mg/L)	TDS (mg/L)
AX-28	11/03/15	0.187	421	494	<0.1	6.27	1,030	2,830
	12/18/15	0.15	477	275	0.106 J	7.31	1,420	3,150
	02/08/16	0.213	518	206	0.272 J	6.25	1,950	3,270
	04/25/16	0.181	480	378	<0.1	6.07	1,450	2,940
	06/15/16	0.239	500	412	<0.1	6.67	1,460	2,790
	08/09/16	<0.5	574	412	<0.1	6.50	1,450	3,120
	10/06/16	0.135	478	426	<0.1	7.22	1,110	3,240
	12/21/16	0.313	507	563	<0.1	-- ³	1,290	3,400
AX-29	10/29/15	0.251	286	0.00878	0.145 J	7.01	1,200	2,490
	12/17/15	0.323	293	279	0.104 J	6.27	1,080	2,430
	02/08/16	0.299	334	269	0.227 J	6.42	1,170	2,620
	04/26/16	0.37	372	301	<0.1	6.03	1,270	2,590
	06/14/16	0.316	347	288	<0.1	6.23	1,240	3,000
	08/10/16	0.318	791	293	<0.1	6.25	1,300	2,860
	10/05/16	0.347	383	282	0.123 J	5.94	1,130	2,940
	12/21/16	0.337	339	306	<0.1	-- ³	1,110	2,610
AXMW-1	11/03/15	0.465	418	396	<0.1	7.09	2,110	3,920
	12/17/15	0.517	400	303	<0.1	5.57	2,000	3,420
	02/08/16	0.516	399	263	0.188 J	5.49	2,260	3,450
	04/25/16	0.499	447	372	<0.1	5.55	2,440	3,970
	06/15/16	0.549	472	353	<0.1	5.96	2,280	5,150
	08/09/16	0.624 J	514	353	<0.1	5.60	2,290	4,350
	10/05/16	0.497	465	325	<0.1	5.49	2,050	4,140
	12/22/16	0.553	443	394	<0.1	-- ³	2,120	4,220
AXMW-2	10/29/15	0.622	113	<0.002	0.261 J	6.75	977	2,290
	12/17/15	1.31	422	155	0.357 J	6.53	1,450	2,820
	02/08/16	2.17	549	192	1.09	6.01	2,200	3,800
	04/26/16	2.32	548	210	0.771	5.81	2,130	3,460
	06/15/16	2.33	570	199	<0.1	5.98	1,970	3,780
	08/09/16	1.49	479	177	0.299 J	6.00	1,840	3,310
	10/06/16	1.84	541	200	0.882	5.73	1,840	2,950
	12/22/16	1.96	503	210	<0.1	-- ³	1,840	3,630
Equipment Blank								
EB	04/25/16	0.0308	0.207 J	<0.3	<0.1	--	<1	<10
	06/14/16	0.027 J	0.159 J	<0.3	<0.1	--	<1	<10
	08/09/16	0.0359	46.1	2.87	<0.1	--	18.3	<10
	10/05/16	0.0432	3.53	22.2	<0.1	--	5.73	<10
	12/21/16	0.0257 J	0.226 J	<0.3	<0.1	--	<1	<10

Notes:

1. Abbreviations: mg/L - milligrams per liter; TDS - total dissolved solids; s.u. - standard units.
2. J - concentration is below method quantitation limit; result is an estimate.
3. --³: pH meter malfunctioned in field.

TABLE 5
APPENDIX III DETECTION MONITORING GROUNDWATER ANALYTICAL DATA
SANDOW AX LANDFILL

Sample Location	Date Sampled	B (mg/L)	Ca (mg/L)	Cl (mg/L)	Fl (mg/L)	pH (s.u.)	SO₄ (mg/L)	TDS (mg/L)
AX-23	10/02/17	0.314	316	184	<0.1	6.43	631	1,620
AX-24	10/02/17	0.129	252	307	<0.1	6.12	632	1,810
AX-25	10/03/17	0.205	325	586	<0.1	6.37	504	2,400
AX-26	10/02/17	0.352	666	11,000	<0.1	6.38	945	3,740
AX-27	10/02/17	0.206	462	652	<0.1	6.19	569	2,490
AX-28	10/02/17	0.207	664	384	<0.1	6.25	1,670	3,350
AX-29	10/03/17	0.316	392	276	<0.1	6.20	1,110	2,480
AXMW-1	10/03/17	0.463	477	348	<0.1	5.75	1,990	3,620
AXMW-2	10/03/17	2.14	644	207	<0.1	5.93	1,990	3,640

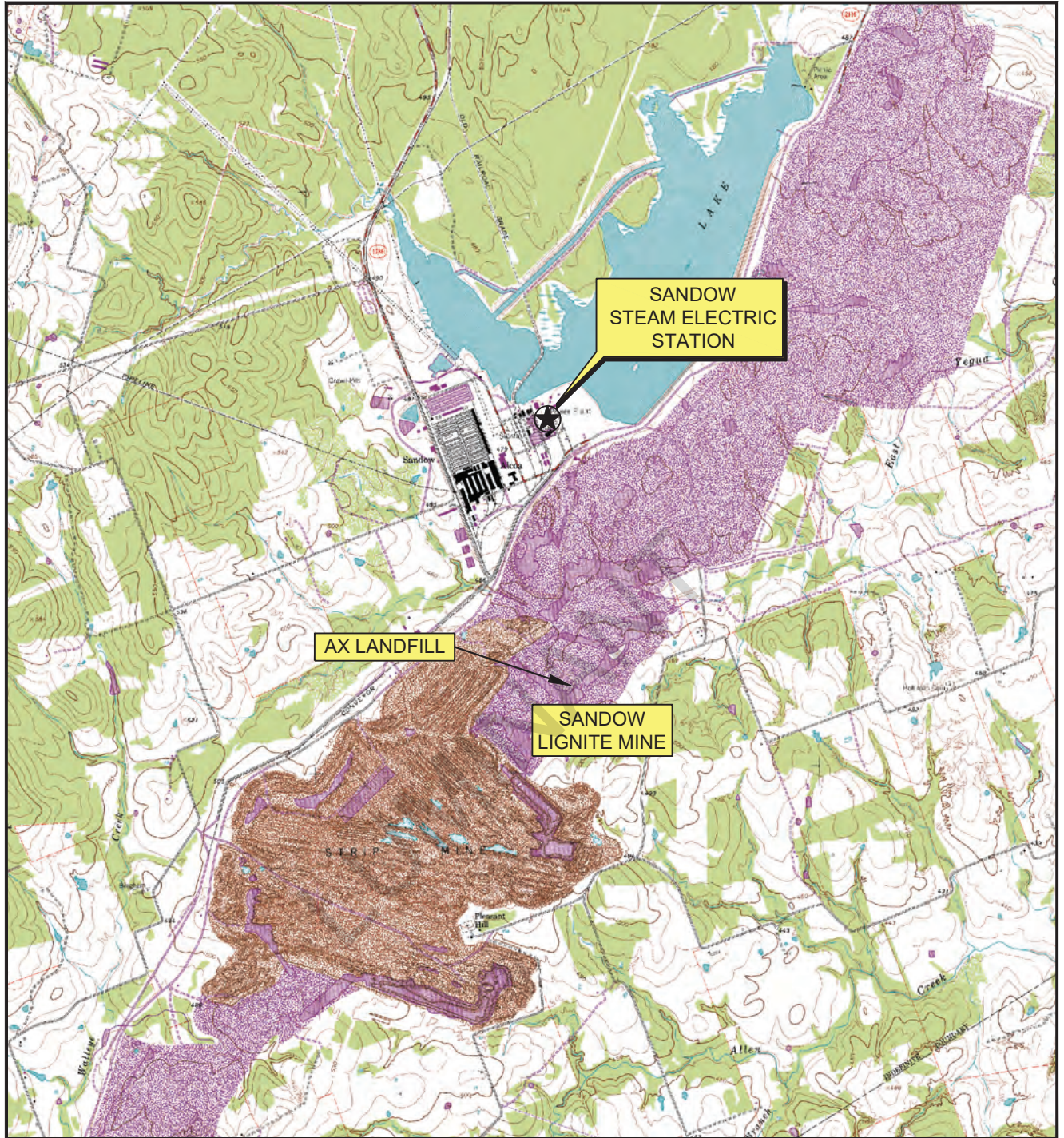
Notes:

1. Abbreviations: mg/L - milligrams per liter; TDS - total dissolved solids; s.u. - standard units.
2. J - concentration is below method quantitation limit; result is an estimate.

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Figures



QUADRANGLE LOCATION



Scale in Feet



SANDOW STEAM ELECTRIC STATION
ROCKDALE, TEXAS

Figure 1

SITE LOCATION MAP

PROJECT: 5164E

BY: AJD

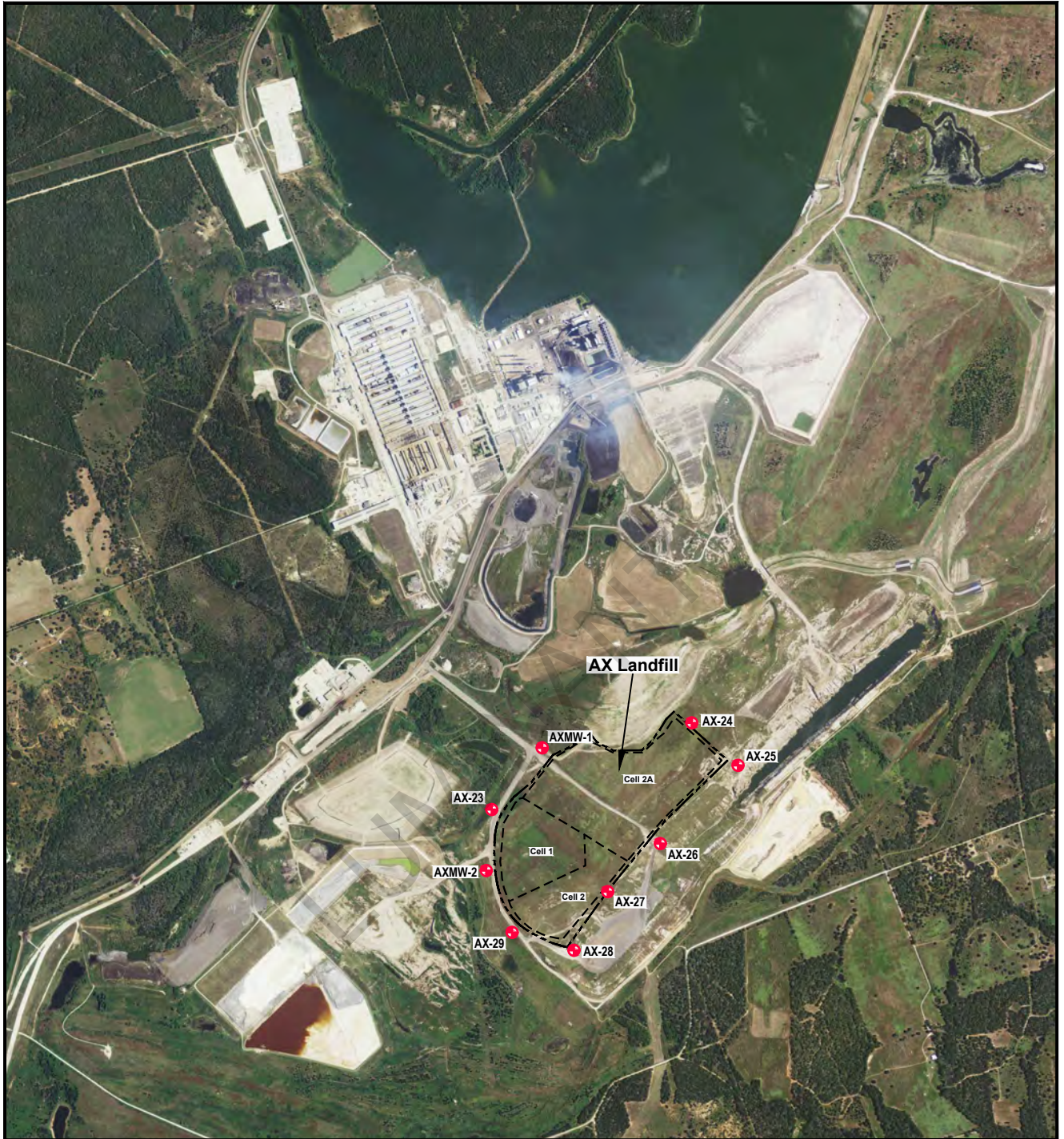
REVISIONS

DATE: MAR., 2017

CHECKED: PJB

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

SOURCE:
Base map from www.tnris.gov, Alcoa Lake, TX 7.5 min. USGS quadrangle dated 1963,
revised 1988.



EXPLANATION

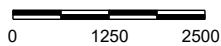
 CCR Monitoring Well Location



PHOTOGRAPH LOCATION



Scale in Feet



**SANDOW STEAM ELECTRIC STATION
AX LANDFILL**

Figure 2

SITE PLAN

PROJECT: 5164E

BY: AJD

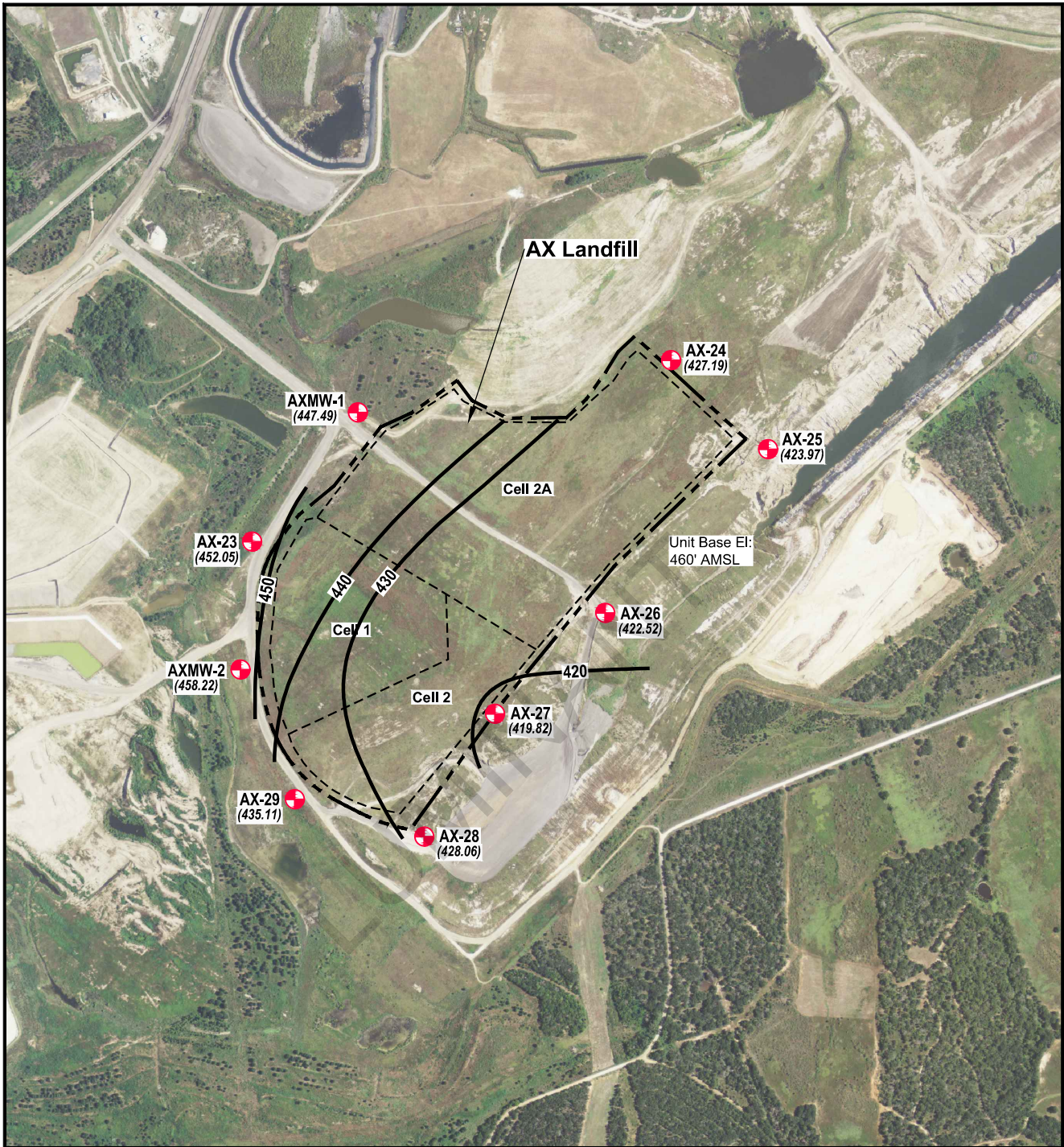
REVISIONS

DATE: SEPT., 2017


CHECKED: PJB

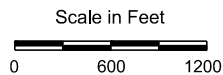
PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

SOURCE:
Imagery from www.tnris.gov, Alcoa Lake, aerial photographs, 2012.



EXPLANATION

-  CCR Monitoring Well
- (414.49)** Groundwater Potentiometric Surface (ft. MSL)
- 400 —** Groundwater Potentiometric Surface Contour (C.I. = 10 ft.)



SOURCE:
Imagery from www.tnris.gov, Alcoa Lake, aerial photographs, 2012.

SANDOW STEAM ELECTRIC STATION
ROCKDALE, TEXAS

Figure 3

**AX LANDFILL GROUNDWATER
POTENTIOMETRIC SURFACE MAP
OCTOBER 2-3, 2017**

PROJECT: 5347E	BY: AJD	REVISIONS
DATE: JAN., 2018	CHECKED: PJB	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

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Appendix A

Laboratory Analytical Reports – Background Data



December 07, 2015

Will Vienne
Pastor, Behling & Wheeler
2201 Double Creek Dr #4004
Round Rock, Texas 78664
TEL: (512) 671-3434
FAX (512) 671-3446
RE: Sandow AX

Order No.: 1510306

Dear Will Vienne:

DHL Analytical, Inc. received 6 sample(s) on 10/30/2015 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

A handwritten signature in orange ink, appearing to read 'John DuPont'.

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-15-15



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2300 Double Creek Dr. ■ Round Rock, TX 78664
 Phone (512) 388-8222 ■ FAX (512) 388-8229
 Web: www.dhlanalytical.com
 E-Mail: login@dhlanalytical.com



CH

CLIENT: P3W
 ADDRESS: 2201 Double Creek Dr. Ste #4004
 PHONE: (512) 671-3434 FAX/E-MAIL: will.vienne@ph4llc.com
 DATA REPORTED TO: Will Vienne
 ADDITIONAL REPORT COPIES TO: _____

DATE: 10/29/15
 PO #: 5164-E DHL WORK OF _____
 PROJECT LOCATION OR NAME: Sandow A,
 CLIENT PROJECT #: 5164-E CO _____

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	PRESERVATION					ANALYSES
							HCl	HNO ₃	H ₂ SO ₄ □ NaOH □	ICE	UNPRESERVED	
AX-23	01	10/29/15	0945	W	P	4	X	X				
AX MW-2	02	10/29/15	1120	W	P	4	X	X				
AX-29	03	10/29/15	1205	W	P	4	X	X				
AX-22R	04	10/29/15	1440	W	P	4	X	X				
AX-25	05	10/29/15	1515	W	P	4	X	X				
AX-24	06	10/29/15	1550	W	P	4	X	X				

- ANALYSES**
- BTEX □ MTBE □ [METHOD 8021]
 - TPH 1005 □ TPH 1006 □ HOLD 1006 □
 - GRO [METHOD 8015] □ DRO [METHOD 8105] □
 - VOC 8260 □ VOC 624 □ VOC 8260/8035 □
 - SVOC 8270 □ PAH 8270 □ HOLD PAH □ SVOC 625 □
 - 8270 PEST □ 625 PEST □ 8082 PCB □ 8270 PCB □
 - 8321 HERB □ 1 PHOS. AMMONIA □
 - METALS 8020 □ METALS 200.8 □ DIS. METALS □
 - RCRA □ TX11 □
 - PH □ HEX CHROM □ ALKALINITY □
 - CHLORIDE □ ANIONS □
 - TCLP-SVOC □ VOCC □
 - TCLP-METALS □
 - RCI □

RELINQUISHED BY: (Signature) <u>Will Vienne</u>	DATE/TIME <u>10-30-15/ 15:20</u>	RECEIVED BY: (Signature) <u>[Signature]</u>
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)

DHL DISPOSAL @ \$5.00 each Return

TURN AROUND TIME

RUSH CALL FIRST
 1 DAY CALL FIRST
 2 DAY
 NORMAL
 OTHER

LABORATORY USE

RECEIVING TEMP: _____
 CUSTODY SEALS:
 CARRIER: LONE
 COURIER DELIVERED
 HAND DELIVERED

**ATTACHMENT 1
CCR ANALYTE SUMMARY**

Appendix III Constituents	Appendix IV Constituents
Boron Calcium Chloride Fluoride pH Sulfate Total Dissolved Solids	Arsenic Barium Beryllium Cadmium Chromium Cobalt Fluoride Lead Lithium Mercury Molybdenum Selenium Thallium Radium 226 and 228 combined

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Sample Receipt Checklist

Client Name Pastor, Behling & Wheeler

Date Received: 10/30/2015

Work Order Number 1510306

Received by MB

Checklist completed by: [Signature] 10/30/2015

Reviewed by: [Initials MB] 10/30/2015

Carrier name Hand Delivered

- 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 3.1 °C
- Water - VOA vials have zero headspace? Yes No No VOA vials submitted
- Water - pH<2 acceptable upon receipt? Yes No NA LOT # 8086
Adjusted? NO Checked by MB
- Water - pH>9 (S) or pH>12 (CN) acceptable upon receipt? Yes No NA LOT #
Adjusted? _____ Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CLIENT: Pastor, Behling & Wheeler
Project: Sandow AX
Lab Order: 1510306

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

- Method SW6020A - Metals Analysis
- Method SW7470A - Mercury Analysis
- Method E300 - Anions Analysis
- Method M4500-H+ B - pH of a Water Analysis
- Method M2540C - TDS Analysis

LOG IN

The samples were received and log-in performed on 10/30/15. A total of 6 samples were received. The samples arrived in good condition and were properly packaged.

METALS ANALYSIS

For Metals analysis performed on 11/9/15 Boron was detected below the reporting limit in the method blank (MB-72211). All samples may be biased high for this analyte. No further corrective actions were taken.

For Metals analysis performed on 11/9/15 the matrix spike and matrix spike duplicate recoveries were out of control limits for Calcium. These are flagged accordingly in the QC summary report. The sample selected for the matrix spike and matrix spike duplicate was from this work order. The LCS was within control limits for this analyte. No further corrective actions were taken.

For Metals analysis performed on 11/9/15 LCVL2-151109 and CCV3-151105 were slightly above control limits for Calcium or Antimony. These are flagged accordingly. The associated CCV2-151109 and LCVL3-151105 were within control limits for these analytes. No further corrective actions were taken.

MERCURY ANALYSIS

For Mercury analysis the matrix spike and matrix spike duplicate was re-prepped and re-analyzed on 11/10/15. This was due to a prep error. This exceeded the 24 hour prep window.

CLIENT: Pastor, Behling & Wheeler
Project: Sandow AX
Lab Order: 1510306

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1510306-01	AX-23		10/29/15 09:45 AM	10/30/2015
1510306-02	AXMW-2		10/29/15 11:20 AM	10/30/2015
1510306-03	AX-29		10/29/15 12:05 PM	10/30/2015
1510306-04	AX-22R		10/29/15 02:40 PM	10/30/2015
1510306-05	AX-25		10/29/15 03:15 PM	10/30/2015
1510306-06	AX-24		10/29/15 03:50 PM	10/30/2015

LUMINANT

PREP DATES REPORT

Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
10/29/15 09:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	11/06/15 09:55 AM	72211
10/29/15 09:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	11/06/15 09:55 AM	72211
10/29/15 09:45 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	11/05/15 06:10 AM	72178
10/29/15 09:45 AM	Aqueous	E300	Anion Preparation	11/05/15 09:55 AM	72188
10/29/15 09:45 AM	Aqueous	E300	Anion Preparation	11/05/15 09:55 AM	72188
10/29/15 09:45 AM	Aqueous	M4500-H+ B	pH Preparation	10/30/15 03:59 PM	72109
10/29/15 09:45 AM	Aqueous	M2540C	TDS Preparation	11/03/15 02:01 PM	72150
10/29/15 11:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	11/06/15 09:55 AM	72211
10/29/15 11:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	11/06/15 09:55 AM	72211
10/29/15 11:20 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	11/05/15 06:10 AM	72178
10/29/15 11:20 AM	Aqueous	E300	Anion Preparation	11/05/15 09:55 AM	72188
10/29/15 11:20 AM	Aqueous	E300	Anion Preparation	11/05/15 09:55 AM	72188
10/29/15 11:20 AM	Aqueous	M4500-H+ B	pH Preparation	10/30/15 03:59 PM	72109
10/29/15 11:20 AM	Aqueous	M2540C	TDS Preparation	11/03/15 02:01 PM	72150
10/29/15 12:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	11/06/15 09:55 AM	72211
10/29/15 12:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	11/06/15 09:55 AM	72211
10/29/15 12:05 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	11/05/15 06:10 AM	72178
10/29/15 12:05 PM	Aqueous	E300	Anion Preparation	11/05/15 09:55 AM	72188
10/29/15 12:05 PM	Aqueous	E300	Anion Preparation	11/05/15 09:55 AM	72188
10/29/15 12:05 PM	Aqueous	M4500-H+ B	pH Preparation	10/30/15 03:59 PM	72109
10/29/15 12:05 PM	Aqueous	M2540C	TDS Preparation	11/03/15 02:01 PM	72150
10/29/15 02:40 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	11/06/15 09:55 AM	72211
10/29/15 02:40 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	11/06/15 09:55 AM	72211
10/29/15 02:40 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	11/05/15 06:10 AM	72178
10/29/15 02:40 PM	Aqueous	E300	Anion Preparation	11/05/15 09:55 AM	72188
10/29/15 02:40 PM	Aqueous	E300	Anion Preparation	11/05/15 09:55 AM	72188
10/29/15 02:40 PM	Aqueous	M4500-H+ B	pH Preparation	10/30/15 03:59 PM	72109
10/29/15 02:40 PM	Aqueous	M2540C	TDS Preparation	11/03/15 02:01 PM	72150

& Wheeler

PREP DATES REPORT

Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
10/29/15 03:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	11/06/15 09:55 AM	72211
10/29/15 03:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	11/06/15 09:55 AM	72211
10/29/15 03:15 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	11/05/15 06:10 AM	72178
10/29/15 03:15 PM	Aqueous	E300	Anion Preparation	11/05/15 09:55 AM	72188
10/29/15 03:15 PM	Aqueous	E300	Anion Preparation	11/05/15 09:55 AM	72188
10/29/15 03:15 PM	Aqueous	M4500-H+ B	pH Preparation	10/30/15 03:59 PM	72109
10/29/15 03:15 PM	Aqueous	M2540C	TDS Preparation	11/03/15 02:01 PM	72150
10/29/15 03:50 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	11/06/15 09:55 AM	72211
10/29/15 03:50 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	11/06/15 09:55 AM	72211
10/29/15 03:50 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	11/06/15 09:55 AM	72211
10/29/15 03:50 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	11/05/15 06:10 AM	72178
10/29/15 03:50 PM	Aqueous	E300	Anion Preparation	11/05/15 09:55 AM	72188
10/29/15 03:50 PM	Aqueous	E300	Anion Preparation	11/05/15 09:55 AM	72188
10/29/15 03:50 PM	Aqueous	M4500-H+ B	pH Preparation	10/30/15 03:59 PM	72109
10/29/15 03:50 PM	Aqueous	M2540C	TDS Preparation	11/03/15 02:01 PM	72150

ANALYTICAL DATES REPORT

Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
Aqueous	SW7470A	Mercury Total: Aqueous	72178	1	11/09/15 12:28 PM	CETAC2_HG_151109 B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72211	1	11/09/15 05:00 PM	ICP-MS3_151109A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72211	10	11/10/15 01:10 PM	ICP-MS4_151110B
Aqueous	E300	Anions by IC method - Water	72188	1	11/05/15 01:14 PM	IC3_151105A
Aqueous	E300	Anions by IC method - Water	72188	100	11/05/15 04:35 PM	IC3_151105A
Aqueous	M4500-H+ B	pH	72109	1	10/30/15 04:06 PM	TITRATOR_151030A
Aqueous	M2540C	Total Dissolved Solids	72150	1	11/04/15 07:20 AM	WC_151103B
Aqueous	SW7470A	Mercury Total: Aqueous	72178	1	11/09/15 12:40 PM	CETAC2_HG_151109 B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72211	100	11/10/15 01:14 PM	ICP-MS4_151110B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72211	1	11/09/15 05:12 PM	ICP-MS3_151109A
Aqueous	E300	Anions by IC method - Water	72188	1	11/05/15 01:38 PM	IC3_151105A
Aqueous	E300	Anions by IC method - Water	72188	10	11/05/15 04:59 PM	IC3_151105A
Aqueous	M4500-H+ B	pH	72109	1	10/30/15 04:07 PM	TITRATOR_151030A
Aqueous	M2540C	Total Dissolved Solids	72150	1	11/04/15 07:20 AM	WC_151103B
Aqueous	SW7470A	Mercury Total: Aqueous	72178	1	11/09/15 12:42 PM	CETAC2_HG_151109 B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72211	1	11/09/15 05:18 PM	ICP-MS3_151109A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72211	100	11/10/15 01:16 PM	ICP-MS4_151110B
Aqueous	E300	Anions by IC method - Water	72188	1	11/05/15 01:58 PM	IC3_151105A
Aqueous	E300	Anions by IC method - Water	72188	100	11/05/15 05:40 PM	IC3_151105A
Aqueous	M4500-H+ B	pH	72109	1	10/30/15 04:09 PM	TITRATOR_151030A
Aqueous	M2540C	Total Dissolved Solids	72150	1	11/04/15 07:20 AM	WC_151103B
Aqueous	SW7470A	Mercury Total: Aqueous	72178	1	11/09/15 12:44 PM	CETAC2_HG_151109 B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72211	1	11/09/15 05:24 PM	ICP-MS3_151109A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72211	10	11/10/15 01:18 PM	ICP-MS4_151110B
Aqueous	E300	Anions by IC method - Water	72188	1	11/05/15 02:19 PM	IC3_151105A
Aqueous	E300	Anions by IC method - Water	72188	10	11/05/15 06:42 PM	IC3_151105A

ANALYTICAL DATES REPORT

Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
Aqueous	M4500-H+ B	pH	72109	1	10/30/15 04:12 PM	TITRATOR_151030A
Aqueous	M2540C	Total Dissolved Solids	72150	1	11/04/15 07:20 AM	WC_151103B
Aqueous	SW7470A	Mercury Total: Aqueous	72178	1	11/09/15 12:46 PM	CETAC2_HG_151109 B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72211	1	11/09/15 05:30 PM	ICP-MS3_151109A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72211	50	11/10/15 01:20 PM	ICP-MS4_151110B
Aqueous	E300	Anions by IC method - Water	72188	1	11/05/15 02:39 PM	IC3_151105A
Aqueous	E300	Anions by IC method - Water	72188	10	11/05/15 07:02 PM	IC3_151105A
Aqueous	M4500-H+ B	pH	72109	1	10/30/15 04:14 PM	TITRATOR_151030A
Aqueous	M2540C	Total Dissolved Solids	72150	1	11/04/15 07:20 AM	WC_151103B
Aqueous	SW7470A	Mercury Total: Aqueous	72178	1	11/09/15 12:49 PM	CETAC2_HG_151109 B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72211	1	11/09/15 06:30 PM	ICP-MS3_151109A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72211	50	11/10/15 01:22 PM	ICP-MS4_151110B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72211	1	11/10/15 01:43 PM	ICP-MS4_151110B
Aqueous	E300	Anions by IC method - Water	72188	1	11/05/15 03:00 PM	IC3_151105A
Aqueous	E300	Anions by IC method - Water	72188	10	11/05/15 07:23 PM	IC3_151105A
Aqueous	M4500-H+ B	pH	72109	1	10/30/15 04:15 PM	TITRATOR_151030A
Aqueous	M2540C	Total Dissolved Solids	72150	1	11/04/15 07:20 AM	WC_151103B

DHL Analytical, Inc.

Date: 07-Dec-15

CLIENT: Pastor, Behling & Wheeler
Project: Sandow AX
Project No: 5164-E
Lab Order: 1510306

Client Sample ID: AX-23
Lab ID: 1510306-01
Collection Date: 10/29/15 09:45 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	11/09/15 12:28 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: KL			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	11/09/15 05:00 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	11/09/15 05:00 PM
Barium	0.273	0.00300	0.0100		mg/L	1	11/09/15 05:00 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	11/09/15 05:00 PM
Boron	0.112	0.0100	0.0300		mg/L	1	11/09/15 05:00 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	11/09/15 05:00 PM
Calcium	76.3	1.00	3.00		mg/L	10	11/10/15 01:10 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	11/09/15 05:00 PM
Cobalt	0.0106	0.00300	0.00500		mg/L	1	11/09/15 05:00 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	11/09/15 05:00 PM
Lithium	<0.00500	0.00500	0.0100		mg/L	1	11/09/15 05:00 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	11/09/15 05:00 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	11/09/15 05:00 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	11/09/15 05:00 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	268	30.0	100		mg/L	100	11/05/15 04:35 PM
Fluoride	0.211	0.100	0.400	J	mg/L	1	11/05/15 01:14 PM
Sulfate	426	100	300		mg/L	100	11/05/15 04:35 PM
PH		M4500-H+ B		Analyst: LM			
pH	6.53	0	0		pH Units@14.4°C	1	10/30/15 04:06 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	1640	50.0	50.0		mg/L	1	11/04/15 07:20 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 07-Dec-15

CLIENT: Pastor, Behling & Wheeler
Project: Sandow AX
Project No: 5164-E
Lab Order: 1510306

Client Sample ID: AXMW-2
Lab ID: 1510306-02
Collection Date: 10/29/15 11:20 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	11/09/15 12:40 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: KL			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	11/09/15 05:12 PM
Arsenic	0.00823	0.00200	0.00500		mg/L	1	11/09/15 05:12 PM
Barium	0.0198	0.00300	0.0100		mg/L	1	11/09/15 05:12 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	11/09/15 05:12 PM
Boron	0.622	0.0100	0.0300		mg/L	1	11/09/15 05:12 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	11/09/15 05:12 PM
Calcium	304	10.0	30.0		mg/L	100	11/10/15 01:14 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	11/09/15 05:12 PM
Cobalt	0.0133	0.00300	0.00500		mg/L	1	11/09/15 05:12 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	11/09/15 05:12 PM
Lithium	0.0973	0.00500	0.0100		mg/L	1	11/09/15 05:12 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	11/09/15 05:12 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	11/09/15 05:12 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	11/09/15 05:12 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	113	3.00	10.0		mg/L	10	11/05/15 04:59 PM
Fluoride	0.261	0.100	0.400	J	mg/L	1	11/05/15 01:38 PM
Sulfate	977	10.0	30.0		mg/L	10	11/05/15 04:59 PM
PH		M4500-H+ B		Analyst: LM			
pH	6.49	0	0		pH Units@14°C	1	10/30/15 04:07 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	2290	50.0	50.0		mg/L	1	11/04/15 07:20 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 07-Dec-15

CLIENT: Pastor, Behling & Wheeler
Project: Sandow AX
Project No: 5164-E
Lab Order: 1510306

Client Sample ID: AX-29
Lab ID: 1510306-03
Collection Date: 10/29/15 12:05 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	11/09/15 12:42 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: KL			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	11/09/15 05:18 PM
Arsenic	0.00410	0.00200	0.00500	J	mg/L	1	11/09/15 05:18 PM
Barium	0.179	0.00300	0.0100		mg/L	1	11/09/15 05:18 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	11/09/15 05:18 PM
Boron	0.251	0.0100	0.0300		mg/L	1	11/09/15 05:18 PM
Cadmium	0.000314	0.000300	0.00100	J	mg/L	1	11/09/15 05:18 PM
Calcium	283	10.0	30.0		mg/L	100	11/10/15 01:16 PM
Chromium	0.00878	0.00200	0.00500		mg/L	1	11/09/15 05:18 PM
Cobalt	0.0573	0.00300	0.00500		mg/L	1	11/09/15 05:18 PM
Lead	0.00442	0.000300	0.00100		mg/L	1	11/09/15 05:18 PM
Lithium	0.0267	0.00500	0.0100		mg/L	1	11/09/15 05:18 PM
Molybdenum	0.00491	0.00200	0.00500	J	mg/L	1	11/09/15 05:18 PM
Selenium	0.00204	0.00200	0.00500	J	mg/L	1	11/09/15 05:18 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	11/09/15 05:18 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	286	30.0	100		mg/L	100	11/05/15 05:40 PM
Fluoride	0.145	0.100	0.400	J	mg/L	1	11/05/15 01:58 PM
Sulfate	1200	100	300		mg/L	100	11/05/15 05:40 PM
PH		M4500-H+ B		Analyst: LM			
pH	6.48	0	0		pH Units@13.8°C	1	10/30/15 04:09 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	2490	50.0	50.0		mg/L	1	11/04/15 07:20 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 07-Dec-15

CLIENT: Pastor, Behling & Wheeler
Project: Sandow AX
Project No: 5164-E
Lab Order: 1510306

Client Sample ID: AX-22R
Lab ID: 1510306-04
Collection Date: 10/29/15 02:40 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	11/09/15 12:44 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: KL			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	11/09/15 05:24 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	11/09/15 05:24 PM
Barium	0.120	0.00300	0.0100		mg/L	1	11/09/15 05:24 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	11/09/15 05:24 PM
Boron	0.0833	0.0100	0.0300		mg/L	1	11/09/15 05:24 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	11/09/15 05:24 PM
Calcium	84.1	1.00	3.00		mg/L	10	11/10/15 01:18 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	11/09/15 05:24 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	11/09/15 05:24 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	11/09/15 05:24 PM
Lithium	0.0502	0.00500	0.0100		mg/L	1	11/09/15 05:24 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	11/09/15 05:24 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	11/09/15 05:24 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	11/09/15 05:24 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	109	3.00	10.0		mg/L	10	11/05/15 06:42 PM
Fluoride	0.158	0.100	0.400	J	mg/L	1	11/05/15 02:19 PM
Sulfate	54.0	1.00	3.00		mg/L	1	11/05/15 02:19 PM
PH		M4500-H+ B		Analyst: LM			
pH	7.39	0	0		pH Units@14.9°C	1	10/30/15 04:12 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	606	10.0	10.0		mg/L	1	11/04/15 07:20 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 07-Dec-15

CLIENT: Pastor, Behling & Wheeler
Project: Sandow AX
Project No: 5164-E
Lab Order: 1510306

Client Sample ID: AX-25
Lab ID: 1510306-05
Collection Date: 10/29/15 03:15 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	11/09/15 12:46 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: KL			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	11/09/15 05:30 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	11/09/15 05:30 PM
Barium	0.204	0.00300	0.0100		mg/L	1	11/09/15 05:30 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	11/09/15 05:30 PM
Boron	0.114	0.0100	0.0300		mg/L	1	11/09/15 05:30 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	11/09/15 05:30 PM
Calcium	108	5.00	15.0		mg/L	50	11/10/15 01:20 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	11/09/15 05:30 PM
Cobalt	0.00988	0.00300	0.00500		mg/L	1	11/09/15 05:30 PM
Lead	0.000902	0.000300	0.00100	J	mg/L	1	11/09/15 05:30 PM
Lithium	0.0218	0.00500	0.0100		mg/L	1	11/09/15 05:30 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	11/09/15 05:30 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	11/09/15 05:30 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	11/09/15 05:30 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	163	3.00	10.0		mg/L	10	11/05/15 07:02 PM
Fluoride	0.280	0.100	0.400	J	mg/L	1	11/05/15 02:39 PM
Sulfate	303	10.0	30.0		mg/L	10	11/05/15 07:02 PM
PH		M4500-H+ B		Analyst: LM			
pH	6.94	0	0		pH Units@15.7°C	1	10/30/15 04:14 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	1050	10.0	10.0		mg/L	1	11/04/15 07:20 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 07-Dec-15

CLIENT: Pastor, Behling & Wheeler
Project: Sandow AX
Project No: 5164-E
Lab Order: 1510306

Client Sample ID: AX-24
Lab ID: 1510306-06
Collection Date: 10/29/15 03:50 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	11/09/15 12:49 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: KL			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	11/09/15 06:30 PM
Arsenic	0.00206	0.00200	0.00500	J	mg/L	1	11/09/15 06:30 PM
Barium	0.231	0.00300	0.0100		mg/L	1	11/09/15 06:30 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	11/10/15 01:43 PM
Boron	0.0617	0.0100	0.0300		mg/L	1	11/09/15 06:30 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	11/09/15 06:30 PM
Calcium	190	5.00	15.0		mg/L	50	11/10/15 01:22 PM
Chromium	0.00476	0.00200	0.00500	J	mg/L	1	11/09/15 06:30 PM
Cobalt	0.0269	0.00300	0.00500		mg/L	1	11/10/15 01:43 PM
Lead	0.000804	0.000300	0.00100	J	mg/L	1	11/09/15 06:30 PM
Lithium	0.0577	0.00500	0.0100		mg/L	1	11/09/15 06:30 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	11/09/15 06:30 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	11/09/15 06:30 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	11/10/15 01:43 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	150	3.00	10.0		mg/L	10	11/05/15 07:23 PM
Fluoride	0.148	0.100	0.400	J	mg/L	1	11/05/15 03:00 PM
Sulfate	695	10.0	30.0		mg/L	10	11/05/15 07:23 PM
PH		M4500-H+ B		Analyst: LM			
pH	6.36	0	0		pH Units@16.9°C	1	10/30/15 04:15 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	1640	50.0	50.0		mg/L	1	11/04/15 07:20 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT: Pastor, Behling & Wheeler
Work Order: 1510306
Project: Sandow AX

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_151109B

The QC data in batch 72178 applies to the following samples: 1510306-01A, 1510306-02A, 1510306-03A, 1510306-04A, 1510306-05A, 1510306-06A

Sample ID MB-72178	Batch ID: 72178	TestNo: SW7470A	Units: mg/L							
SampType: MBLK	Run ID: CETAC2_HG_151109B	Analysis Date: 11/9/2015 12:21:59 PM	Prep Date: 11/5/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	<0.0000800	0.000200								

Sample ID LCS-72178	Batch ID: 72178	TestNo: SW7470A	Units: mg/L							
SampType: LCS	Run ID: CETAC2_HG_151109B	Analysis Date: 11/9/2015 12:24:15 PM	Prep Date: 11/5/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00196	0.000200	0.00200	0	98.0	85	115			

Sample ID LCSD-72178	Batch ID: 72178	TestNo: SW7470A	Units: mg/L							
SampType: LCSD	Run ID: CETAC2_HG_151109B	Analysis Date: 11/9/2015 12:26:31 PM	Prep Date: 11/5/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00211	0.000200	0.00200	0	106	85	115	7.37	15	

Sample ID 1510306-01A SD	Batch ID: 72178	TestNo: SW7470A	Units: mg/L							
SampType: SD	Run ID: CETAC2_HG_151109B	Analysis Date: 11/9/2015 12:31:04 PM	Prep Date: 11/5/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	<0.000400	0.00100	0	0				0	10	

Sample ID 1510306-01A PDS	Batch ID: 72178	TestNo: SW7470A	Units: mg/L							
SampType: PDS	Run ID: CETAC2_HG_151109B	Analysis Date: 11/9/2015 12:33:19 PM	Prep Date: 11/5/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00246	0.000200	0.00250	0	98.4	85	115			

Sample ID 1510306-01A MS	Batch ID: 72178	TestNo: SW7470A	Units: mg/L							
SampType: MS	Run ID: CETAC2_HG_151109B	Analysis Date: 11/10/2015 4:29:45 PM	Prep Date: 11/5/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00207	0.000200	0.00200	0	104	80	120			

Sample ID 1510306-01A MSD	Batch ID: 72178	TestNo: SW7470A	Units: mg/L							
SampType: MSD	Run ID: CETAC2_HG_151109B	Analysis Date: 11/10/2015 4:32:01 PM	Prep Date: 11/5/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00207	0.000200	0.00200	0	104	80	120	0	15	

- Qualifiers:**
- B Analyte detected in the associated Method Blank
 - J Analyte detected between MDL and RL
 - ND Not Detected at the Method Detection Limit
 - RL Reporting Limit
 - J Analyte detected between SDL and RL
 - DF Dilution Factor
 - MDL Method Detection Limit
 - R RPD outside accepted control limits
 - S Spike Recovery outside control limits
 - N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1510306
Project: Sandow AX

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_151109B

Sample ID ICV-151109	Batch ID: R82564	TestNo: SW7470A	Units: mg/L							
SampType: ICV	Run ID: CETAC2_HG_151109B	Analysis Date: 11/9/2015 10:48:31 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00393	0.000200	0.00400	0	98.2	90	110			
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Sample ID CCV2-151109	Batch ID: R82564	TestNo: SW7470A	Units: mg/L							
SampType: CCV	Run ID: CETAC2_HG_151109B	Analysis Date: 11/9/2015 12:17:26 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00204	0.000200	0.00200	0	102	90	110			
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Sample ID CCV3-151109	Batch ID: R82564	TestNo: SW7470A	Units: mg/L							
SampType: CCV	Run ID: CETAC2_HG_151109B	Analysis Date: 11/9/2015 12:58:16 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00204	0.000200	0.00200	0	102	90	110			
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Sample ID CCV4-151109	Batch ID: R82564	TestNo: SW7470A	Units: mg/L							
SampType: CCV	Run ID: CETAC2_HG_151109B	Analysis Date: 11/9/2015 1:14:13 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00202	0.000200	0.00200	0	101	90	110			
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Sample ID ICV-151110	Batch ID: R82564	TestNo: SW7470A	Units: mg/L							
SampType: ICV	Run ID: CETAC2_HG_151109B	Analysis Date: 11/10/2015 3:36:25 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00396	0.000200	0.00400	0	99.0	90	110			
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Sample ID CCV1-151110	Batch ID: R82564	TestNo: SW7470A	Units: mg/L							
SampType: CCV	Run ID: CETAC2_HG_151109B	Analysis Date: 11/10/2015 4:20:38 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00206	0.000200	0.00200	0	103	90	110			
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Sample ID CCV2-151110	Batch ID: R82564	TestNo: SW7470A	Units: mg/L							
SampType: CCV	Run ID: CETAC2_HG_151109B	Analysis Date: 11/10/2015 4:36:35 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00204	0.000200	0.00200	0	102	90	110			
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Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1510306
Project: Sandow AX

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_151109A

The QC data in batch 72211 applies to the following samples: 1510306-01A, 1510306-02A, 1510306-03A, 1510306-04A, 1510306-05A, 1510306-06A

Sample ID MB-72211	Batch ID: 72211	TestNo: SW6020A	Units: mg/L
SampType: MBLK	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 4:35:00 PM	Prep Date: 11/6/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.000800	0.00250								
Arsenic	<0.00200	0.00500								
Barium	<0.00300	0.0100								
Beryllium	<0.000300	0.00100								
Boron	0.0135	0.0300								
Cadmium	<0.000300	0.00100								
Calcium	<0.100	0.300								
Chromium	<0.00200	0.00500								
Cobalt	<0.00300	0.00500								
Lead	<0.000300	0.00100								
Lithium	<0.00500	0.0100								
Molybdenum	<0.00200	0.00500								
Selenium	<0.00200	0.00500								
Thallium	<0.000500	0.00150								

Sample ID LCS-72211	Batch ID: 72211	TestNo: SW6020A	Units: mg/L
SampType: LCS	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 4:41:00 PM	Prep Date: 11/6/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.177	0.00250	0.200	0	88.3	80	120			
Arsenic	0.178	0.00500	0.200	0	89.0	80	120			
Barium	0.177	0.0100	0.200	0	88.3	80	120			
Beryllium	0.187	0.00100	0.200	0	93.6	80	120			
Boron	0.185	0.0300	0.200	0	92.6	80	120			
Cadmium	0.172	0.00100	0.200	0	86.2	80	120			
Calcium	4.48	0.300	5.00	0	89.7	80	120			
Chromium	0.178	0.00500	0.200	0	88.9	80	120			
Cobalt	0.188	0.00500	0.200	0	94.1	80	120			
Lead	0.178	0.00100	0.200	0	89.2	80	120			
Lithium	0.182	0.0100	0.200	0	91.2	80	120			
Molybdenum	0.169	0.00500	0.200	0	84.4	80	120			
Selenium	0.178	0.00500	0.200	0	89.2	80	120			
Thallium	0.187	0.00150	0.200	0	93.4	80	120			

Sample ID LCSD-72211	Batch ID: 72211	TestNo: SW6020A	Units: mg/L
SampType: LCSD	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 4:47:00 PM	Prep Date: 11/6/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.181	0.00250	0.200	0	90.4	80	120	2.35	15	
Arsenic	0.178	0.00500	0.200	0	88.8	80	120	0.281	15	

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| <p>Qualifiers:</p> <ul style="list-style-type: none"> B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL | <ul style="list-style-type: none"> DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified |
|--|---|

CLIENT: Pastor, Behling & Wheeler
Work Order: 1510306
Project: Sandow AX

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_151109A

Sample ID: LCSD-72211	Batch ID: 72211	TestNo: SW6020A	Units: mg/L
SampType: LCSD	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 4:47:00 PM	Prep Date: 11/6/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.177	0.0100	0.200	0	88.6	80	120	0.396	15	
Beryllium	0.189	0.00100	0.200	0	94.4	80	120	0.851	15	
Boron	0.190	0.0300	0.200	0	95.0	80	120	2.56	15	
Cadmium	0.174	0.00100	0.200	0	86.8	80	120	0.694	15	
Calcium	4.60	0.300	5.00	0	92.0	80	120	2.53	15	
Chromium	0.178	0.00500	0.200	0	88.8	80	120	0.113	15	
Cobalt	0.186	0.00500	0.200	0	93.2	80	120	1.01	15	
Lead	0.181	0.00100	0.200	0	90.6	80	120	1.45	15	
Lithium	0.183	0.0100	0.200	0	91.6	80	120	0.492	15	
Molybdenum	0.170	0.00500	0.200	0	85.2	80	120	1.00	15	
Selenium	0.179	0.00500	0.200	0	89.4	80	120	0.168	15	
Thallium	0.187	0.00150	0.200	0	93.4	80	120	0	15	

Sample ID: 1510306-01A SD	Batch ID: 72211	TestNo: SW6020A	Units: mg/L
SampType: SD	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 5:06:00 PM	Prep Date: 11/6/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.00400	0.0125	0	0				0	10	
Arsenic	<0.0100	0.0250	0	0				0	10	
Barium	0.274	0.0500	0	0.273				0.238	10	
Beryllium	<0.00150	0.00500	0	0				0	10	
Boron	0.114	0.150	0	0.112				1.28	10	
Cadmium	<0.00150	0.00500	0	0				0	10	
Chromium	<0.0100	0.0250	0	0				0	10	
Cobalt	<0.0150	0.0250	0	0.0106				0	10	
Lead	<0.00150	0.00500	0	0				0	10	
Lithium	<0.0250	0.0500	0	0				0	10	
Molybdenum	<0.0100	0.0250	0	0				0	10	
Selenium	<0.0100	0.0250	0	0				0	10	
Thallium	<0.00250	0.00750	0	0				0	10	

Sample ID: 1510306-01A PDS	Batch ID: 72211	TestNo: SW6020A	Units: mg/L
SampType: PDS	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 5:36:00 PM	Prep Date: 11/6/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.191	0.00250	0.200	0	95.5	80	120			
Arsenic	0.193	0.00500	0.200	0	96.4	80	120			
Barium	0.462	0.0100	0.200	0.273	94.4	80	120			
Beryllium	0.202	0.00100	0.200	0	101	80	120			
Boron	0.299	0.0300	0.200	0.112	93.5	80	120			
Cadmium	0.182	0.00100	0.200	0	91.2	80	120			

- Qualifiers:**
- B Analyte detected in the associated Method Blank
 - J Analyte detected between MDL and RL
 - ND Not Detected at the Method Detection Limit
 - RL Reporting Limit
 - J Analyte detected between SDL and RL
 - DF Dilution Factor
 - MDL Method Detection Limit
 - R RPD outside accepted control limits
 - S Spike Recovery outside control limits
 - N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1510306
 Project: Sandow AX

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_151109A

Sample ID: 1510306-01A PDS	Batch ID: 72211	TestNo: SW6020A	Units: mg/L
SampType: PDS	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 5:36:00 PM	Prep Date: 11/6/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.194	0.00500	0.200	0	97.0	80	120			
Cobalt	0.209	0.00500	0.200	0.0106	99.1	80	120			
Lead	0.196	0.00100	0.200	0	98.2	80	120			
Lithium	0.192	0.0100	0.200	0	96.0	80	120			
Molybdenum	0.185	0.00500	0.200	0	92.6	80	120			
Selenium	0.185	0.00500	0.200	0	92.6	80	120			
Thallium	0.205	0.00150	0.200	0	102	80	120			

Sample ID: 1510306-01A MS	Batch ID: 72211	TestNo: SW6020A	Units: mg/L
SampType: MS	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 5:42:00 PM	Prep Date: 11/6/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.196	0.00250	0.200	0	98.2	80	120			
Arsenic	0.193	0.00500	0.200	0	96.4	80	120			
Barium	0.475	0.0100	0.200	0.273	101	80	120			
Beryllium	0.200	0.00100	0.200	0	99.8	80	120			
Boron	0.301	0.0300	0.200	0.112	94.2	80	120			
Cadmium	0.183	0.00100	0.200	0	91.4	80	120			
Calcium	84.0	0.300	5.00	77.0	140	80	120			S
Chromium	0.187	0.00500	0.200	0	93.4	80	120			
Cobalt	0.201	0.00500	0.200	0.0106	95.1	80	120			
Lead	0.189	0.00100	0.200	0	94.3	80	120			
Lithium	0.190	0.0100	0.200	0	94.8	80	120			
Molybdenum	0.186	0.00500	0.200	0	93.0	80	120			
Selenium	0.185	0.00500	0.200	0	92.4	80	120			
Thallium	0.199	0.00150	0.200	0	99.4	80	120			

Sample ID: 1510306-01A MSD	Batch ID: 72211	TestNo: SW6020A	Units: mg/L
SampType: MSD	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 5:48:00 PM	Prep Date: 11/6/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.185	0.00250	0.200	0	92.5	80	120	6.03	15	
Arsenic	0.188	0.00500	0.200	0	93.8	80	120	2.79	15	
Barium	0.448	0.0100	0.200	0.273	87.5	80	120	5.79	15	
Beryllium	0.190	0.00100	0.200	0	95.0	80	120	4.93	15	
Boron	0.287	0.0300	0.200	0.112	87.3	80	120	4.73	15	
Cadmium	0.176	0.00100	0.200	0	87.8	80	120	4.13	15	
Calcium	79.5	0.300	5.00	77.0	51.6	80	120	5.41	15	S
Chromium	0.181	0.00500	0.200	0	90.4	80	120	3.26	15	
Cobalt	0.196	0.00500	0.200	0.0106	92.5	80	120	2.67	15	
Lead	0.178	0.00100	0.200	0	89.2	80	120	5.50	15	

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1510306
Project: Sandow AX

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_151109A

Sample ID 1510306-01A MSD	Batch ID: 72211	TestNo: SW6020A	Units: mg/L
SampType: MSD	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 5:48:00 PM	Prep Date: 11/6/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lithium	0.182	0.0100	0.200	0	91.2	80	120	3.82	15	
Molybdenum	0.176	0.00500	0.200	0	88.2	80	120	5.24	15	
Selenium	0.182	0.00500	0.200	0	91.0	80	120	1.53	15	
Thallium	0.189	0.00150	0.200	0	94.4	80	120	5.26	15	

LUMINANT

Qualifiers:	B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
 Work Order: 1510306
 Project: Sandow AX

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_151109A

Sample ID ICV1-151109	Batch ID: R82588	TestNo: SW6020A	Units: mg/L
SampType: ICV	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 12:27:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.100	0.00250	0.100	0	100	90	110			
Arsenic	0.0973	0.00500	0.100	0	97.3	90	110			
Barium	0.0998	0.0100	0.100	0	99.8	90	110			
Beryllium	0.105	0.00100	0.100	0	105	90	110			
Boron	0.0945	0.0300	0.100	0	94.5	90	110			
Cadmium	0.0970	0.00100	0.100	0	97.0	90	110			
Calcium	2.34	0.300	2.50	0	93.5	90	110			
Chromium	0.106	0.00500	0.100	0	106	90	110			
Cobalt	0.108	0.00500	0.100	0	108	90	110			
Lead	0.103	0.00100	0.100	0	103	90	110			
Lithium	0.0997	0.0100	0.100	0	99.7	90	110			
Molybdenum	0.0926	0.00500	0.100	0	92.6	90	110			
Selenium	0.0940	0.00500	0.100	0	94.0	90	110			
Thallium	0.101	0.00150	0.100	0	101	90	110			

Sample ID ILCVL-151109	Batch ID: R82588	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 12:39:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00189	0.00250	0.00200	0	94.4	70	130			
Arsenic	0.00477	0.00500	0.00500	0	95.3	70	130			
Barium	0.00497	0.0100	0.00500	0	99.5	70	130			
Beryllium	0.00110	0.00100	0.00100	0	110	70	130			
Boron	0.0197	0.0300	0.0200	0	98.4	70	130			
Cadmium	0.00101	0.00100	0.00100	0	101	70	130			
Calcium	0.102	0.300	0.100	0	102	70	130			
Chromium	0.00505	0.00500	0.00500	0	101	70	130			
Cobalt	0.00525	0.00500	0.00500	0	105	70	130			
Lead	0.00108	0.00100	0.00100	0	108	70	130			
Lithium	0.0101	0.0100	0.0100	0	101	70	130			
Molybdenum	0.00482	0.00500	0.00500	0	96.3	70	130			
Selenium	0.00513	0.00500	0.00500	0	103	70	130			
Thallium	0.00106	0.00150	0.00100	0	106	70	130			

Sample ID CCV1-151109	Batch ID: R82588	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 3:35:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.201	0.00250	0.200	0	100	90	110			
Arsenic	0.192	0.00500	0.200	0	95.8	90	110			
Barium	0.194	0.0100	0.200	0	97.2	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1510306
 Project: Sandow AX

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_151109A

Sample ID CCV1-151109	Batch ID: R82588	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 3:35:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.205	0.00100	0.200	0	102	90	110			
Boron	0.194	0.0300	0.200	0	97.0	90	110			
Cadmium	0.191	0.00100	0.200	0	95.4	90	110			
Calcium	5.15	0.300	5.00	0	103	90	110			
Chromium	0.194	0.00500	0.200	0	97.0	90	110			
Cobalt	0.202	0.00500	0.200	0	101	90	110			
Lead	0.201	0.00100	0.200	0	101	90	110			
Lithium	0.194	0.0100	0.200	0	96.9	90	110			
Molybdenum	0.187	0.00500	0.200	0	93.6	90	110			
Selenium	0.192	0.00500	0.200	0	96.2	90	110			
Thallium	0.207	0.00150	0.200	0	103	90	110			

Sample ID LCVL1-151109	Batch ID: R82588	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 3:53:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00186	0.00250	0.00200	0	93.1	70	130			
Arsenic	0.00461	0.00500	0.00500	0	92.3	70	130			
Barium	0.00485	0.0100	0.00500	0	97.1	70	130			
Beryllium	0.00102	0.00100	0.00100	0	102	70	130			
Boron	0.0190	0.0300	0.0200	0	95.1	70	130			
Cadmium	0.000956	0.00100	0.00100	0	95.6	70	130			
Calcium	0.113	0.300	0.100	0	113	70	130			
Chromium	0.00470	0.00500	0.00500	0	94.0	70	130			
Cobalt	0.00495	0.00500	0.00500	0	99.0	70	130			
Lead	0.00102	0.00100	0.00100	0	102	70	130			
Lithium	0.00951	0.0100	0.0100	0	95.1	70	130			
Molybdenum	0.00445	0.00500	0.00500	0	89.0	70	130			
Selenium	0.00483	0.00500	0.00500	0	96.6	70	130			
Thallium	0.00100	0.00150	0.00100	0	100	70	130			

Sample ID CCV2-151109	Batch ID: R82588	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 5:54:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.202	0.00250	0.200	0	101	90	110			
Arsenic	0.200	0.00500	0.200	0	99.8	90	110			
Barium	0.201	0.0100	0.200	0	100	90	110			
Beryllium	0.215	0.00100	0.200	0	108	90	110			
Boron	0.198	0.0300	0.200	0	99.2	90	110			
Cadmium	0.192	0.00100	0.200	0	96.1	90	110			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1510306
 Project: Sandow AX

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_151109A

Sample ID CCV2-151109	Batch ID: R82588	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 5:54:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	5.44	0.300	5.00	0	109	90	110			
Chromium	0.200	0.00500	0.200	0	99.8	90	110			
Cobalt	0.210	0.00500	0.200	0	105	90	110			
Lead	0.204	0.00100	0.200	0	102	90	110			
Lithium	0.208	0.0100	0.200	0	104	90	110			
Molybdenum	0.192	0.00500	0.200	0	96.2	90	110			
Selenium	0.200	0.00500	0.200	0	100	90	110			
Thallium	0.212	0.00150	0.200	0	106	90	110			

Sample ID LCVL2-151109	Batch ID: R82588	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 6:12:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00192	0.00250	0.00200	0	96.0	70	130			
Arsenic	0.00484	0.00500	0.00500	0	96.7	70	130			
Barium	0.00493	0.0100	0.00500	0	98.7	70	130			
Beryllium	0.00103	0.00100	0.00100	0	103	70	130			
Boron	0.0200	0.0300	0.0200	0	100	70	130			
Cadmium	0.00101	0.00100	0.00100	0	101	70	130			
Calcium	0.131	0.300	0.100	0	131	70	130			S
Chromium	0.00482	0.00500	0.00500	0	96.4	70	130			
Cobalt	0.00508	0.00500	0.00500	0	102	70	130			
Lead	0.00103	0.00100	0.00100	0	103	70	130			
Lithium	0.00992	0.0100	0.0100	0	99.2	70	130			
Molybdenum	0.00456	0.00500	0.00500	0	91.2	70	130			
Selenium	0.00499	0.00500	0.00500	0	99.7	70	130			
Thallium	0.00101	0.00150	0.00100	0	101	70	130			

Sample ID CCV3-151105	Batch ID: R82588	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 7:42:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.222	0.00250	0.200	0	111	90	110			S
Arsenic	0.216	0.00500	0.200	0	108	90	110			
Barium	0.217	0.0100	0.200	0	109	90	110			
Boron	0.204	0.0300	0.200	0	102	90	110			
Cadmium	0.210	0.00100	0.200	0	105	90	110			
Chromium	0.219	0.00500	0.200	0	109	90	110			
Lead	0.219	0.00100	0.200	0	109	90	110			
Lithium	0.216	0.0100	0.200	0	108	90	110			
Molybdenum	0.212	0.00500	0.200	0	106	90	110			

- Qualifiers:**
- B Analyte detected in the associated Method Blank
 - J Analyte detected between MDL and RL
 - ND Not Detected at the Method Detection Limit
 - RL Reporting Limit
 - J Analyte detected between SDL and RL
 - DF Dilution Factor
 - MDL Method Detection Limit
 - R RPD outside accepted control limits
 - S Spike Recovery outside control limits
 - N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1510306
Project: Sandow AX

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_151109A

Sample ID: CCV3-151105	Batch ID: R82588	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 7:42:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.208	0.00500	0.200	0	104	90	110			

Sample ID: LCVL3-151105	Batch ID: R82588	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 8:13:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00206	0.00250	0.00200	0	103	70	130			
Arsenic	0.00506	0.00500	0.00500	0	101	70	130			
Barium	0.00534	0.0100	0.00500	0	107	70	130			
Boron	0.0193	0.0300	0.0200	0	96.4	70	130			
Cadmium	0.00105	0.00100	0.00100	0	105	70	130			
Chromium	0.00534	0.00500	0.00500	0	107	70	130			
Lead	0.00105	0.00100	0.00100	0	105	70	130			
Lithium	0.0106	0.0100	0.0100	0	106	70	130			
Molybdenum	0.00512	0.00500	0.00500	0	103	70	130			
Selenium	0.00526	0.00500	0.00500	0	105	70	130			

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1510306
Project: Sandow AX

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_151110B

The QC data in batch 72211 applies to the following samples: 1510306-01A, 1510306-02A, 1510306-03A, 1510306-04A, 1510306-05A, 1510306-06A

Sample ID 1510306-01A SD	Batch ID: 72211	TestNo: SW6020A	Units: mg/L							
SampType: SD	Run ID: ICP-MS4_151110B	Analysis Date: 11/10/2015 1:12:00 PM	Prep Date: 11/6/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	75.5	15.0	0	76.3				1.05	10	

Sample ID 1510306-01A PDS	Batch ID: 72211	TestNo: SW6020A	Units: mg/L							
SampType: PDS	Run ID: ICP-MS4_151110B	Analysis Date: 11/10/2015 1:32:00 PM	Prep Date: 11/6/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	117	3.00	50.0	76.3	81.6	80	120			

LUMINANT

Qualifiers:	B Analyte detected in the associated Method Blank	DF Dilution Factor
	J Analyte detected between MDL and RL	MDL Method Detection Limit
	ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
	RL Reporting Limit	S Spike Recovery outside control limits
	J Analyte detected between SDL and RL	N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1510306
Project: Sandow AX

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_151110B

Sample ID ICV-151110	Batch ID: R82595	TestNo: SW6020A	Units: mg/L							
SampType: ICV	Run ID: ICP-MS4_151110B	Analysis Date: 11/10/2015 10:51:00 A	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.102	0.00100	0.100	0	102	90	110			
Calcium	2.25	0.300	2.50	0	90.0	90	110			
Cobalt	0.110	0.00500	0.100	0	110	90	110			
Thallium	0.102	0.00150	0.100	0	102	90	110			

Sample ID LCVL-151110	Batch ID: R82595	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_151110B	Analysis Date: 11/10/2015 10:59:00 A	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.00126	0.00100	0.00100	0	126	70	130			
Calcium	0.0951	0.300	0.100	0	95.1	70	130			
Cobalt	0.00546	0.00500	0.00500	0	109	70	130			
Thallium	0.00104	0.00150	0.00100	0	104	70	130			

Sample ID CCV4-151110	Batch ID: R82595	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_151110B	Analysis Date: 11/10/2015 12:58:00 P	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	4.84	0.300	5.00	0	96.8	90	110			

Sample ID LCVL4-151110	Batch ID: R82595	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_151110B	Analysis Date: 11/10/2015 1:05:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.101	0.300	0.100	0	101	70	130			

Sample ID CCV5-151110	Batch ID: R82595	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_151110B	Analysis Date: 11/10/2015 1:34:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.200	0.00100	0.200	0	99.9	90	110			
Calcium	4.80	0.300	5.00	0	96.0	90	110			
Cobalt	0.203	0.00500	0.200	0	102	90	110			
Thallium	0.197	0.00150	0.200	0	98.3	90	110			

Sample ID LCVL5-151110	Batch ID: R82595	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_151110B	Analysis Date: 11/10/2015 1:38:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.000933	0.00100	0.00100	0	93.3	70	130			
Calcium	0.0950	0.300	0.100	0	95.0	70	130			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1510306
Project: Sandow AX

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_151110B

Sample ID: LCVL5-151110	Batch ID: R82595	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_151110B	Analysis Date: 11/10/2015 1:38:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cobalt	0.00538	0.00500	0.00500	0	108	70	130			
Thallium	0.00101	0.00150	0.00100	0	101	70	130			

Sample ID: CCV6-151110	Batch ID: R82595	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_151110B	Analysis Date: 11/10/2015 2:01:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.204	0.00100	0.200	0	102	90	110			
Cobalt	0.203	0.00500	0.200	0	101	90	110			
Thallium	0.196	0.00150	0.200	0	97.8	90	110			

Sample ID: LCVL6-151110	Batch ID: R82595	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_151110B	Analysis Date: 11/10/2015 2:05:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.000981	0.00100	0.00100	0	98.1	70	130			
Cobalt	0.00531	0.00500	0.00500	0	106	70	130			
Thallium	0.00101	0.00150	0.00100	0	101	70	130			

<p>Qualifiers:</p> <p>B Analyte detected in the associated Method Blank</p> <p>J Analyte detected between MDL and RL</p> <p>ND Not Detected at the Method Detection Limit</p> <p>RL Reporting Limit</p> <p>J Analyte detected between SDL and RL</p>	<p>DF Dilution Factor</p> <p>MDL Method Detection Limit</p> <p>R RPD outside accepted control limits</p> <p>S Spike Recovery outside control limits</p> <p>N Parameter not NELAC certified</p>
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1510306
Project: Sandow AX

ANALYTICAL QC SUMMARY REPORT

RunID: IC3_151105A

The QC data in batch 72188 applies to the following samples: 1510306-01D, 1510306-02D, 1510306-03D, 1510306-04D, 1510306-05D, 1510306-06D

Sample ID MB-72188	Batch ID: 72188	TestNo: E300	Units: mg/L							
SampType: MBLK	Run ID: IC3_151105A	Analysis Date: 11/5/2015 10:00:11 AM	Prep Date: 11/5/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	<0.300	1.00								
Fluoride	<0.100	0.400								
Sulfate	<1.00	3.00								

Sample ID LCS-72188	Batch ID: 72188	TestNo: E300	Units: mg/L							
SampType: LCS	Run ID: IC3_151105A	Analysis Date: 11/5/2015 10:23:40 AM	Prep Date: 11/5/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.68	1.00	10.00	0	96.8	90	110			
Fluoride	3.97	0.400	4.000	0	99.3	90	110			
Sulfate	30.2	3.00	30.00	0	101	90	110			

Sample ID LCSD-72188	Batch ID: 72188	TestNo: E300	Units: mg/L							
SampType: LCSD	Run ID: IC3_151105A	Analysis Date: 11/5/2015 10:44:19 AM	Prep Date: 11/5/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.70	1.00	10.00	0	97.0	90	110	0.248	20	
Fluoride	3.97	0.400	4.000	0	99.3	90	110	0.025	20	
Sulfate	30.2	3.00	30.00	0	101	90	110	0.162	20	

Sample ID 1510306-03DMS	Batch ID: 72188	TestNo: E300	Units: mg/L							
SampType: MS	Run ID: IC3_151105A	Analysis Date: 11/5/2015 6:00:56 PM	Prep Date: 11/5/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	2230	100	2000	285.8	97.1	90	110			
Fluoride	1960	40.0	2000	0	98.0	90	110			
Sulfate	3050	300	2000	1201	92.6	90	110			

Sample ID 1510306-03DMSD	Batch ID: 72188	TestNo: E300	Units: mg/L							
SampType: MSD	Run ID: IC3_151105A	Analysis Date: 11/5/2015 6:21:35 PM	Prep Date: 11/5/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	2210	100	2000	285.8	96.1	90	110	0.920	20	
Fluoride	1950	40.0	2000	0	97.4	90	110	0.660	20	
Sulfate	3060	300	2000	1201	92.9	90	110	0.200	20	

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1510306
Project: Sandow AX

ANALYTICAL QC SUMMARY REPORT

RunID: IC3_151105A

Sample ID ICV-151105	Batch ID: R82547	TestNo: E300	Units: mg/L
SampType: ICV	Run ID: IC3_151105A	Analysis Date: 11/5/2015 9:09:56 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	24.4	1.00	25.00	0	97.7	90	110			
Fluoride	9.75	0.400	10.00	0	97.5	90	110			
Sulfate	74.8	3.00	75.00	0	99.7	90	110			

Sample ID CCV1-151105	Batch ID: R82547	TestNo: E300	Units: mg/L
SampType: CCV	Run ID: IC3_151105A	Analysis Date: 11/5/2015 3:46:10 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.72	1.00	10.00	0	97.2	90	110			
Fluoride	4.01	0.400	4.000	0	100	90	110			
Sulfate	30.2	3.00	30.00	0	101	90	110			

Sample ID CCV2-151105	Batch ID: R82547	TestNo: E300	Units: mg/L
SampType: CCV	Run ID: IC3_151105A	Analysis Date: 11/5/2015 8:04:42 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.70	1.00	10.00	0	97.0	90	110			
Fluoride	3.98	0.400	4.000	0	99.4	90	110			
Sulfate	30.5	3.00	30.00	0	102	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1510306
Project: Sandow AX

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_151030A

The QC data in batch 72109 applies to the following samples: 1510306-01D, 1510306-02D, 1510306-03D, 1510306-04D, 1510306-05D, 1510306-06D

Sample ID 1510306-06D DUP	Batch ID: 72109	TestNo: M4500-H+ B	Units: pH Units@17°C							
SampType: DUP	Run ID: TITRATOR_151030A	Analysis Date: 10/30/2015 4:17:00 PM	Prep Date: 10/30/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	6.33	0	0	6.360				0.473	5	

LUMINANT

Qualifiers:	B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1510306
Project: Sandow AX

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_151030A

Sample ID ICV-151030	Batch ID: R82444	TestNo: M4500-H+ B	Units: pH Units@21.7°C							
SampType: ICV	Run ID: TITRATOR_151030A	Analysis Date: 10/30/2015 2:33:00 PM	Prep Date: 10/30/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	9.96	0	10.00	0	99.6	99	101			
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Sample ID CCV1-151030	Batch ID: R82444	TestNo: M4500-H+ B	Units: pH Units@21.2°C							
SampType: CCV	Run ID: TITRATOR_151030A	Analysis Date: 10/30/2015 2:57:00 PM	Prep Date: 10/30/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	6.97	0	7.000	0	99.6	97.1	102.9			
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Sample ID CCV2-151030	Batch ID: R82444	TestNo: M4500-H+ B	Units: pH Units@21.5°C							
SampType: CCV	Run ID: TITRATOR_151030A	Analysis Date: 10/30/2015 3:15:00 PM	Prep Date: 10/30/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	6.97	0	7.000	0	99.6	97.1	102.9			
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Sample ID CCV3-151030	Batch ID: R82444	TestNo: M4500-H+ B	Units: pH Units@21.9°C							
SampType: CCV	Run ID: TITRATOR_151030A	Analysis Date: 10/30/2015 4:18:00 PM	Prep Date: 10/30/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	6.97	0	7.000	0	99.6	97.1	102.9			
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Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1510306
Project: Sandow AX

ANALYTICAL QC SUMMARY REPORT

RunID: WC_151103B

The QC data in batch 72150 applies to the following samples: 1510306-01D, 1510306-02D, 1510306-03D, 1510306-04D, 1510306-05D, 1510306-06D

Sample ID MB-72150	Batch ID: 72150	TestNo: M2540C	Units: mg/L							
SampType: MBLK	Run ID: WC_151103B	Analysis Date: 11/4/2015 7:20:00 AM	Prep Date: 11/3/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	<10.0	10.0								

Sample ID LCS-72150	Batch ID: 72150	TestNo: M2540C	Units: mg/L							
SampType: LCS	Run ID: WC_151103B	Analysis Date: 11/4/2015 7:20:00 AM	Prep Date: 11/3/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	759	10.0	745.6	0	102	90	113			

Sample ID 1510306-01D-DUP	Batch ID: 72150	TestNo: M2540C	Units: mg/L							
SampType: DUP	Run ID: WC_151103B	Analysis Date: 11/4/2015 7:20:00 AM	Prep Date: 11/3/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	1650	50.0	0	1640				0.608	5	

LUMINANT

Qualifiers:	B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified	
--------------------	--	---	--

December 03, 2015

Mr. John DuPont
DHL Analytical
2300 Double Creek Drive
Round Rock, Texas 78664

Re: Routine Analysis
Work Order: 384907
SDG: 1510306

Dear Mr. DuPont:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on November 05, 2015. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4707.

Sincerely,



Anna Day
Project Manager

Purchase Order: 13987
Enclosures



GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis Report for

DHLA002 DHL Analytical

Client SDG: 1510306 GEL Work Order: 384907

The Qualifiers in this report are defined as follows:


- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a Tracer compound
- ** Analyte is a surrogate compound
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Anna Day.

Reviewed by



There are no "Data Exception Reports" associated with this analytical report.

LUMINANT

ACD 11/5/15
~~384792~~

CHAIN-OF-CUSTODY RECORD

FAX: (512) 388-8229

384907

TEL: (843) 556-8171

FAX:

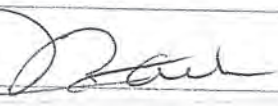
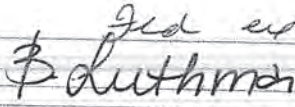
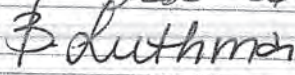
Acct #:

RA 228/RAZZ6

30-Oct-15

Matrix	DHL#	Date Collected	Bottle Type	Requested Tests			
				E903.1	E904.0		
Aqueous	-01B	10/29/15 09:45 AM	500HDPEHNO3		1		
Aqueous	-01C	10/29/15 09:45 AM	500HDPEHNO3	1			
Aqueous	-02B	10/29/15 11:20 AM	500HDPEHNO3		1		
Aqueous	-02C	10/29/15 11:20 AM	500HDPEHNO3	1			
Aqueous	-03B	10/29/15 12:05 PM	500HDPEHNO3		1		
Aqueous	-03C	10/29/15 12:05 PM	500HDPEHNO3	1			
Aqueous	-04B	10/29/15 02:40 PM	500HDPEHNO3		1		
Aqueous	-04C	10/29/15 02:40 PM	500HDPEHNO3	1			
Aqueous	-05B	10/29/15 03:15 PM	500HDPEHNO3		1		
Aqueous	-05C	10/29/15 03:15 PM	500HDPEHNO3	1			
Aqueous	-06B	10/29/15 03:50 PM	500HDPEHNO3		1		
Aqueous	-06C	10/29/15 03:50 PM	500HDPEHNO3	1			

Analyze these samples with a Standard Turnaround Time.
John DuPont if you have questions.
Quality Control Package Needed: Standard / _____
Report to both cac@dhlanalytical.com & dupont@dhlanalytical.com

	Date/Time 11/2/15 1730	Received by:		Date/Time 11/2/15 1730
		Received by:		11/5/15 0920

SAMPLE RECEIPT & REVIEW FORM

Client: <u>DHLA</u>		SDG/AR/COC/Work Order: <u>384907</u>
Received By: <u>Brielle Luthman</u>		Date Received: <u>11/5/15 0920</u>
Suspected Hazard Information	Yes <input type="checkbox"/> No <input type="checkbox"/>	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
COC/Samples marked as radioactive?	<input type="checkbox"/>	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): <u>0</u>
Classified Radioactive II or III by RSO?	<input type="checkbox"/>	If yes, Were swipes taken of sample containers < action levels?
COC/Samples marked containing PCBs?	<input type="checkbox"/>	
Package, COC, and/or Samples marked as beryllium or asbestos containing?	<input type="checkbox"/>	If yes, samples are to be segregated as Safety Controlled Samples, and opened by the GEL Safety Group.
Shipped as a DOT Hazardous?	<input type="checkbox"/>	Hazard Class Shipped: _____ UN#: _____
Samples identified as Foreign Soil?	<input type="checkbox"/>	

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2 Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Preservation Method: Ice bags Blue ice Dry ice <u>None</u> Other (describe) *all temperatures are recorded in Celsius <u>20°</u>
2a Daily check performed and passed on IR temperature gun?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Temperature Device Serial #: Secondary Temperature Device Serial # (If Applicable): <u>150340071</u>
3 Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4 Sample containers intact and sealed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
5 Samples requiring chemical preservation at proper pH?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6 Do Low Level Perchlorate samples have headspace as required?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sample ID's and containers affected:
7 VOA vials contain acid preservation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(If unknown, select No)
8 VOA vials free of headspace (defined as < 6mm bubble)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sample ID's and containers affected:
9 Are Encore containers present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(If yes, immediately deliver to Volatiles laboratory)
10 Samples received within holding time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ID's and tests affected:
11 Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sample ID's and containers affected: <u>Client emailed 3rd chain.</u>
12 Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sample ID's affected:
13 Number of containers received match number indicated on COC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sample ID's affected:
14 Are sample containers identifiable as GEL provided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
15 COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
16 Carrier and tracking number.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: FedEx Air <u>FedEx Ground</u> UPS Field Services Courier Other <u>7748 7750 1368</u> <u>7748 7751 0226</u>

Comments (Use Continuation Form if needed):

List of current GEL Certifications as of 03 December 2015

State	Certification
Alaska	UST-110
Arkansas	88-0651
CLIA	42D0904046
California	2940 Interim
Colorado	SC00012
Connecticut	PH-0169
Delaware	SC000122013-10
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-15-00283, P330-15-00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC000122013-10
Idaho Chemistry	SC00012
Idaho Radiochemistry	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana NELAP	03046 (AI33904)
Louisiana SDWA	LA150001
Maryland	270
Massachusetts	M-SC012
Michigan	9976
Mississippi	SC000122013-10
Nebraska	NE-OS-26-13
Nevada	SC000122016-1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R-158
Oklahoma	9904
Pennsylvania NELAP	68-00485
S.Carolina Radchem	10120002
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-15-10
Utah NELAP	SC000122015-19
Vermont	VT87156
Virginia NELAP	460202
Washington	C780
West Virginia	997404

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: December 3, 2015

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: AX-23	Project: DHLA00112
Sample ID: 384907001	Client ID: DHLA002
Matrix: Water	
Collect Date: 29-OCT-15 09:45	
Receive Date: 05-NOV-15	
Collector: Client	

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time Batch	Method
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228		1.87	+/-1.06	1.58	3.00	pCi/L		AXM6	12/03/15	1028 1525788	1
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226		1.37	+/-0.379	0.352	1.00	pCi/L		CXP3	12/01/15	0610 1523135	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			88.3	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

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Certificate of Analysis

Report Date: December 3, 2015

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: AXMW-2	Project: DHLA00112
Sample ID: 384907002	Client ID: DHLA002
Matrix: Water	
Collect Date: 29-OCT-15 11:20	
Receive Date: 05-NOV-15	
Collector: Client	

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time Batch	Method
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228		2.19	+/-1.18	1.78	3.00	pCi/L		AXM6	12/03/15	1028 1525788	1
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226	U	0.094	+/-0.206	0.380	1.00	pCi/L		CXP3	12/01/15	0610 1523135	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			94.5	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

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Certificate of Analysis

Report Date: December 3, 2015

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: AX-29	Project: DHLA00112
Sample ID: 384907003	Client ID: DHLA002
Matrix: Water	
Collect Date: 29-OCT-15 12:05	
Receive Date: 05-NOV-15	
Collector: Client	

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	0.184	+/-0.691	1.29	3.00	pCi/L		AXM6	12/03/15	1028	1525788	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.52	+/-0.451	0.438	1.00	pCi/L		CXP3	12/01/15	0610	1523135	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			89.7	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

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Certificate of Analysis

Report Date: December 3, 2015

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: AX-22R	Project: DHLA00112
Sample ID: 384907004	Client ID: DHLA002
Matrix: Water	
Collect Date: 29-OCT-15 14:20	
Receive Date: 05-NOV-15	
Collector: Client	

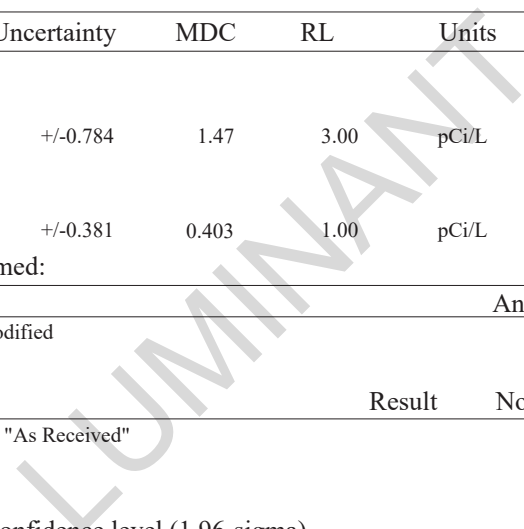
Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	0.159	+/-0.784	1.47	3.00	pCi/L		AXM6	12/03/15	1028	1525788	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.12	+/-0.381	0.403	1.00	pCi/L		CXP3	12/01/15	0610	1523135	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			93.5	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).



GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: December 3, 2015

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: AX-25	Project: DHLA00112
Sample ID: 384907005	Client ID: DHLA002
Matrix: Water	
Collect Date: 29-OCT-15 15:15	
Receive Date: 05-NOV-15	
Collector: Client	

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time Batch	Method
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228		4.28	+/-1.51	2.09	3.00	pCi/L		AXM6	12/03/15	1029 1525788	1
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226		0.537	+/-0.271	0.336	1.00	pCi/L		CXP3	12/01/15	0610 1523135	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			92.8	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: December 3, 2015

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: AX-24	Project: DHLA00112
Sample ID: 384907006	Client ID: DHLA002
Matrix: Water	
Collect Date: 29-OCT-15 15:50	
Receive Date: 05-NOV-15	
Collector: Client	

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time Batch	Method
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228		2.73	+/-1.12	1.44	3.00	pCi/L		AXM6	12/03/15	1029 1525788	1
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226		1.29	+/-0.393	0.387	1.00	pCi/L		CXP3	12/01/15	0705 1523135	2

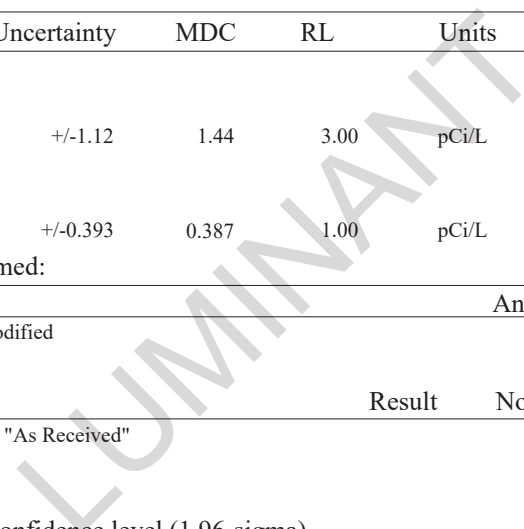
The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			99.4	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).



GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Report Date: December 3, 2015

Page 1 of 2

DHL Analytical
2300 Double Creek Drive
Round Rock, Texas

Contact: Mr. John DuPont

Workorder: 384907

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gas Flow											
Batch	1525788										
QC1203439721	384907006	DUP									
Radium-228			2.73	2.63	pCi/L	3.72		(0% - 100%)	AXM6	12/03/15	10:29
			Uncertainty +/-1.12	+/-1.23							
QC1203439722	LCS										
Radium-228			29.1	23.8	pCi/L		81.7	(75%-125%)		12/03/15	10:29
			Uncertainty	+/-2.54							
QC1203439720	MB										
Radium-228				2.78	pCi/L					12/03/15	10:29
			Uncertainty	+/-1.39							
Rad Ra-226											
Batch	1523135										
QC1203432991	385424001	DUP									
Radium-226			2.59	2.14	pCi/L	19.2		(0% - 100%)	CXP3	12/01/15	07:35
			Uncertainty +/-0.642	+/-0.580							
QC1203432993	LCS										
Radium-226			24.4	25.0	pCi/L		102	(75%-125%)		12/01/15	08:10
			Uncertainty	+/-1.63							
QC1203432990	MB										
Radium-226				0.185	pCi/L					12/01/15	07:35
			Uncertainty	+/-0.144							
QC1203432992	385424001	MS									
Radium-226			122	95.6	pCi/L		76.2	(75%-125%)		12/01/15	07:35
			Uncertainty +/-0.642	+/-6.31							

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

The Qualifiers in this report are defined as follows:

- ** Analyte is a Tracer compound
- < Result is less than value reported
- > Result is greater than value reported
- BD Results are either below the MDC or tracer recovery is low
- FA Failed analysis.
- H Analytical holding time was exceeded
- J Value is estimated
- K Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- L Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- M M if above MDC and less than LLD
- M REMP Result > MDC/CL and < RDL
- N/A RPD or %Recovery limits do not apply.

GEL LABORATORIES LLC

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QC Summary

Workorder: 384907

Page 2 of 2

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
N1	See case narrative										
ND	Analyte concentration is not detected above the detection limit										
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier										
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.										
R	Sample results are rejected										
U	Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.										
UI	Gamma Spectroscopy--Uncertain identification										
UJ	Gamma Spectroscopy--Uncertain identification										
UL	Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.										
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier										
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.										
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.										
h	Preparation or preservation holding time was exceeded										

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

LUMINANT



December 09, 2015

Will Vienne
Pastor, Behling & Wheeler
2201 Double Creek Dr #4004
Round Rock, Texas 78664
TEL: (512) 671-3434
FAX (512) 671-3446
RE: Sandow

Order No.: 1511031

Dear Will Vienne:

DHL Analytical, Inc. received 4 sample(s) on 11/3/2015 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

A handwritten signature in orange ink, appearing to read 'John DuPont'.

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-15-15



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LUMINANT



Creek Dr Suite 4004
 FAX/E-MAIL: Will.Vienne@pbwllc.com
 Vienne

DATE: 11-03-15 PAGE 1 OF 1
 PO #: 5164-E DHL WORK ORDER #: 1511031
 PROJECT LOCATION OR NAME: Sandow
 CLIENT PROJECT #: 5164-E COLLECTOR: WV, MH

Time	Matrix	Container Type	# of Containers	PRESERVATION				UNPRESERVED	ANALYSES	FIELD NOTES
				HCl	HNO ₃	H ₂ SO ₄ / NaOH	ICE			
940	W	P	4	X			X		X	
1050	W	P	4	X			X		X	
1145	W	P	4	X			X		X	
1245	W	P	4	X			X		X	

- ANALYSES**
- BTX MTBE [METHOD 8021]
 - TPH 1005 TPH 1006 HOLD 1006
 - GRO [METHOD 80151] DRO [METHOD 81051]
 - VOC 8260 VOC 624 VOC 8260/5035
 - SVOC 8270/PAN 8270 HOLD PAN SVOC 625
 - 8270 PEST 625 PEST/PCB 608 PCB
 - 8270 O-P PEST 8082 PCB 8270 PCB
 - 8321 HERB T PHOS AMMONIA
 - METALS 6020 METALS 2008 DIS. METALS
 - PH HEX CHROM ALKALINITY COD
 - CHLORIDE ANIONS
 - TCLP-SVOC VOC PEST HERB
 - RCRA METALS RCRA 8 TX-11 Pb
 - TDS TSS % MOISTURE CYANIDE
- See attached*

DATE/TIME: 11-3-15/1643 RECEIVED BY: (Signature) [Signature]
 DATE/TIME: _____ RECEIVED BY: (Signature) _____
 DATE/TIME: _____ RECEIVED BY: (Signature) _____

DISPOSAL @ \$5.00 each Return 3

TURN AROUND TIME
 RUSH CALL FIRST
 1 DAY CALL FIRST
 2 DAY
 NORMAL
 OTHER _____

LABORATORY USE ONLY:
 RECEIVING TEMP: 30 THERM #: 78
 CUSTODY SEALS: BROKEN INTACT NOT USED
 CARRIER: LONE STAR FEDEX UPS OTHER
 COURIER DELIVERY
 HAND DELIVERED

**ATTACHMENT 1
CCR ANALYTE SUMMARY**

Appendix III Constituents	Appendix IV Constituents
Boron Calcium Chloride Fluoride pH Sulfate Total Dissolved Solids	Arsenic Barium Beryllium Cadmium Chromium Cobalt Fluoride Lead Lithium Mercury Molybdenum Selenium Thallium Radium 226 and 228 combined

LUMINANT

Sample Receipt Checklist

Client Name Pastor, Behling & Wheeler

Date Received: 11/3/2015

Work Order Number 1511031

Received by JB

Checklist completed by: [Signature] 11/3/2015
Signature Date

Reviewed by: [Initials] 11/3/2015
Initials Date

Carrier name Hand Delivered

- Shipping container/cooler in good condition? Yes [checked] No [] Not Present []
Custody seals intact on shipping container/cooler? Yes [] No [] Not Present [checked]
Custody seals intact on sample bottles? Yes [] No [] Not Present [checked]
Chain of custody present? Yes [checked] No []
Chain of custody signed when relinquished and received? Yes [checked] No []
Chain of custody agrees with sample labels? Yes [checked] No []
Samples in proper container/bottle? Yes [checked] No []
Sample containers intact? Yes [checked] No []
Sufficient sample volume for indicated test? Yes [checked] No []
All samples received within holding time? Yes [checked] No []
Container/Temp Blank temperature in compliance? Yes [checked] No [] 3.0 °C
Water - VOA vials have zero headspace? Yes [] No [] No VOA vials submitted [checked]
Water - pH<2 acceptable upon receipt? Yes [checked] No [] NA [] LOT # 8086
Adjusted? [initials] Checked by [signature]
Water - ph>9 (S) or ph>12 (CN) acceptable upon receipt? Yes [] No [] NA [checked] LOT #
Adjusted? Checked by

Any No response must be detailed in the comments section below.

Client contacted Date contacted: Person contacted

Contacted by: Regarding

Comments:

Corrective Action

CLIENT: Pastor, Behling & Wheeler
Project: Sandow
Lab Order: 1511031

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Method SW6020A - Metals Analysis
Method SW7470A - Mercury Analysis
Method E300 - Anions Analysis
Method M4500-H+ B - pH of a Water Analysis
Method M2540C - TDS Analysis

LOG IN

The samples were received and log-in performed on 11/3/15. A total of 4 samples were received. The samples arrived in good condition and were properly packaged.

METALS ANALYSIS

For Metals analysis performed on 11/9/15 Boron was detected below the reporting limit in the method blank (MB-72211). All samples were detected greater than 10 times the amount in the blank for this analyte except for sample AX-27 which may be biased high. No further corrective actions were taken.

For Metals analysis samples AX-28 and AX-26 had low responses for the internal standard Bismuth. The associated analyte (Lead) was not reported from this analytical run.

For Metals analysis performed on 11/9/15 the matrix spike and matrix spike duplicate recoveries were out of control limits for Calcium. These are flagged accordingly in the QC summary report. The sample selected for the matrix spike and matrix spike duplicate was not from this work order. The LCS was within control limits for this analyte. No further corrective actions were taken.

For Metals analysis performed on 11/9/15 LCVL2-151109 and CCV3-151105 were slightly above control limits for Calcium or Antimony. These are flagged accordingly. The associated CCV2-151109 and LCVL3-151105 were within control limits for these analytes. No further corrective actions were taken.

MERCURY ANALYSIS

For Mercury analysis the matrix spike and matrix spike duplicate was re-prepped and re-analyzed on 11/10/15. This was due to a prep error. This exceeded the 24 hour prep window.

CLIENT: Pastor, Behling & Wheeler
Project: Sandow
Lab Order: 1511031

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1511031-01	AX-28		11/03/15 09:40 AM	11/3/2015
1511031-02	AX-27		11/03/15 10:50 AM	11/3/2015
1511031-03	AX-26		11/03/15 11:45 AM	11/3/2015
1511031-04	AXMW-1		11/03/15 12:45 PM	11/3/2015

LUMINANT

PREP DATES REPORT

Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
11/03/15 09:40 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	11/06/15 09:55 AM	72211
11/03/15 09:40 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	11/06/15 09:55 AM	72211
11/03/15 09:40 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	11/06/15 09:55 AM	72211
11/03/15 09:40 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	11/05/15 06:10 AM	72178
11/03/15 09:40 AM	Aqueous	E300	Anion Preparation	11/09/15 09:25 AM	72221
11/03/15 09:40 AM	Aqueous	E300	Anion Preparation	11/09/15 09:25 AM	72221
11/03/15 09:40 AM	Aqueous	M4500-H+ B	pH Preparation	11/04/15 08:44 AM	72158
11/03/15 09:40 AM	Aqueous	M2540C	TDS Preparation	11/05/15 04:18 PM	72200
11/03/15 10:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	11/06/15 09:55 AM	72211
11/03/15 10:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	11/06/15 09:55 AM	72211
11/03/15 10:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	11/06/15 09:55 AM	72211
11/03/15 10:50 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	11/05/15 06:10 AM	72178
11/03/15 10:50 AM	Aqueous	E300	Anion Preparation	11/09/15 09:25 AM	72221
11/03/15 10:50 AM	Aqueous	E300	Anion Preparation	11/09/15 09:25 AM	72221
11/03/15 10:50 AM	Aqueous	M4500-H+ B	pH Preparation	11/04/15 08:44 AM	72158
11/03/15 10:50 AM	Aqueous	M2540C	TDS Preparation	11/05/15 04:18 PM	72200
11/03/15 11:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	11/06/15 09:55 AM	72211
11/03/15 11:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	11/06/15 09:55 AM	72211
11/03/15 11:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	11/06/15 09:55 AM	72211
11/03/15 11:45 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	11/05/15 06:10 AM	72178
11/03/15 11:45 AM	Aqueous	E300	Anion Preparation	11/09/15 09:25 AM	72221
11/03/15 11:45 AM	Aqueous	E300	Anion Preparation	11/09/15 09:25 AM	72221
11/03/15 11:45 AM	Aqueous	M4500-H+ B	pH Preparation	11/04/15 08:44 AM	72158
11/03/15 11:45 AM	Aqueous	M2540C	TDS Preparation	11/05/15 04:18 PM	72200
11/03/15 12:45 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	11/06/15 09:55 AM	72211
11/03/15 12:45 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	11/06/15 09:55 AM	72211
11/03/15 12:45 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	11/06/15 09:55 AM	72211
11/03/15 12:45 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	11/05/15 06:10 AM	72178

PREP DATES REPORT

Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
11/03/15 12:45 PM	Aqueous	E300	Anion Preparation	11/09/15 09:25 AM	72221
11/03/15 12:45 PM	Aqueous	E300	Anion Preparation	11/09/15 09:25 AM	72221
11/03/15 12:45 PM	Aqueous	M4500-H+ B	pH Preparation	11/04/15 08:44 AM	72158
11/03/15 12:45 PM	Aqueous	M2540C	TDS Preparation	11/05/15 04:18 PM	72200

LUMINANT

ANALYTICAL DATES REPORT

Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
Aqueous	SW7470A	Mercury Total: Aqueous	72178	1	11/09/15 01:05 PM	CETAC2_HG_151109 B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72211	1	11/09/15 07:06 PM	ICP-MS3_151109A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72211	100	11/10/15 01:28 PM	ICP-MS4_151110B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72211	1	11/10/15 01:53 PM	ICP-MS4_151110B
Aqueous	E300	Anions by IC method - Water	72221	1	11/09/15 12:30 PM	IC2_151109A
Aqueous	E300	Anions by IC method - Water	72221	100	11/09/15 03:21 PM	IC2_151109A
Aqueous	M4500-H+ B	pH	72158	1	11/04/15 09:50 AM	TITRATOR_151104A
Aqueous	M2540C	Total Dissolved Solids	72200	1	11/06/15 07:55 AM	WC_151105D
Aqueous	SW7470A	Mercury Total: Aqueous	72178	1	11/09/15 01:07 PM	CETAC2_HG_151109 B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72211	10	11/10/15 01:30 PM	ICP-MS4_151110B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72211	1	11/10/15 01:55 PM	ICP-MS4_151110B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72211	1	11/09/15 07:18 PM	ICP-MS3_151109A
Aqueous	E300	Anions by IC method - Water	72221	1	11/09/15 12:44 PM	IC2_151109A
Aqueous	E300	Anions by IC method - Water	72221	10	11/09/15 02:46 PM	IC2_151109A
Aqueous	M4500-H+ B	pH	72158	1	11/04/15 09:52 AM	TITRATOR_151104A
Aqueous	M2540C	Total Dissolved Solids	72200	1	11/06/15 07:55 AM	WC_151105D
Aqueous	SW7470A	Mercury Total: Aqueous	72178	1	11/09/15 01:09 PM	CETAC2_HG_151109 B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72211	1	11/09/15 07:24 PM	ICP-MS3_151109A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72211	100	11/10/15 12:54 PM	ICP-MS4_151110B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72211	1	11/10/15 01:57 PM	ICP-MS4_151110B
Aqueous	E300	Anions by IC method - Water	72221	1	11/09/15 12:59 PM	IC2_151109A
Aqueous	E300	Anions by IC method - Water	72221	100	11/09/15 03:37 PM	IC2_151109A
Aqueous	M4500-H+ B	pH	72158	1	11/04/15 09:55 AM	TITRATOR_151104A
Aqueous	M2540C	Total Dissolved Solids	72200	1	11/06/15 07:55 AM	WC_151105D
Aqueous	SW7470A	Mercury Total: Aqueous	72178	1	11/09/15 01:11 PM	CETAC2_HG_151109 B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72211	100	11/10/15 12:56 PM	ICP-MS4_151110B

& Wheeler

ANALYTICAL DATES REPORT

Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72211	1	11/10/15 01:59 PM	ICP-MS4_151110B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72211	1	11/09/15 07:30 PM	ICP-MS3_151109A
Aqueous	E300	Anions by IC method - Water	72221	1	11/09/15 01:14 PM	IC2_151109A
Aqueous	E300	Anions by IC method - Water	72221	100	11/09/15 03:52 PM	IC2_151109A
Aqueous	M4500-H+ B	pH	72158	1	11/04/15 09:57 AM	TITRATOR_151104A
Aqueous	M2540C	Total Dissolved Solids	72200	1	11/06/15 07:55 AM	WC_151105D

DHL Analytical, Inc.

Date: 09-Dec-15

CLIENT: Pastor, Behling & Wheeler
Project: Sandow
Project No: 5164-E
Lab Order: 1511031

Client Sample ID: AX-28
Lab ID: 1511031-01
Collection Date: 11/03/15 09:40 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A			Analyst: ABO		
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	11/09/15 01:05 PM
TRACE METALS: ICP-MS - WATER		SW6020A			Analyst: KL		
Antimony	<0.000800	0.000800	0.00250		mg/L	1	11/09/15 07:06 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	11/09/15 07:06 PM
Barium	0.160	0.00300	0.0100		mg/L	1	11/09/15 07:06 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	11/10/15 01:53 PM
Boron	0.187	0.0100	0.0300		mg/L	1	11/09/15 07:06 PM
Cadmium	0.000871	0.000300	0.00100	J	mg/L	1	11/09/15 07:06 PM
Calcium	421	10.0	30.0		mg/L	100	11/10/15 01:28 PM
Chromium	0.00326	0.00200	0.00500	J	mg/L	1	11/09/15 07:06 PM
Cobalt	0.0305	0.00300	0.00500		mg/L	1	11/10/15 01:53 PM
Lead	0.00251	0.000300	0.00100		mg/L	1	11/10/15 01:53 PM
Lithium	0.202	0.00500	0.0100		mg/L	1	11/09/15 07:06 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	11/09/15 07:06 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	11/09/15 07:06 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	11/10/15 01:53 PM
ANIONS BY IC METHOD - WATER		E300			Analyst: AV		
Chloride	494	30.0	100		mg/L	100	11/09/15 03:21 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	11/09/15 12:30 PM
Sulfate	1030	100	300		mg/L	100	11/09/15 03:21 PM
PH		M4500-H+ B			Analyst: LM		
pH	6.55	0	0		pH Units@16.6°C	1	11/04/15 09:50 AM
TOTAL DISSOLVED SOLIDS		M2540C			Analyst: BJT		
Total Dissolved Solids (Residue, Filterable)	2830	50.0	50.0		mg/L	1	11/06/15 07:55 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 09-Dec-15

CLIENT: Pastor, Behling & Wheeler
Project: Sandow
Project No: 5164-E
Lab Order: 1511031

Client Sample ID: AX-27
Lab ID: 1511031-02
Collection Date: 11/03/15 10:50 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	11/09/15 01:07 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: KL			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	11/09/15 07:18 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	11/09/15 07:18 PM
Barium	0.488	0.00300	0.0100		mg/L	1	11/09/15 07:18 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	11/10/15 01:55 PM
Boron	0.117	0.0100	0.0300		mg/L	1	11/09/15 07:18 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	11/09/15 07:18 PM
Calcium	131	1.00	3.00		mg/L	10	11/10/15 01:30 PM
Chromium	0.00476	0.00200	0.00500	J	mg/L	1	11/09/15 07:18 PM
Cobalt	0.00906	0.00300	0.00500		mg/L	1	11/10/15 01:55 PM
Lead	0.00393	0.000300	0.00100		mg/L	1	11/09/15 07:18 PM
Lithium	0.0252	0.00500	0.0100		mg/L	1	11/09/15 07:18 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	11/09/15 07:18 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	11/09/15 07:18 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	11/10/15 01:55 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	248	3.00	10.0		mg/L	10	11/09/15 02:46 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	11/09/15 12:44 PM
Sulfate	172	10.0	30.0		mg/L	10	11/09/15 02:46 PM
PH		M4500-H+ B		Analyst: LM			
pH	6.65	0	0		pH Units@16.8°C	1	11/04/15 09:52 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	971	10.0	10.0		mg/L	1	11/06/15 07:55 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 09-Dec-15

CLIENT: Pastor, Behling & Wheeler
Project: Sandow
Project No: 5164-E
Lab Order: 1511031

Client Sample ID: AX-26
Lab ID: 1511031-03
Collection Date: 11/03/15 11:45 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	11/09/15 01:09 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: KL			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	11/09/15 07:24 PM
Arsenic	0.00212	0.00200	0.00500	J	mg/L	1	11/09/15 07:24 PM
Barium	0.136	0.00300	0.0100		mg/L	1	11/09/15 07:24 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	11/10/15 01:57 PM
Boron	0.301	0.0100	0.0300		mg/L	1	11/09/15 07:24 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	11/09/15 07:24 PM
Calcium	789	10.0	30.0		mg/L	100	11/10/15 12:54 PM
Chromium	0.00560	0.00200	0.00500		mg/L	1	11/09/15 07:24 PM
Cobalt	0.0343	0.00300	0.00500		mg/L	1	11/10/15 01:57 PM
Lead	0.00116	0.000300	0.00100		mg/L	1	11/10/15 01:57 PM
Lithium	0.546	0.00500	0.0100		mg/L	1	11/09/15 07:24 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	11/09/15 07:24 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	11/09/15 07:24 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	11/10/15 01:57 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	2170	30.0	100		mg/L	100	11/09/15 03:37 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	11/09/15 12:59 PM
Sulfate	996	100	300		mg/L	100	11/09/15 03:37 PM
PH		M4500-H+ B		Analyst: LM			
pH	6.55	0	0		pH Units@17.4°C	1	11/04/15 09:55 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	6430	50.0	50.0		mg/L	1	11/06/15 07:55 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 09-Dec-15

CLIENT: Pastor, Behling & Wheeler
Project: Sandow
Project No: 5164-E
Lab Order: 1511031

Client Sample ID: AXMW-1
Lab ID: 1511031-04
Collection Date: 11/03/15 12:45 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A			Analyst: ABO		
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	11/09/15 01:11 PM
TRACE METALS: ICP-MS - WATER		SW6020A			Analyst: KL		
Antimony	<0.000800	0.000800	0.00250		mg/L	1	11/09/15 07:30 PM
Arsenic	0.0199	0.00200	0.00500		mg/L	1	11/09/15 07:30 PM
Barium	0.0193	0.00300	0.0100		mg/L	1	11/09/15 07:30 PM
Beryllium	0.000683	0.000300	0.00100	J	mg/L	1	11/10/15 01:59 PM
Boron	0.465	0.0100	0.0300		mg/L	1	11/09/15 07:30 PM
Cadmium	0.000777	0.000300	0.00100	J	mg/L	1	11/09/15 07:30 PM
Calcium	418	10.0	30.0		mg/L	100	11/10/15 12:56 PM
Chromium	0.00603	0.00200	0.00500		mg/L	1	11/09/15 07:30 PM
Cobalt	0.387	0.00300	0.00500		mg/L	1	11/10/15 01:59 PM
Lead	0.00152	0.000300	0.00100		mg/L	1	11/09/15 07:30 PM
Lithium	0.0307	0.00500	0.0100		mg/L	1	11/09/15 07:30 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	11/09/15 07:30 PM
Selenium	0.00291	0.00200	0.00500	J	mg/L	1	11/09/15 07:30 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	11/10/15 01:59 PM
ANIONS BY IC METHOD - WATER		E300			Analyst: AV		
Chloride	396	30.0	100		mg/L	100	11/09/15 03:52 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	11/09/15 01:14 PM
Sulfate	2110	100	300		mg/L	100	11/09/15 03:52 PM
PH		M4500-H+ B			Analyst: LM		
pH	6.01	0	0		pH Units@17.5°C	1	11/04/15 09:57 AM
TOTAL DISSOLVED SOLIDS		M2540C			Analyst: BJT		
Total Dissolved Solids (Residue, Filterable)	3920	50.0	50.0		mg/L	1	11/06/15 07:55 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT: Pastor, Behling & Wheeler
Work Order: 1511031
Project: Sandow

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_151109B

The QC data in batch 72178 applies to the following samples: 1511031-01A, 1511031-02A, 1511031-03A, 1511031-04A

Sample ID MB-72178	Batch ID: 72178	TestNo: SW7470A	Units: mg/L							
SampType: MBLK	Run ID: CETAC2_HG_151109B	Analysis Date: 11/9/2015 12:21:59 PM	Prep Date: 11/5/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury <0.0000800 0.000200

Sample ID LCS-72178	Batch ID: 72178	TestNo: SW7470A	Units: mg/L							
SampType: LCS	Run ID: CETAC2_HG_151109B	Analysis Date: 11/9/2015 12:24:15 PM	Prep Date: 11/5/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00196 0.000200 0.00200 0 98.0 85 115

Sample ID LCSD-72178	Batch ID: 72178	TestNo: SW7470A	Units: mg/L							
SampType: LCSD	Run ID: CETAC2_HG_151109B	Analysis Date: 11/9/2015 12:26:31 PM	Prep Date: 11/5/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00211 0.000200 0.00200 0 106 85 115 7.37 15

Sample ID 1510306-01A SD	Batch ID: 72178	TestNo: SW7470A	Units: mg/L							
SampType: SD	Run ID: CETAC2_HG_151109B	Analysis Date: 11/9/2015 12:31:04 PM	Prep Date: 11/5/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury <0.000400 0.00100 0 0 0 0 10

Sample ID 1510306-01A PDS	Batch ID: 72178	TestNo: SW7470A	Units: mg/L							
SampType: PDS	Run ID: CETAC2_HG_151109B	Analysis Date: 11/9/2015 12:33:19 PM	Prep Date: 11/5/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00246 0.000200 0.00250 0 98.4 85 115

Sample ID 1510306-01A MS	Batch ID: 72178	TestNo: SW7470A	Units: mg/L							
SampType: MS	Run ID: CETAC2_HG_151109B	Analysis Date: 11/10/2015 4:29:45 PM	Prep Date: 11/5/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00207 0.000200 0.00200 0 104 80 120

Sample ID 1510306-01A MSD	Batch ID: 72178	TestNo: SW7470A	Units: mg/L							
SampType: MSD	Run ID: CETAC2_HG_151109B	Analysis Date: 11/10/2015 4:32:01 PM	Prep Date: 11/5/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00207 0.000200 0.00200 0 104 80 120 0 15

- Qualifiers:**
- B Analyte detected in the associated Method Blank
 - J Analyte detected between MDL and RL
 - ND Not Detected at the Method Detection Limit
 - RL Reporting Limit
 - J Analyte detected between SDL and RL
 - DF Dilution Factor
 - MDL Method Detection Limit
 - R RPD outside accepted control limits
 - S Spike Recovery outside control limits
 - N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1511031
Project: Sandow

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_151109B

Sample ID ICV-151109	Batch ID: R82564	TestNo: SW7470A	Units: mg/L							
SampType: ICV	Run ID: CETAC2_HG_151109B	Analysis Date: 11/9/2015 10:48:31 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00393	0.000200	0.00400	0	98.2	90	110			
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Sample ID CCV2-151109	Batch ID: R82564	TestNo: SW7470A	Units: mg/L							
SampType: CCV	Run ID: CETAC2_HG_151109B	Analysis Date: 11/9/2015 12:17:26 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00204	0.000200	0.00200	0	102	90	110			
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Sample ID CCV3-151109	Batch ID: R82564	TestNo: SW7470A	Units: mg/L							
SampType: CCV	Run ID: CETAC2_HG_151109B	Analysis Date: 11/9/2015 12:58:16 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00204	0.000200	0.00200	0	102	90	110			
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Sample ID CCV4-151109	Batch ID: R82564	TestNo: SW7470A	Units: mg/L							
SampType: CCV	Run ID: CETAC2_HG_151109B	Analysis Date: 11/9/2015 1:14:13 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00202	0.000200	0.00200	0	101	90	110			
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Sample ID ICV-151110	Batch ID: R82564	TestNo: SW7470A	Units: mg/L							
SampType: ICV	Run ID: CETAC2_HG_151109B	Analysis Date: 11/10/2015 3:36:25 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00396	0.000200	0.00400	0	99.0	90	110			
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Sample ID CCV1-151110	Batch ID: R82564	TestNo: SW7470A	Units: mg/L							
SampType: CCV	Run ID: CETAC2_HG_151109B	Analysis Date: 11/10/2015 4:20:38 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00206	0.000200	0.00200	0	103	90	110			
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Sample ID CCV2-151110	Batch ID: R82564	TestNo: SW7470A	Units: mg/L							
SampType: CCV	Run ID: CETAC2_HG_151109B	Analysis Date: 11/10/2015 4:36:35 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00204	0.000200	0.00200	0	102	90	110			
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Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1511031
Project: Sandow

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_151109A

The QC data in batch 72211 applies to the following samples: 1511031-01A, 1511031-02A, 1511031-03A, 1511031-04A

Sample ID MB-72211	Batch ID: 72211	TestNo: SW6020A	Units: mg/L
SampType: MBLK	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 4:35:00 PM	Prep Date: 11/6/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.000800	0.00250								
Arsenic	<0.00200	0.00500								
Barium	<0.00300	0.0100								
Beryllium	<0.000300	0.00100								
Boron	0.0135	0.0300								
Cadmium	<0.000300	0.00100								
Calcium	<0.100	0.300								
Chromium	<0.00200	0.00500								
Cobalt	<0.00300	0.00500								
Lead	<0.000300	0.00100								
Lithium	<0.00500	0.0100								
Molybdenum	<0.00200	0.00500								
Selenium	<0.00200	0.00500								
Thallium	<0.000500	0.00150								

Sample ID LCS-72211	Batch ID: 72211	TestNo: SW6020A	Units: mg/L
SampType: LCS	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 4:41:00 PM	Prep Date: 11/6/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.177	0.00250	0.200	0	88.3	80	120			
Arsenic	0.178	0.00500	0.200	0	89.0	80	120			
Barium	0.177	0.0100	0.200	0	88.3	80	120			
Beryllium	0.187	0.00100	0.200	0	93.6	80	120			
Boron	0.185	0.0300	0.200	0	92.6	80	120			
Cadmium	0.172	0.00100	0.200	0	86.2	80	120			
Calcium	4.48	0.300	5.00	0	89.7	80	120			
Chromium	0.178	0.00500	0.200	0	88.9	80	120			
Cobalt	0.188	0.00500	0.200	0	94.1	80	120			
Lead	0.178	0.00100	0.200	0	89.2	80	120			
Lithium	0.182	0.0100	0.200	0	91.2	80	120			
Molybdenum	0.169	0.00500	0.200	0	84.4	80	120			
Selenium	0.178	0.00500	0.200	0	89.2	80	120			
Thallium	0.187	0.00150	0.200	0	93.4	80	120			

Sample ID LCSD-72211	Batch ID: 72211	TestNo: SW6020A	Units: mg/L
SampType: LCSD	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 4:47:00 PM	Prep Date: 11/6/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.181	0.00250	0.200	0	90.4	80	120	2.35	15	
Arsenic	0.178	0.00500	0.200	0	88.8	80	120	0.281	15	

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1511031
 Project: Sandow

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_151109A

Sample ID: LCSD-72211	Batch ID: 72211	TestNo: SW6020A	Units: mg/L
SampType: LCSD	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 4:47:00 PM	Prep Date: 11/6/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.177	0.0100	0.200	0	88.6	80	120	0.396	15	
Beryllium	0.189	0.00100	0.200	0	94.4	80	120	0.851	15	
Boron	0.190	0.0300	0.200	0	95.0	80	120	2.56	15	
Cadmium	0.174	0.00100	0.200	0	86.8	80	120	0.694	15	
Calcium	4.60	0.300	5.00	0	92.0	80	120	2.53	15	
Chromium	0.178	0.00500	0.200	0	88.8	80	120	0.113	15	
Cobalt	0.186	0.00500	0.200	0	93.2	80	120	1.01	15	
Lead	0.181	0.00100	0.200	0	90.6	80	120	1.45	15	
Lithium	0.183	0.0100	0.200	0	91.6	80	120	0.492	15	
Molybdenum	0.170	0.00500	0.200	0	85.2	80	120	1.00	15	
Selenium	0.179	0.00500	0.200	0	89.4	80	120	0.168	15	
Thallium	0.187	0.00150	0.200	0	93.4	80	120	0	15	

Sample ID: 1510306-01A SD	Batch ID: 72211	TestNo: SW6020A	Units: mg/L
SampType: SD	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 5:06:00 PM	Prep Date: 11/6/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.00400	0.0125	0	0				0	10	
Arsenic	<0.0100	0.0250	0	0				0	10	
Barium	0.274	0.0500	0	0.273				0.238	10	
Beryllium	<0.00150	0.00500	0	0				0	10	
Boron	0.114	0.150	0	0.112				1.28	10	
Cadmium	<0.00150	0.00500	0	0				0	10	
Chromium	<0.0100	0.0250	0	0				0	10	
Cobalt	<0.0150	0.0250	0	0.0106				0	10	
Lead	<0.00150	0.00500	0	0				0	10	
Lithium	<0.0250	0.0500	0	0				0	10	
Molybdenum	<0.0100	0.0250	0	0				0	10	
Selenium	<0.0100	0.0250	0	0				0	10	
Thallium	<0.00250	0.00750	0	0				0	10	

Sample ID: 1510306-01A PDS	Batch ID: 72211	TestNo: SW6020A	Units: mg/L
SampType: PDS	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 5:36:00 PM	Prep Date: 11/6/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.191	0.00250	0.200	0	95.5	80	120			
Arsenic	0.193	0.00500	0.200	0	96.4	80	120			
Barium	0.462	0.0100	0.200	0.273	94.4	80	120			
Beryllium	0.202	0.00100	0.200	0	101	80	120			
Boron	0.299	0.0300	0.200	0.112	93.5	80	120			
Cadmium	0.182	0.00100	0.200	0	91.2	80	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1511031
 Project: Sandow

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_151109A

Sample ID: 1510306-01A PDS	Batch ID: 72211	TestNo: SW6020A	Units: mg/L
SampType: PDS	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 5:36:00 PM	Prep Date: 11/6/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.194	0.00500	0.200	0	97.0	80	120			
Cobalt	0.209	0.00500	0.200	0.0106	99.1	80	120			
Lead	0.196	0.00100	0.200	0	98.2	80	120			
Lithium	0.192	0.0100	0.200	0	96.0	80	120			
Molybdenum	0.185	0.00500	0.200	0	92.6	80	120			
Selenium	0.185	0.00500	0.200	0	92.6	80	120			
Thallium	0.205	0.00150	0.200	0	102	80	120			

Sample ID: 1510306-01A MS	Batch ID: 72211	TestNo: SW6020A	Units: mg/L
SampType: MS	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 5:42:00 PM	Prep Date: 11/6/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.196	0.00250	0.200	0	98.2	80	120			
Arsenic	0.193	0.00500	0.200	0	96.4	80	120			
Barium	0.475	0.0100	0.200	0.273	101	80	120			
Beryllium	0.200	0.00100	0.200	0	99.8	80	120			
Boron	0.301	0.0300	0.200	0.112	94.2	80	120			
Cadmium	0.183	0.00100	0.200	0	91.4	80	120			
Calcium	84.0	0.300	5.00	77.0	140	80	120			S
Chromium	0.187	0.00500	0.200	0	93.4	80	120			
Cobalt	0.201	0.00500	0.200	0.0106	95.1	80	120			
Lead	0.189	0.00100	0.200	0	94.3	80	120			
Lithium	0.190	0.0100	0.200	0	94.8	80	120			
Molybdenum	0.186	0.00500	0.200	0	93.0	80	120			
Selenium	0.185	0.00500	0.200	0	92.4	80	120			
Thallium	0.199	0.00150	0.200	0	99.4	80	120			

Sample ID: 1510306-01A MSD	Batch ID: 72211	TestNo: SW6020A	Units: mg/L
SampType: MSD	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 5:48:00 PM	Prep Date: 11/6/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.185	0.00250	0.200	0	92.5	80	120	6.03	15	
Arsenic	0.188	0.00500	0.200	0	93.8	80	120	2.79	15	
Barium	0.448	0.0100	0.200	0.273	87.5	80	120	5.79	15	
Beryllium	0.190	0.00100	0.200	0	95.0	80	120	4.93	15	
Boron	0.287	0.0300	0.200	0.112	87.3	80	120	4.73	15	
Cadmium	0.176	0.00100	0.200	0	87.8	80	120	4.13	15	
Calcium	79.5	0.300	5.00	77.0	51.6	80	120	5.41	15	S
Chromium	0.181	0.00500	0.200	0	90.4	80	120	3.26	15	
Cobalt	0.196	0.00500	0.200	0.0106	92.5	80	120	2.67	15	
Lead	0.178	0.00100	0.200	0	89.2	80	120	5.50	15	

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1511031
Project: Sandow

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_151109A

Sample ID 1510306-01A MSD	Batch ID: 72211	TestNo: SW6020A	Units: mg/L
SampType: MSD	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 5:48:00 PM	Prep Date: 11/6/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lithium	0.182	0.0100	0.200	0	91.2	80	120	3.82	15	
Molybdenum	0.176	0.00500	0.200	0	88.2	80	120	5.24	15	
Selenium	0.182	0.00500	0.200	0	91.0	80	120	1.53	15	
Thallium	0.189	0.00150	0.200	0	94.4	80	120	5.26	15	

LUMINANT

Qualifiers:	B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified	
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CLIENT: Pastor, Behling & Wheeler
 Work Order: 1511031
 Project: Sandow

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_151109A

Sample ID: ICV1-151109	Batch ID: R82588	TestNo: SW6020A	Units: mg/L
SampType: ICV	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 12:27:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.100	0.00250	0.100	0	100	90	110			
Arsenic	0.0973	0.00500	0.100	0	97.3	90	110			
Barium	0.0998	0.0100	0.100	0	99.8	90	110			
Beryllium	0.105	0.00100	0.100	0	105	90	110			
Boron	0.0945	0.0300	0.100	0	94.5	90	110			
Cadmium	0.0970	0.00100	0.100	0	97.0	90	110			
Calcium	2.34	0.300	2.50	0	93.5	90	110			
Chromium	0.106	0.00500	0.100	0	106	90	110			
Cobalt	0.108	0.00500	0.100	0	108	90	110			
Lead	0.103	0.00100	0.100	0	103	90	110			
Lithium	0.0997	0.0100	0.100	0	99.7	90	110			
Molybdenum	0.0926	0.00500	0.100	0	92.6	90	110			
Selenium	0.0940	0.00500	0.100	0	94.0	90	110			
Thallium	0.101	0.00150	0.100	0	101	90	110			

Sample ID: ILCVL-151109	Batch ID: R82588	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 12:39:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00189	0.00250	0.00200	0	94.4	70	130			
Arsenic	0.00477	0.00500	0.00500	0	95.3	70	130			
Barium	0.00497	0.0100	0.00500	0	99.5	70	130			
Beryllium	0.00110	0.00100	0.00100	0	110	70	130			
Boron	0.0197	0.0300	0.0200	0	98.4	70	130			
Cadmium	0.00101	0.00100	0.00100	0	101	70	130			
Calcium	0.102	0.300	0.100	0	102	70	130			
Chromium	0.00505	0.00500	0.00500	0	101	70	130			
Cobalt	0.00525	0.00500	0.00500	0	105	70	130			
Lead	0.00108	0.00100	0.00100	0	108	70	130			
Lithium	0.0101	0.0100	0.0100	0	101	70	130			
Molybdenum	0.00482	0.00500	0.00500	0	96.3	70	130			
Selenium	0.00513	0.00500	0.00500	0	103	70	130			
Thallium	0.00106	0.00150	0.00100	0	106	70	130			

Sample ID: CCV1-151109	Batch ID: R82588	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 3:35:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.201	0.00250	0.200	0	100	90	110			
Arsenic	0.192	0.00500	0.200	0	95.8	90	110			
Barium	0.194	0.0100	0.200	0	97.2	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1511031
 Project: Sandow

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_151109A

Sample ID: CCV1-151109	Batch ID: R82588	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 3:35:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.205	0.00100	0.200	0	102	90	110			
Boron	0.194	0.0300	0.200	0	97.0	90	110			
Cadmium	0.191	0.00100	0.200	0	95.4	90	110			
Calcium	5.15	0.300	5.00	0	103	90	110			
Chromium	0.194	0.00500	0.200	0	97.0	90	110			
Cobalt	0.202	0.00500	0.200	0	101	90	110			
Lead	0.201	0.00100	0.200	0	101	90	110			
Lithium	0.194	0.0100	0.200	0	96.9	90	110			
Molybdenum	0.187	0.00500	0.200	0	93.6	90	110			
Selenium	0.192	0.00500	0.200	0	96.2	90	110			
Thallium	0.207	0.00150	0.200	0	103	90	110			

Sample ID: LCVL1-151109	Batch ID: R82588	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 3:53:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00186	0.00250	0.00200	0	93.1	70	130			
Arsenic	0.00461	0.00500	0.00500	0	92.3	70	130			
Barium	0.00485	0.0100	0.00500	0	97.1	70	130			
Beryllium	0.00102	0.00100	0.00100	0	102	70	130			
Boron	0.0190	0.0300	0.0200	0	95.1	70	130			
Cadmium	0.000956	0.00100	0.00100	0	95.6	70	130			
Calcium	0.113	0.300	0.100	0	113	70	130			
Chromium	0.00470	0.00500	0.00500	0	94.0	70	130			
Cobalt	0.00495	0.00500	0.00500	0	99.0	70	130			
Lead	0.00102	0.00100	0.00100	0	102	70	130			
Lithium	0.00951	0.0100	0.0100	0	95.1	70	130			
Molybdenum	0.00445	0.00500	0.00500	0	89.0	70	130			
Selenium	0.00483	0.00500	0.00500	0	96.6	70	130			
Thallium	0.00100	0.00150	0.00100	0	100	70	130			

Sample ID: CCV2-151109	Batch ID: R82588	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 5:54:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.202	0.00250	0.200	0	101	90	110			
Arsenic	0.200	0.00500	0.200	0	99.8	90	110			
Barium	0.201	0.0100	0.200	0	100	90	110			
Beryllium	0.215	0.00100	0.200	0	108	90	110			
Boron	0.198	0.0300	0.200	0	99.2	90	110			
Cadmium	0.192	0.00100	0.200	0	96.1	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1511031
 Project: Sandow

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_151109A

Sample ID CCV2-151109	Batch ID: R82588	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 5:54:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	5.44	0.300	5.00	0	109	90	110			
Chromium	0.200	0.00500	0.200	0	99.8	90	110			
Cobalt	0.210	0.00500	0.200	0	105	90	110			
Lead	0.204	0.00100	0.200	0	102	90	110			
Lithium	0.208	0.0100	0.200	0	104	90	110			
Molybdenum	0.192	0.00500	0.200	0	96.2	90	110			
Selenium	0.200	0.00500	0.200	0	100	90	110			
Thallium	0.212	0.00150	0.200	0	106	90	110			

Sample ID LCVL2-151109	Batch ID: R82588	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 6:12:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00192	0.00250	0.00200	0	96.0	70	130			
Arsenic	0.00484	0.00500	0.00500	0	96.7	70	130			
Barium	0.00493	0.0100	0.00500	0	98.7	70	130			
Beryllium	0.00103	0.00100	0.00100	0	103	70	130			
Boron	0.0200	0.0300	0.0200	0	100	70	130			
Cadmium	0.00101	0.00100	0.00100	0	101	70	130			
Calcium	0.131	0.300	0.100	0	131	70	130			S
Chromium	0.00482	0.00500	0.00500	0	96.4	70	130			
Cobalt	0.00508	0.00500	0.00500	0	102	70	130			
Lead	0.00103	0.00100	0.00100	0	103	70	130			
Lithium	0.00992	0.0100	0.0100	0	99.2	70	130			
Molybdenum	0.00456	0.00500	0.00500	0	91.2	70	130			
Selenium	0.00499	0.00500	0.00500	0	99.7	70	130			
Thallium	0.00101	0.00150	0.00100	0	101	70	130			

Sample ID CCV3-151105	Batch ID: R82588	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 7:42:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.222	0.00250	0.200	0	111	90	110			S
Arsenic	0.216	0.00500	0.200	0	108	90	110			
Barium	0.217	0.0100	0.200	0	109	90	110			
Boron	0.204	0.0300	0.200	0	102	90	110			
Cadmium	0.210	0.00100	0.200	0	105	90	110			
Chromium	0.219	0.00500	0.200	0	109	90	110			
Lead	0.219	0.00100	0.200	0	109	90	110			
Lithium	0.216	0.0100	0.200	0	108	90	110			
Molybdenum	0.212	0.00500	0.200	0	106	90	110			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1511031
Project: Sandow

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_151109A

Sample ID CCV3-151105	Batch ID: R82588	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 7:42:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.208	0.00500	0.200	0	104	90	110			

Sample ID LCVL3-151105	Batch ID: R82588	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS3_151109A	Analysis Date: 11/9/2015 8:13:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00206	0.00250	0.00200	0	103	70	130			
Arsenic	0.00506	0.00500	0.00500	0	101	70	130			
Barium	0.00534	0.0100	0.00500	0	107	70	130			
Boron	0.0193	0.0300	0.0200	0	96.4	70	130			
Cadmium	0.00105	0.00100	0.00100	0	105	70	130			
Chromium	0.00534	0.00500	0.00500	0	107	70	130			
Lead	0.00105	0.00100	0.00100	0	105	70	130			
Lithium	0.0106	0.0100	0.0100	0	106	70	130			
Molybdenum	0.00512	0.00500	0.00500	0	103	70	130			
Selenium	0.00526	0.00500	0.00500	0	105	70	130			

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1511031
Project: Sandow

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_151110B

The QC data in batch 72211 applies to the following samples: 1511031-01A, 1511031-02A, 1511031-03A, 1511031-04A

Sample ID 1510306-01A SD	Batch ID: 72211	TestNo: SW6020A	Units: mg/L							
SampType: SD	Run ID: ICP-MS4_151110B	Analysis Date: 11/10/2015 1:12:00 PM	Prep Date: 11/6/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	75.5	15.0	0	76.3				1.05	10	

Sample ID 1510306-01A PDS	Batch ID: 72211	TestNo: SW6020A	Units: mg/L							
SampType: PDS	Run ID: ICP-MS4_151110B	Analysis Date: 11/10/2015 1:32:00 PM	Prep Date: 11/6/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	117	3.00	50.0	76.3	81.6	80	120			

LUMINANT

Qualifiers:	B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
 Work Order: 1511031
 Project: Sandow

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_151110B

Sample ID ICV-151110	Batch ID: R82595	TestNo: SW6020A	Units: mg/L
SampType: ICV	Run ID: ICP-MS4_151110B	Analysis Date: 11/10/2015 10:51:00 A	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.102	0.00100	0.100	0	102	90	110			
Calcium	2.25	0.300	2.50	0	90.0	90	110			
Cobalt	0.110	0.00500	0.100	0	110	90	110			
Lead	0.103	0.00100	0.100	0	103	90	110			
Thallium	0.102	0.00150	0.100	0	102	90	110			

Sample ID LCVL-151110	Batch ID: R82595	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_151110B	Analysis Date: 11/10/2015 10:59:00 A	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.00126	0.00100	0.00100	0	126	70	130			
Calcium	0.0951	0.300	0.100	0	95.1	70	130			
Cobalt	0.00546	0.00500	0.00500	0	109	70	130			
Lead	0.00103	0.00100	0.00100	0	103	70	130			
Thallium	0.00104	0.00150	0.00100	0	104	70	130			

Sample ID CCV3-151110	Batch ID: R82595	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_151110B	Analysis Date: 11/10/2015 12:38:00 P	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	4.78	0.300	5.00	0	95.6	90	110			

Sample ID LCVL3-151110	Batch ID: R82595	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_151110B	Analysis Date: 11/10/2015 12:42:00 P	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.102	0.300	0.100	0	102	70	130			

Sample ID CCV4-151110	Batch ID: R82595	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_151110B	Analysis Date: 11/10/2015 12:58:00 P	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	4.84	0.300	5.00	0	96.8	90	110			

Sample ID LCVL4-151110	Batch ID: R82595	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_151110B	Analysis Date: 11/10/2015 1:05:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.101	0.300	0.100	0	101	70	130			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1511031
Project: Sandow

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_151110B

Sample ID CCV5-151110	Batch ID: R82595	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_151110B	Analysis Date: 11/10/2015 1:34:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.200	0.00100	0.200	0	99.9	90	110			
Calcium	4.80	0.300	5.00	0	96.0	90	110			
Cobalt	0.203	0.00500	0.200	0	102	90	110			
Lead	0.191	0.00100	0.200	0	95.7	90	110			
Thallium	0.197	0.00150	0.200	0	98.3	90	110			

Sample ID LCVL5-151110	Batch ID: R82595	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_151110B	Analysis Date: 11/10/2015 1:38:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.000933	0.00100	0.00100	0	93.3	70	130			
Calcium	0.0950	0.300	0.100	0	95.0	70	130			
Cobalt	0.00538	0.00500	0.00500	0	108	70	130			
Lead	0.00100	0.00100	0.00100	0	100	70	130			
Thallium	0.00101	0.00150	0.00100	0	101	70	130			

Sample ID CCV6-151110	Batch ID: R82595	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_151110B	Analysis Date: 11/10/2015 2:01:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.204	0.00100	0.200	0	102	90	110			
Cobalt	0.203	0.00500	0.200	0	101	90	110			
Lead	0.191	0.00100	0.200	0	95.7	90	110			
Thallium	0.196	0.00150	0.200	0	97.8	90	110			

Sample ID LCVL6-151110	Batch ID: R82595	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_151110B	Analysis Date: 11/10/2015 2:05:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.000981	0.00100	0.00100	0	98.1	70	130			
Cobalt	0.00531	0.00500	0.00500	0	106	70	130			
Lead	0.00101	0.00100	0.00100	0	101	70	130			
Thallium	0.00101	0.00150	0.00100	0	101	70	130			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1511031
Project: Sandow

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_151109A

The QC data in batch 72221 applies to the following samples: 1511031-01D, 1511031-02D, 1511031-03D, 1511031-04D

Sample ID MB-72221	Batch ID: 72221	TestNo: E300	Units: mg/L							
SampType: MBLK	Run ID: IC2_151109A	Analysis Date: 11/9/2015 9:45:32 AM	Prep Date: 11/9/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	<0.300	1.00								
Fluoride	<0.100	0.400								
Sulfate	<1.00	3.00								

Sample ID LCSD-72221	Batch ID: 72221	TestNo: E300	Units: mg/L							
SampType: LCSD	Run ID: IC2_151109A	Analysis Date: 11/9/2015 10:14:41 AM	Prep Date: 11/9/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.0	1.00	10.00	0	100	90	110	1.05	20	
Fluoride	3.62	0.400	4.000	0	90.6	90	110	1.96	20	
Sulfate	29.6	3.00	30.00	0	98.8	90	110	1.44	20	

Sample ID LCS-72221	Batch ID: 72221	TestNo: E300	Units: mg/L							
SampType: LCS	Run ID: IC2_151109A	Analysis Date: 11/9/2015 10:30:26 AM	Prep Date: 11/9/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.1	1.00	10.00	0	101	90	110			
Fluoride	3.69	0.400	4.000	0	92.3	90	110			
Sulfate	30.1	3.00	30.00	0	100	90	110			

Sample ID 1511077-02AMS	Batch ID: 72221	TestNo: E300	Units: mg/L							
SampType: MS	Run ID: IC2_151109A	Analysis Date: 11/9/2015 11:09:31 AM	Prep Date: 11/9/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	2280	100	2000	151.0	106	90	110			
Fluoride	1950	40.0	2000	0	97.5	90	110			
Sulfate	4000	300	2000	1839	108	90	110			

Sample ID 1511077-02AMSD	Batch ID: 72221	TestNo: E300	Units: mg/L							
SampType: MSD	Run ID: IC2_151109A	Analysis Date: 11/9/2015 11:24:06 AM	Prep Date: 11/9/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	2280	100	2000	151.0	106	90	110	0.029	20	
Fluoride	2000	40.0	2000	0	100	90	110	2.62	20	
Sulfate	3940	300	2000	1839	105	90	110	1.50	20	

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1511031
Project: Sandow

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_151109A

Sample ID ICV-151109	Batch ID: R82596	TestNo: E300	Units: mg/L							
SampType: ICV	Run ID: IC2_151109A	Analysis Date: 11/9/2015 9:08:45 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	24.7	1.00	25.00	0	98.9	90	110			
Fluoride	9.76	0.400	10.00	0	97.6	90	110			
Sulfate	75.5	3.00	75.00	0	101	90	110			

Sample ID CCV1-151109	Batch ID: R82596	TestNo: E300	Units: mg/L							
SampType: CCV	Run ID: IC2_151109A	Analysis Date: 11/9/2015 1:57:13 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.0	1.00	10.00	0	100	90	110			
Fluoride	3.88	0.400	4.000	0	96.9	90	110			
Sulfate	30.1	3.00	30.00	0	100	90	110			

Sample ID CCV2-151109	Batch ID: R82596	TestNo: E300	Units: mg/L							
SampType: CCV	Run ID: IC2_151109A	Analysis Date: 11/9/2015 4:08:45 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.94	1.00	10.00	0	99.4	90	110			
Fluoride	3.89	0.400	4.000	0	97.3	90	110			
Sulfate	29.8	3.00	30.00	0	99.2	90	110			

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1511031
Project: Sandow

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_151104A

The QC data in batch 72158 applies to the following samples: 1511031-01D, 1511031-02D, 1511031-03D, 1511031-04D

Sample ID 1511031-04D DUP	Batch ID: 72158	TestNo: M4500-H+ B	Units: pH Units@17.9°C							
SampType: DUP	Run ID: TITRATOR_151104A	Analysis Date: 11/4/2015 9:58:00 AM	Prep Date: 11/4/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	5.98	0	0	6.010				0.500	5	

Sample ID 1511047-02C DUP	Batch ID: 72158	TestNo: M4500-H+ B	Units: pH Units@14.1°C							
SampType: DUP	Run ID: TITRATOR_151104A	Analysis Date: 11/4/2015 12:24:00 PM	Prep Date: 11/4/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	7.28	0	0	7.320				0.548	5	

LUMINANT

Qualifiers:	B Analyte detected in the associated Method Blank	DF Dilution Factor
	J Analyte detected between MDL and RL	MDL Method Detection Limit
	ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
	RL Reporting Limit	S Spike Recovery outside control limits
	J Analyte detected between SDL and RL	N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1511031
Project: Sandow

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_151104A

Sample ID ICV-151104	Batch ID: R82520	TestNo: M4500-H+ B	Units: pH Units@22°C
SampType: ICV	Run ID: TITRATOR_151104A	Analysis Date: 11/4/2015 9:45:00 AM	Prep Date: 11/4/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	9.97	0	10.00	0	99.7	99	101			

Sample ID CCV2-151104	Batch ID: R82520	TestNo: M4500-H+ B	Units: pH Units@22.4°C
SampType: CCV	Run ID: TITRATOR_151104A	Analysis Date: 11/4/2015 2:23:00 PM	Prep Date: 11/4/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	6.98	0	7.000	0	99.7	97.1	102.9			

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1511031
Project: Sandow

ANALYTICAL QC SUMMARY REPORT

RunID: WC_151105D

The QC data in batch 72200 applies to the following samples: 1511031-01D, 1511031-02D, 1511031-03D, 1511031-04D

Sample ID MB-72200	Batch ID: 72200	TestNo: M2540C	Units: mg/L							
SampType: MBLK	Run ID: WC_151105D	Analysis Date: 11/6/2015 7:55:00 AM	Prep Date: 11/5/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera		<10.0	10.0							

Sample ID LCS-72200	Batch ID: 72200	TestNo: M2540C	Units: mg/L							
SampType: LCS	Run ID: WC_151105D	Analysis Date: 11/6/2015 7:55:00 AM	Prep Date: 11/5/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera		729	10.0	745.6	0	97.8	90	113		

Sample ID 1511043-01B-DUP	Batch ID: 72200	TestNo: M2540C	Units: mg/L							
SampType: DUP	Run ID: WC_151105D	Analysis Date: 11/6/2015 7:55:00 AM	Prep Date: 11/5/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera		536	10.0	0	533.0			0.561	5	

Sample ID 1511058-01B-DUP	Batch ID: 72200	TestNo: M2540C	Units: mg/L							
SampType: DUP	Run ID: WC_151105D	Analysis Date: 11/6/2015 7:55:00 AM	Prep Date: 11/5/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera		916	10.0	0	917.0			0.109	5	

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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December 03, 2015

Mr. John DuPont
DHL Analytical
2300 Double Creek Drive
Round Rock, Texas 78664

Re: Routine Analysis
Work Order: 385086
SDG: 1511031

Dear Mr. DuPont:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on November 09, 2015. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4707.

Sincerely,



Anna Day
Project Manager

Purchase Order: 13992
Enclosures



GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis Report for

DHLA002 DHL Analytical

Client SDG: 1511031 GEL Work Order: 385086

The Qualifiers in this report are defined as follows:

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a Tracer compound
- ** Analyte is a surrogate compound
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Anna Day.

Reviewed by _____

Anna C Day

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: December 3, 2015

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: AX-28	Project: DHLA00112
Sample ID: 385086001	Client ID: DHLA002
Matrix: Water	
Collect Date: 03-NOV-15 09:40	
Receive Date: 09-NOV-15	
Collector: Client	

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228		2.51	+/-1.04	1.37	3.00	pCi/L		AXM6	12/03/15	1029	1525788	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.44	+/-0.459	0.466	1.00	pCi/L		CXP3	12/01/15	0705	1523135	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			92.8	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: December 3, 2015

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: AX-27	Project: DHLA00112
Sample ID: 385086002	Client ID: DHLA002
Matrix: Water	
Collect Date: 03-NOV-15 10:50	
Receive Date: 09-NOV-15	
Collector: Client	

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time Batch	Method
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228		2.01	+/-1.21	1.87	3.00	pCi/L		AXM6	12/03/15	1029 1525788	1
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226		1.06	+/-0.325	0.323	1.00	pCi/L		CXP3	12/01/15	0705 1523135	2

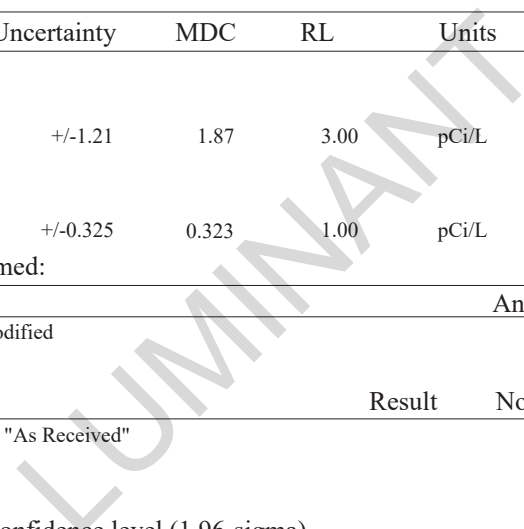
The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			94	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).



GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: December 3, 2015

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: AX-26	Project: DHLA00112
Sample ID: 385086003	Client ID: DHLA002
Matrix: Water	
Collect Date: 03-NOV-15 11:45	
Receive Date: 09-NOV-15	
Collector: Client	

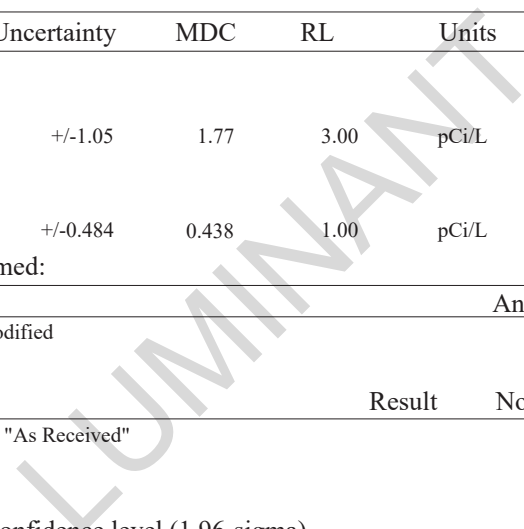
Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	0.893	+/-1.05	1.77	3.00	pCi/L		AXM6	12/03/15	1029	1525788	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.82	+/-0.484	0.438	1.00	pCi/L		CXP3	12/01/15	0705	1523135	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			93.6	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).



GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: December 3, 2015

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: AXMW-1	Project: DHLA00112
Sample ID: 385086004	Client ID: DHLA002
Matrix: Water	
Collect Date: 03-NOV-15 12:45	
Receive Date: 09-NOV-15	
Collector: Client	

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228		2.84	+/-1.10	1.44	3.00	pCi/L		AXM6	12/03/15	1029	1525788	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.63	+/-0.407	0.352	1.00	pCi/L		CXP3	12/01/15	0705	1523135	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			88	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Report Date: December 3, 2015

Page 1 of 2

DHL Analytical
2300 Double Creek Drive
Round Rock, Texas

Contact: Mr. John DuPont

Workorder: 385086

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gas Flow											
Batch	1525788										
QC1203439721	384907006	DUP									
Radium-228			2.73	2.63	pCi/L	3.72		(0% - 100%)	AXM6	12/03/15	10:29
			Uncertainty +/-1.12	+/-1.23							
QC1203439722	LCS										
Radium-228			29.1	23.8	pCi/L		81.7	(75%-125%)		12/03/15	10:29
			Uncertainty	+/-2.54							
QC1203439720	MB										
Radium-228				2.78	pCi/L					12/03/15	10:29
			Uncertainty	+/-1.39							
Rad Ra-226											
Batch	1523135										
QC1203432991	385424001	DUP									
Radium-226			2.59	2.14	pCi/L	19.2		(0% - 100%)	CXP3	12/01/15	07:35
			Uncertainty +/-0.642	+/-0.580							
QC1203432993	LCS										
Radium-226			24.4	25.0	pCi/L		102	(75%-125%)		12/01/15	08:10
			Uncertainty	+/-1.63							
QC1203432990	MB										
Radium-226				0.185	pCi/L					12/01/15	07:35
			Uncertainty	+/-0.144							
QC1203432992	385424001	MS									
Radium-226			122	95.6	pCi/L		76.2	(75%-125%)		12/01/15	07:35
			Uncertainty +/-0.642	+/-6.31							

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

The Qualifiers in this report are defined as follows:

- ** Analyte is a Tracer compound
- < Result is less than value reported
- > Result is greater than value reported
- BD Results are either below the MDC or tracer recovery is low
- FA Failed analysis.
- H Analytical holding time was exceeded
- J Value is estimated
- K Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- L Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- M M if above MDC and less than LLD
- M REMP Result > MDC/CL and < RDL
- N/A RPD or %Recovery limits do not apply.

GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Workorder: 385086

Page 2 of 2

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
N1	See case narrative										
ND	Analyte concentration is not detected above the detection limit										
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier										
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.										
R	Sample results are rejected										
U	Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.										
UI	Gamma Spectroscopy--Uncertain identification										
UJ	Gamma Spectroscopy--Uncertain identification										
UL	Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.										
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier										
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.										
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.										
h	Preparation or preservation holding time was exceeded										

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

LUMINANT

There are no "Data Exception Reports" associated with this analytical report.

LUMINANT

305086

CHAIN-OF-CUSTODY RECORD

FAX: (512) 388-8229

TEL: (843) 556-8171

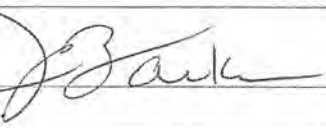
FAX:

Acct #:

03-Nov-15

Matrix	DHL#	Date Collected	Bottle Type	Requested Tests					
				276 E903.1	278 E904.0				
Aqueous	-01B	11/03/15 09:40 AM	500HDPEHNO3		1				
Aqueous	-01C	11/03/15 09:40 AM	500HDPEHNO3	1					
Aqueous	-02B	11/03/15 10:50 AM	500HDPEHNO3		1				
Aqueous	-02C	11/03/15 10:50 AM	500HDPEHNO3	1					
Aqueous	-03B	11/03/15 11:45 AM	500HDPEHNO3		1				
Aqueous	-03C	11/03/15 11:45 AM	500HDPEHNO3	1					
Aqueous	-04B	11/03/15 12:45 PM	500HDPEHNO3		1				
Aqueous	-04C	11/03/15 12:45 PM	500HDPEHNO3	1					

Analyze these samples with a Standard Turnaround Time.
 John DuPont if you have questions.
 Control Package Needed: Standard / _____
 report to both cac@dhlanalytical.com & dupont@dhlanalytical.com

	Date/Time 11/4/15 1730	Received by: <u>J. Bank</u>	Date/Time 11/4/15 1730
		Received by: <u>B. Luthman</u>	Date/Time 11/9/15 0915

SAMPLE RECEIPT & REVIEW FORM

Client: DHLA		SDG/AR/COC/Work Order: 305086
Received By: Brielle Luthman		Date Received: 11/9/15 0915
Suspected Hazard Information	Yes <input type="checkbox"/> No <input type="checkbox"/>	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
COC/Samples marked as radioactive?	<input type="checkbox"/>	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): 0
Classified Radioactive II or III by RSO?	<input type="checkbox"/>	If yes, Were swipes taken of sample containers < action levels?
COC/Samples marked containing PCBs?	<input type="checkbox"/>	
Package, COC, and/or Samples marked as beryllium or asbestos containing?	<input type="checkbox"/>	If yes, samples are to be segregated as Safety Controlled Samples, and opened by the GEL Safety Group.
Shipped as a DOT Hazardous?	<input type="checkbox"/>	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?	<input type="checkbox"/>	

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?	<input checked="" type="checkbox"/>			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2 Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	<input type="checkbox"/>		<input checked="" type="checkbox"/>	Preservation Method: Ice bags Blue ice Dry ice <u>None</u> Other (describe) *all temperatures are recorded in Celsius 110°
2a Daily check performed and passed on IR temperature gun?	<input checked="" type="checkbox"/>			Temperature Device Serial #: Secondary Temperature Device Serial # (if Applicable): 150340071
3 Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>			
4 Sample containers intact and sealed?	<input checked="" type="checkbox"/>			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
5 Samples requiring chemical preservation at proper pH?	<input checked="" type="checkbox"/>			Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6 Do Low Level Perchlorate samples have headspace as required?	<input type="checkbox"/>		<input checked="" type="checkbox"/>	Sample ID's and containers affected:
7 VOA vials contain acid preservation?	<input type="checkbox"/>		<input checked="" type="checkbox"/>	(If unknown, select No)
8 VOA vials free of headspace (defined as < 6mm bubble)?	<input type="checkbox"/>		<input checked="" type="checkbox"/>	Sample ID's and containers affected:
9 Are Encore containers present?	<input type="checkbox"/>		<input checked="" type="checkbox"/>	(If yes, immediately deliver to Volatiles laboratory)
10 Samples received within holding time?	<input checked="" type="checkbox"/>			ID's and tests affected:
11 Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>			Sample ID's and containers affected:
12 Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>			Sample ID's affected:
13 Number of containers received match number indicated on COC?	<input checked="" type="checkbox"/>			Sample ID's affected:
14 Are sample containers identifiable as GEL provided?	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
15 COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>			
16 Carrier and tracking number.				Circle Applicable: FedEx Air <u>FedEx Ground</u> UPS Field Services Courier Other 7748 9381 3609

Comments (Use Continuation Form if needed):

List of current GEL Certifications as of 03 December 2015

State	Certification
Alaska	UST-110
Arkansas	88-0651
CLIA	42D0904046
California	2940 Interim
Colorado	SC00012
Connecticut	PH-0169
Delaware	SC000122013-10
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-15-00283, P330-15-00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC000122013-10
Idaho Chemistry	SC00012
Idaho Radiochemistry	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana NELAP	03046 (AI33904)
Louisiana SDWA	LA150001
Maryland	270
Massachusetts	M-SC012
Michigan	9976
Mississippi	SC000122013-10
Nebraska	NE-OS-26-13
Nevada	SC000122016-1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R-158
Oklahoma	9904
Pennsylvania NELAP	68-00485
S.Carolina Radchem	10120002
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-15-10
Utah NELAP	SC000122015-19
Vermont	VT87156
Virginia NELAP	460202
Washington	C780
West Virginia	997404



January 22, 2016

Will Vienne
Pastor, Behling & Wheeler
2201 Double Creek Dr #4004
Round Rock, Texas 78664
TEL: (512) 671-3434
FAX (512) 671-3446
RE: Sandow - AX Landfill

Order No.: 1512238

Dear Will Vienne:

DHL Analytical, Inc. received 10 sample(s) on 12/17/2015 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

A handwritten signature in orange ink, appearing to read "John DuPont".

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-15-15



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LUMINANT



2300 Double Creek Dr. ■ Round Rock, TX 78664
 Phone (512) 388-8222 ■ FAX (512) 388-8229
 Web: www.dhlanalytical.com
 E-Mail: login@dhlanalytical.com



CHA

CLIENT: Pastor, Behling & Wheeler
 ADDRESS: 2201 Double Creek Dr. Ste 4004
 PHONE: (512) 671-3434 FAX/E-MAIL: _____
 DATA REPORTED TO: Will Vienne will.vienne@phville.com
 ADDITIONAL REPORT COPIES TO: Sara Faube sara.faube@phville.com

DATE: 12/17/15
 PO #: _____ DHL WORK ORD # _____
 PROJECT LOCATION OR NAME: Sandow AX
 CLIENT PROJECT #: 5164E COLL # _____

Authorize 5% surcharge for TRRP Report?
 Yes No

S=SOIL W=WATER P=PAINT
 L=LIQUID SE=SEDIMENT O=OTHER
 SL=SLUDGE SO=SOLID

ANALYSES

BTEX MTBE METHOD 802.11
 TPH 1005 TPH 1006 HOLD 1006
 GRO (METHOD 801.1) DRO (METHOD 8105)
 VOC 8260 VOC 624 VOC 8260/5035
 SVOC 8270 PAH 8270 HOLD PAH SVOC 625
 8270 PEST 625 PEST PCB 608 PCB
 8321 HERB 8082 PCB 8270 PCB
 METALS 6020 METALS 200.8 DISS. METALS
 RGRA TX11
 PH HEX CHROM ALKALINITY
 CHLORIDE AMMONIA
 TCLP-SVOC VOCC
 TCLP-METALS
 RCLD FLAS
 TDS

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	PRESERVATION				
							HCl	HNO ₃	H ₂ SO ₄ □ NaOH □	ICE	UNPRESERVED
AX-22R	01	12/17/15	8:20	L		4	X	X			
AX MW-2	02		10:10								
AX-29	03		10:35								
AX-23	04		11:30								
AX MW-1	05		12:50								
AX-27	06		13:35								
AX-26	07		14:55								

RELINQUISHED BY: (Signature) <u>Sara Faube</u>	DATE/TIME <u>12/17/15 10:51</u>	RECEIVED BY: (Signature) <u>[Signature]</u>
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)

TURN AROUND TIME

RUSH CALL FIRST
 1 DAY CALL FIRST
 2 DAY
 NORMAL
 OTHER

LABORATORY USE ONLY

RECEIVING TEMP: 3/

CUSTODY SEALS:
 CARRIER: LONE STAR
 COURIER DELIVERY
 HAND DELIVERED



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 E-Mail: login@dhlanalytical.com



CHA

CLIENT: Pastor Behling & Wheeler
 ADDRESS: 2201 Double Creek Dr. Ste 700A
 PHONE: (512) 671-3434 FAX/E-MAIL:
 DATA REPORTED TO: Will Vienne will.vienne@pbullc.com
 ADDITIONAL REPORT COPIES TO: Jana Taube jana.taube@pbullc.com

DATE: 12/18/2015
 PO #: _____ DHL WORK ORD # _____
 PROJECT LOCATION OR NAME: Sandow AX L
 CLIENT PROJECT #: 5104E COLL # _____

Authorize 5% surcharge for TRRP Report? <input type="checkbox"/> Yes <input type="checkbox"/> No	S=SOIL W=WATER A=AIR L=LIQUID SE=SEDIMENT		P=PAINT SL=SLUDGE O=OTHER SO=SOLID		Container Type # of Containers	PRESERVATION <input type="checkbox"/> HCl <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH <input type="checkbox"/> ICE <input type="checkbox"/> UNPRESERVED				
	Field Sample I.D.	DHL Lab #	Date	Time		Matrix				

- ANALYSES**
- BTEX MTBE [METHOD 802.1]
 - TPH 1005 TPH 1006 HOLD 1006
 - GRO [METHOD 8015] DRO [METHOD 8105]
 - VOC 8260 VOC 624 VOC 8260/5035
 - SVOC 8270 PAH 8270 HOLD PAH SVOC 825
 - 8270 PEST 625 PEST / PCB 808 PCB 8270 PCB
 - 8521 HERB 8082 PCB AMMONIA
 - METALS 6020 METALS 2008 DISS. METALS
 - PH TX 11
 - CHLORIDE HEX CHROM ALKALINITY
 - TCLP-SVOC ANIONS
 - TCLP-METALS VOC PC
 - RCLD FLAS
 - TDS

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	HCl	HNO ₃	H ₂ SO ₄	NaOH	ICE	UNPRESERVED	ANALYSES							
AX-24	08	12/10/15	8:50	W	plastic	4		X												
AX-25	08	↓	9:30	↓	↓	↓		↓												
AX-28	10	↓	10:40	↓	↓	↓		↓												

RELINQUISHED BY: (Signature) <u>Jana Taube</u>	DATE/TIME <u>12/18/15 1710</u>	RECEIVED BY: (Signature) <u>[Signature]</u>
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)

TURN AROUND TIME RUSH <input type="checkbox"/> CALL FIRST 1 DAY <input type="checkbox"/> CALL FIRST 2 DAY <input type="checkbox"/> NORMAL <input type="checkbox"/> OTHER <input checked="" type="checkbox"/>	LABORATORY USE OF RECEIVING TEMP: <u>2</u> CUSTODY SEALS: <input type="checkbox"/> CARRIER: <input type="checkbox"/> LONE ST <input type="checkbox"/> COURIER DELIVERY <input checked="" type="checkbox"/> HAND DELIVERED
--	---

DHL DISPOSAL @ \$5.00 each Return 4

John Dupont

From: Sara Taube [Sara.Taube@pbw/ie.com]
Sent: Wednesday, July 22, 2015 12:05 PM
To: John Dupont
Subject: CCR Appendix III and IV
Follow Up Flag: Follow up
Flag Status: Completed

Hi John,

Here are the Appendix III and Appendix IV constituents that we will need to have analyzed under the CCR Rule.

Appendix III

Boron
Calcium
Chloride
Fluoride
pH
sulfate
TDS

Appendix IV

Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cobalt
Fluoride
Lead
Lithium
Mercury
Molybdenum
Selenium
Thallium
Radium 226 and 228

We are looking to have approximately 74 wells sampled 8 times over the course of the next two years. Please let me know if there is any more information you might need.

Cheers,

Sara

10/26/2015

Sample Receipt Checklist

Client Name Pastor, Behling & Wheeler

Date Received: 12/17/2015

Work Order Number 1512238

Received by JB

Checklist completed by [Signature] 12/17/2015
Signature Date

Reviewed by [Initials] 12/17/2015
Initials Date

Carrier name Hand Delivered

- 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 3.1 °C, 29
- Water - VOA vials have zero headspace? Yes No No VOA vials submitted
- Water - pH<2 acceptable upon receipt? Yes No NA LOT # 8086
Adjusted? no Checked by [Signature]
- Water - pH>9 (S) or pH>12 (CN) acceptable upon receipt? Yes No NA LOT #
Adjusted? _____ Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CLIENT: Pastor, Behling & Wheeler
Project: Sandow - AX Landfill
Lab Order: 1512238

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

- Method SW6020A - Metals Analysis
- Method SW7470A - Mercury Analysis
- Method E300 - Anions Analysis
- Method M4500-H+ B - pH of a Water Analysis
- Method M2540C - TDS Analysis

Sub-contract - Radium-228 and Radium-226 analyses by methods E904.0/SW8469320 Modified and E903.1 Modified. Analyzed at GEL Laboratory.

LOG IN

The samples were received and log-in performed on 12/17/15. A total of 10 samples were received. The samples arrived in good condition and were properly packaged.

METALS ANALYSIS

For Metals analysis performed on 1/5/16 Boron was detected below the reporting limit in the method blank (MB-72945). All samples may be biased high for this analyte. No further corrective actions were taken.

For Metals analysis performed on 1/5/16 the matrix spike and matrix spike duplicate recoveries were out of control limits for Boron and/or Calcium. These are flagged accordingly in the QC summary report. The sample selected for the matrix spike and matrix spike duplicate was not from this work order. The LCS was within control limits for these analytes. No further corrective actions were taken.

CLIENT: Pastor, Behling & Wheeler
Project: Sandow - AX Landfill
Lab Order: 1512238

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1512238-01	AX-22R		12/17/15 08:20 AM	12/17/2015
1512238-02	AXMW-2		12/17/15 10:10 AM	12/17/2015
1512238-03	AX-29		12/17/15 10:35 AM	12/17/2015
1512238-04	AX-23		12/17/15 11:30 AM	12/17/2015
1512238-05	AXMW-1		12/17/15 12:50 PM	12/17/2015
1512238-06	AX-27		12/17/15 01:35 PM	12/17/2015
1512238-07	AX-26		12/17/15 02:55 PM	12/17/2015
1512238-08	AX-24		12/18/15 08:50 AM	12/18/2015
1512238-09	AX-25		12/18/15 09:30 AM	12/18/2015
1512238-10	AX-28		12/18/15 10:40 AM	12/18/2015

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PREP DATES REPORT

Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
12/17/15 08:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:04 AM	72945
12/17/15 08:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:04 AM	72945
12/17/15 08:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:04 AM	72945
12/17/15 08:20 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/19/15 10:27 AM	72834
12/17/15 08:20 AM	Aqueous	E300	Anion Preparation	12/28/15 09:54 AM	72953
12/17/15 08:20 AM	Aqueous	E300	Anion Preparation	12/28/15 09:54 AM	72953
12/17/15 08:20 AM	Aqueous	M4500-H+ B	pH Preparation	12/18/15 08:50 AM	72803
12/17/15 08:20 AM	Aqueous	M2540C	TDS Preparation	12/21/15 01:00 PM	72884
12/17/15 10:10 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:04 AM	72945
12/17/15 10:10 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:04 AM	72945
12/17/15 10:10 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:04 AM	72945
12/17/15 10:10 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/19/15 10:27 AM	72834
12/17/15 10:10 AM	Aqueous	E300	Anion Preparation	12/28/15 09:54 AM	72953
12/17/15 10:10 AM	Aqueous	E300	Anion Preparation	12/28/15 09:54 AM	72953
12/17/15 10:10 AM	Aqueous	M4500-H+ B	pH Preparation	12/18/15 08:50 AM	72803
12/17/15 10:10 AM	Aqueous	M2540C	TDS Preparation	12/21/15 01:00 PM	72884
12/17/15 10:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:04 AM	72945
12/17/15 10:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:04 AM	72945
12/17/15 10:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:04 AM	72945
12/17/15 10:35 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/19/15 10:27 AM	72834
12/17/15 10:35 AM	Aqueous	E300	Anion Preparation	12/28/15 09:54 AM	72953
12/17/15 10:35 AM	Aqueous	E300	Anion Preparation	12/28/15 09:54 AM	72953
12/17/15 10:35 AM	Aqueous	M4500-H+ B	pH Preparation	12/18/15 08:50 AM	72803
12/17/15 10:35 AM	Aqueous	M2540C	TDS Preparation	12/22/15 02:43 PM	72907
12/17/15 11:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:04 AM	72945
12/17/15 11:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:04 AM	72945
12/17/15 11:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:04 AM	72945
12/17/15 11:30 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/19/15 10:27 AM	72834

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PREP DATES REPORT

Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
12/17/15 11:30 AM	Aqueous	E300	Anion Preparation	12/28/15 09:54 AM	72953
12/17/15 11:30 AM	Aqueous	M4500-H+ B	pH Preparation	12/18/15 08:50 AM	72803
12/17/15 11:30 AM	Aqueous	M2540C	TDS Preparation	12/22/15 02:43 PM	72907
12/17/15 12:50 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:04 AM	72945
12/17/15 12:50 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:04 AM	72945
12/17/15 12:50 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:04 AM	72945
12/17/15 12:50 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/19/15 10:27 AM	72834
12/17/15 12:50 PM	Aqueous	E300	Anion Preparation	12/28/15 09:54 AM	72953
12/17/15 12:50 PM	Aqueous	E300	Anion Preparation	12/28/15 09:54 AM	72953
12/17/15 12:50 PM	Aqueous	M4500-H+ B	pH Preparation	12/18/15 08:50 AM	72803
12/17/15 12:50 PM	Aqueous	M2540C	TDS Preparation	12/22/15 02:43 PM	72907
12/17/15 01:35 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:04 AM	72945
12/17/15 01:35 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:04 AM	72945
12/17/15 01:35 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:04 AM	72945
12/17/15 01:35 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/19/15 10:27 AM	72834
12/17/15 01:35 PM	Aqueous	E300	Anion Preparation	12/28/15 09:54 AM	72953
12/17/15 01:35 PM	Aqueous	E300	Anion Preparation	12/28/15 09:54 AM	72953
12/17/15 01:35 PM	Aqueous	M4500-H+ B	pH Preparation	12/18/15 08:50 AM	72803
12/17/15 01:35 PM	Aqueous	M2540C	TDS Preparation	12/22/15 02:43 PM	72907
12/17/15 02:55 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:04 AM	72945
12/17/15 02:55 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:04 AM	72945
12/17/15 02:55 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:04 AM	72945
12/17/15 02:55 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/19/15 10:27 AM	72834
12/17/15 02:55 PM	Aqueous	E300	Anion Preparation	12/28/15 09:54 AM	72953
12/17/15 02:55 PM	Aqueous	E300	Anion Preparation	12/28/15 09:54 AM	72953
12/17/15 02:55 PM	Aqueous	M4500-H+ B	pH Preparation	12/18/15 08:50 AM	72803
12/17/15 02:55 PM	Aqueous	M2540C	TDS Preparation	12/22/15 02:43 PM	72907
12/18/15 08:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:04 AM	72945

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PREP DATES REPORT

Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
12/18/15 08:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:04 AM	72945
12/18/15 08:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:04 AM	72945
12/18/15 08:50 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/19/15 10:27 AM	72834
12/18/15 08:50 AM	Aqueous	E300	Anion Preparation	12/28/15 09:54 AM	72953
12/18/15 08:50 AM	Aqueous	E300	Anion Preparation	12/28/15 09:54 AM	72953
12/18/15 08:50 AM	Aqueous	M4500-H+ B	pH Preparation	12/18/15 08:50 AM	72803
12/18/15 08:50 AM	Aqueous	M2540C	TDS Preparation	12/22/15 02:43 PM	72907
12/18/15 09:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:04 AM	72945
12/18/15 09:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:04 AM	72945
12/18/15 09:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:04 AM	72945
12/18/15 09:30 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/19/15 10:27 AM	72834
12/18/15 09:30 AM	Aqueous	E300	Anion Preparation	12/28/15 09:54 AM	72953
12/18/15 09:30 AM	Aqueous	E300	Anion Preparation	12/28/15 09:54 AM	72953
12/18/15 09:30 AM	Aqueous	M4500-H+ B	pH Preparation	12/18/15 08:50 AM	72803
12/18/15 09:30 AM	Aqueous	M2540C	TDS Preparation	12/22/15 02:43 PM	72907
12/18/15 10:40 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:04 AM	72945
12/18/15 10:40 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:04 AM	72945
12/18/15 10:40 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:04 AM	72945
12/18/15 10:40 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/19/15 10:27 AM	72834
12/18/15 10:40 AM	Aqueous	E300	Anion Preparation	12/28/15 09:54 AM	72953
12/18/15 10:40 AM	Aqueous	E300	Anion Preparation	12/28/15 09:54 AM	72953
12/18/15 10:40 AM	Aqueous	M4500-H+ B	pH Preparation	12/18/15 08:50 AM	72803
12/18/15 10:40 AM	Aqueous	M2540C	TDS Preparation	12/22/15 02:43 PM	72907

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ANALYTICAL DATES REPORT

Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
Aqueous	SW7470A	Mercury Total: Aqueous	72834	1	12/22/15 12:27 PM	CETAC2_HG_151222 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72945	10	01/04/16 02:59 PM	ICP-MS4_160104E
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72945	1	01/05/16 04:20 PM	ICP-MS4_160105A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72945	1	01/06/16 08:51 PM	ICP-MS4_160106B
Aqueous	E300	Anions by IC method - Water	72953	1	12/28/15 11:17 AM	IC2_151228A
Aqueous	E300	Anions by IC method - Water	72953	10	12/28/15 02:19 PM	IC2_151228A
Aqueous	M4500-H+ B	pH	72803	1	12/18/15 03:23 PM	TITRATOR_151218A
Aqueous	M2540C	Total Dissolved Solids	72884	1	12/22/15 08:00 AM	WC_151221A
Aqueous	SW7470A	Mercury Total: Aqueous	72834	1	12/22/15 12:30 PM	CETAC2_HG_151222 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72945	1	01/06/16 08:53 PM	ICP-MS4_160106B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72945	100	01/04/16 03:01 PM	ICP-MS4_160104E
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72945	1	01/05/16 04:22 PM	ICP-MS4_160105A
Aqueous	E300	Anions by IC method - Water	72953	1	12/28/15 11:31 AM	IC2_151228A
Aqueous	E300	Anions by IC method - Water	72953	100	12/28/15 02:33 PM	IC2_151228A
Aqueous	M4500-H+ B	pH	72803	1	12/18/15 03:25 PM	TITRATOR_151218A
Aqueous	M2540C	Total Dissolved Solids	72884	1	12/22/15 08:00 AM	WC_151221A
Aqueous	SW7470A	Mercury Total: Aqueous	72834	1	12/22/15 12:32 PM	CETAC2_HG_151222 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72945	1	01/06/16 08:54 PM	ICP-MS4_160106B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72945	1	01/05/16 04:24 PM	ICP-MS4_160105A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72945	100	01/04/16 03:21 PM	ICP-MS4_160104E
Aqueous	E300	Anions by IC method - Water	72953	100	12/28/15 02:48 PM	IC2_151228A
Aqueous	E300	Anions by IC method - Water	72953	1	12/28/15 11:46 AM	IC2_151228A
Aqueous	M4500-H+ B	pH	72803	1	12/18/15 03:26 PM	TITRATOR_151218A
Aqueous	M2540C	Total Dissolved Solids	72907	1	12/23/15 08:05 AM	WC_151222B
Aqueous	SW7470A	Mercury Total: Aqueous	72834	1	12/22/15 12:34 PM	CETAC2_HG_151222 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72945	1	01/04/16 03:40 PM	ICP-MS4_160104E

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ANALYTICAL DATES REPORT

Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72945	1	01/05/16 04:26 PM	ICP-MS4_160105A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72945	1	01/06/16 08:56 PM	ICP-MS4_160106B
Aqueous	E300	Anions by IC method - Water	72953	1	12/28/15 12:00 PM	IC2_151228A
Aqueous	M4500-H+ B	pH	72803	1	12/18/15 03:29 PM	TITRATOR_151218A
Aqueous	M2540C	Total Dissolved Solids	72907	1	12/23/15 08:05 AM	WC_151222B
Aqueous	SW7470A	Mercury Total: Aqueous	72834	1	12/22/15 12:36 PM	CETAC2_HG_151222 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72945	100	01/04/16 03:23 PM	ICP-MS4_160104E
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72945	1	01/05/16 04:28 PM	ICP-MS4_160105A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72945	1	01/06/16 08:58 PM	ICP-MS4_160106B
Aqueous	E300	Anions by IC method - Water	72953	1	12/28/15 12:15 PM	IC2_151228A
Aqueous	E300	Anions by IC method - Water	72953	100	12/28/15 03:02 PM	IC2_151228A
Aqueous	M4500-H+ B	pH	72803	1	12/18/15 03:31 PM	TITRATOR_151218A
Aqueous	M2540C	Total Dissolved Solids	72907	1	12/23/15 08:05 AM	WC_151222B
Aqueous	SW7470A	Mercury Total: Aqueous	72834	1	12/22/15 12:46 PM	CETAC2_HG_151222 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72945	100	01/04/16 03:25 PM	ICP-MS4_160104E
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72945	1	01/05/16 04:30 PM	ICP-MS4_160105A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72945	1	01/06/16 09:00 PM	ICP-MS4_160106B
Aqueous	E300	Anions by IC method - Water	72953	1	12/28/15 12:30 PM	IC2_151228A
Aqueous	E300	Anions by IC method - Water	72953	100	12/28/15 03:17 PM	IC2_151228A
Aqueous	M4500-H+ B	pH	72803	1	12/18/15 03:34 PM	TITRATOR_151218A
Aqueous	M2540C	Total Dissolved Solids	72907	1	12/23/15 08:05 AM	WC_151222B
Aqueous	SW7470A	Mercury Total: Aqueous	72834	1	12/22/15 12:48 PM	CETAC2_HG_151222 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72945	100	01/04/16 03:27 PM	ICP-MS4_160104E
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72945	1	01/05/16 04:32 PM	ICP-MS4_160105A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72945	1	01/06/16 09:02 PM	ICP-MS4_160106B
Aqueous	E300	Anions by IC method - Water	72953	1	12/28/15 12:44 PM	IC2_151228A

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ANALYTICAL DATES REPORT

Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
Aqueous	E300	Anions by IC method - Water	72953	100	12/28/15 03:32 PM	IC2_151228A
Aqueous	M4500-H+ B	pH	72803	1	12/18/15 03:36 PM	TITRATOR_151218A
Aqueous	M2540C	Total Dissolved Solids	72907	1	12/23/15 08:05 AM	WC_151222B
Aqueous	SW7470A	Mercury Total: Aqueous	72834	1	12/22/15 12:50 PM	CETAC2_HG_151222 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72945	1	01/06/16 09:04 PM	ICP-MS4_160106B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72945	100	01/04/16 03:29 PM	ICP-MS4_160104E
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72945	1	01/05/16 04:34 PM	ICP-MS4_160105A
Aqueous	E300	Anions by IC method - Water	72953	100	12/28/15 03:46 PM	IC2_151228A
Aqueous	E300	Anions by IC method - Water	72953	1	12/28/15 12:59 PM	IC2_151228A
Aqueous	M4500-H+ B	pH	72803	1	12/18/15 03:38 PM	TITRATOR_151218A
Aqueous	M2540C	Total Dissolved Solids	72907	1	12/23/15 08:05 AM	WC_151222B
Aqueous	SW7470A	Mercury Total: Aqueous	72834	1	12/22/15 12:52 PM	CETAC2_HG_151222 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72945	10	01/04/16 03:32 PM	ICP-MS4_160104E
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72945	1	01/05/16 04:36 PM	ICP-MS4_160105A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72945	1	01/06/16 09:06 PM	ICP-MS4_160106B
Aqueous	E300	Anions by IC method - Water	72953	10	12/28/15 04:01 PM	IC2_151228A
Aqueous	E300	Anions by IC method - Water	72953	1	12/28/15 01:14 PM	IC2_151228A
Aqueous	M4500-H+ B	pH	72803	1	12/18/15 03:41 PM	TITRATOR_151218A
Aqueous	M2540C	Total Dissolved Solids	72907	1	12/23/15 08:05 AM	WC_151222B
Aqueous	SW7470A	Mercury Total: Aqueous	72834	1	12/22/15 12:55 PM	CETAC2_HG_151222 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72945	100	01/04/16 03:34 PM	ICP-MS4_160104E
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72945	1	01/05/16 04:38 PM	ICP-MS4_160105A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72945	1	01/06/16 09:08 PM	ICP-MS4_160106B
Aqueous	E300	Anions by IC method - Water	72953	1	12/28/15 01:28 PM	IC2_151228A
Aqueous	E300	Anions by IC method - Water	72953	100	12/28/15 04:15 PM	IC2_151228A
Aqueous	M4500-H+ B	pH	72803	1	12/18/15 03:46 PM	TITRATOR_151218A

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ANALYTICAL DATA REPORT

Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
Aqueous	M2540C	Total Dissolved Solids	72907	1	12/23/15 08:05 AM	WC_151222B

LUMINANT

DHL Analytical, Inc.

Date: 22-Jan-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow - AX Landfill
Project No: 5164-E
Lab Order: 1512238

Client Sample ID: AX-22R
Lab ID: 1512238-01
Collection Date: 12/17/15 08:20 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/22/15 12:27 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/05/16 04:20 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 04:20 PM
Barium	0.116	0.00300	0.0100		mg/L	1	01/05/16 04:20 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 04:20 PM
Boron	0.106	0.0100	0.0300		mg/L	1	01/05/16 04:20 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 04:20 PM
Calcium	87.0	1.00	3.00		mg/L	10	01/04/16 02:59 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 04:20 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	01/05/16 04:20 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 04:20 PM
Lithium	0.0521	0.00500	0.0100		mg/L	1	01/05/16 04:20 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 04:20 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 04:20 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/06/16 08:51 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	102	3.00	10.0		mg/L	10	12/28/15 02:19 PM
Fluoride	0.224	0.100	0.400	J	mg/L	1	12/28/15 11:17 AM
Sulfate	49.2	1.00	3.00		mg/L	1	12/28/15 11:17 AM
PH		M4500-H+ B		Analyst: LM			
pH	7.22	0	0		pH Units@16.1°C	1	12/18/15 03:23 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	543	10.0	10.0		mg/L	1	12/22/15 08:00 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 22-Jan-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow - AX Landfill
Project No: 5164-E
Lab Order: 1512238

Client Sample ID: AXMW-2
Lab ID: 1512238-02
Collection Date: 12/17/15 10:10 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/22/15 12:30 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/05/16 04:22 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 04:22 PM
Barium	0.0217	0.00300	0.0100		mg/L	1	01/05/16 04:22 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 04:22 PM
Boron	1.31	0.0100	0.0300		mg/L	1	01/05/16 04:22 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 04:22 PM
Calcium	422	10.0	30.0		mg/L	100	01/04/16 03:01 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 04:22 PM
Cobalt	0.0243	0.00300	0.00500		mg/L	1	01/05/16 04:22 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 04:22 PM
Lithium	0.100	0.00500	0.0100		mg/L	1	01/05/16 04:22 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 04:22 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 04:22 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/06/16 08:53 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	155	30.0	100		mg/L	100	12/28/15 02:33 PM
Fluoride	0.357	0.100	0.400	J	mg/L	1	12/28/15 11:31 AM
Sulfate	1450	100	300		mg/L	100	12/28/15 02:33 PM
PH		M4500-H+ B		Analyst: LM			
pH	6.28	0	0		pH Units@15.8°C	1	12/18/15 03:25 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	2820	50.0	50.0		mg/L	1	12/22/15 08:00 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 22-Jan-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow - AX Landfill
Project No: 5164-E
Lab Order: 1512238

Client Sample ID: AX-29
Lab ID: 1512238-03
Collection Date: 12/17/15 10:35 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A			Analyst: ABO		
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/22/15 12:32 PM
TRACE METALS: ICP-MS - WATER		SW6020A			Analyst: RO		
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/05/16 04:24 PM
Arsenic	0.00556	0.00200	0.00500		mg/L	1	01/05/16 04:24 PM
Barium	0.0737	0.00300	0.0100		mg/L	1	01/05/16 04:24 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 04:24 PM
Boron	0.323	0.0100	0.0300		mg/L	1	01/05/16 04:24 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 04:24 PM
Calcium	293	10.0	30.0		mg/L	100	01/04/16 03:21 PM
Chromium	0.00216	0.00200	0.00500	J	mg/L	1	01/05/16 04:24 PM
Cobalt	0.0878	0.00300	0.00500		mg/L	1	01/05/16 04:24 PM
Lead	0.000593	0.000300	0.00100	J	mg/L	1	01/05/16 04:24 PM
Lithium	0.0348	0.00500	0.0100		mg/L	1	01/05/16 04:24 PM
Molybdenum	0.00333	0.00200	0.00500	J	mg/L	1	01/05/16 04:24 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 04:24 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/06/16 08:54 PM
ANIONS BY IC METHOD - WATER		E300			Analyst: AV		
Chloride	279	30.0	100		mg/L	100	12/28/15 02:48 PM
Fluoride	0.104	0.100	0.400	J	mg/L	1	12/28/15 11:46 AM
Sulfate	1080	100	300		mg/L	100	12/28/15 02:48 PM
PH		M4500-H+ B			Analyst: LM		
pH	6.29	0	0		pH Units@15.8°C	1	12/18/15 03:26 PM
TOTAL DISSOLVED SOLIDS		M2540C			Analyst: BJT		
Total Dissolved Solids (Residue, Filterable)	2430	50.0	50.0		mg/L	1	12/23/15 08:05 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 22-Jan-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow - AX Landfill
Project No: 5164-E
Lab Order: 1512238

Client Sample ID: AX-23
Lab ID: 1512238-04
Collection Date: 12/17/15 11:30 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/22/15 12:34 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/05/16 04:26 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 04:26 PM
Barium	0.0407	0.00300	0.0100		mg/L	1	01/05/16 04:26 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 04:26 PM
Boron	0.0466	0.0100	0.0300		mg/L	1	01/04/16 03:40 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 04:26 PM
Calcium	10.8	0.100	0.300		mg/L	1	01/05/16 04:26 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 04:26 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	01/05/16 04:26 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 04:26 PM
Lithium	<0.00500	0.00500	0.0100		mg/L	1	01/05/16 04:26 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 04:26 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 04:26 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/06/16 08:56 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	11.5	0.300	1.00		mg/L	1	12/28/15 12:00 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	12/28/15 12:00 PM
Sulfate	30.2	1.00	3.00		mg/L	1	12/28/15 12:00 PM
PH		M4500-H+ B		Analyst: LM			
pH	6.91	0	0		pH Units@16.1°C	1	12/18/15 03:29 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	135	10.0	10.0		mg/L	1	12/23/15 08:05 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 22-Jan-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow - AX Landfill
Project No: 5164-E
Lab Order: 1512238

Client Sample ID: AXMW-1
Lab ID: 1512238-05
Collection Date: 12/17/15 12:50 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A			Analyst: ABO		
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/22/15 12:36 PM
TRACE METALS: ICP-MS - WATER		SW6020A			Analyst: RO		
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/05/16 04:28 PM
Arsenic	0.0130	0.00200	0.00500		mg/L	1	01/05/16 04:28 PM
Barium	0.0155	0.00300	0.0100		mg/L	1	01/05/16 04:28 PM
Beryllium	0.000677	0.000300	0.00100	J	mg/L	1	01/05/16 04:28 PM
Boron	0.517	0.0100	0.0300		mg/L	1	01/05/16 04:28 PM
Cadmium	0.000764	0.000300	0.00100	J	mg/L	1	01/05/16 04:28 PM
Calcium	400	10.0	30.0		mg/L	100	01/04/16 03:23 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 04:28 PM
Cobalt	0.363	0.00300	0.00500		mg/L	1	01/05/16 04:28 PM
Lead	0.000622	0.000300	0.00100	J	mg/L	1	01/05/16 04:28 PM
Lithium	0.0467	0.00500	0.0100		mg/L	1	01/05/16 04:28 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 04:28 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 04:28 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/06/16 08:58 PM
ANIONS BY IC METHOD - WATER		E300			Analyst: AV		
Chloride	303	30.0	100		mg/L	100	12/28/15 03:02 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	12/28/15 12:15 PM
Sulfate	2000	100	300		mg/L	100	12/28/15 03:02 PM
PH		M4500-H+ B			Analyst: LM		
pH	5.82	0	0		pH Units@16.3°C	1	12/18/15 03:31 PM
TOTAL DISSOLVED SOLIDS		M2540C			Analyst: BJT		
Total Dissolved Solids (Residue, Filterable)	3420	50.0	50.0		mg/L	1	12/23/15 08:05 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 22-Jan-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow - AX Landfill
Project No: 5164-E
Lab Order: 1512238

Client Sample ID: AX-27
Lab ID: 1512238-06
Collection Date: 12/17/15 01:35 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/22/15 12:46 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/05/16 04:30 PM
Arsenic	0.00422	0.00200	0.00500	J	mg/L	1	01/05/16 04:30 PM
Barium	0.225	0.00300	0.0100		mg/L	1	01/05/16 04:30 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 04:30 PM
Boron	0.172	0.0100	0.0300		mg/L	1	01/05/16 04:30 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 04:30 PM
Calcium	299	10.0	30.0		mg/L	100	01/04/16 03:25 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 04:30 PM
Cobalt	0.0208	0.00300	0.00500		mg/L	1	01/05/16 04:30 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 04:30 PM
Lithium	0.0813	0.00500	0.0100		mg/L	1	01/05/16 04:30 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 04:30 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 04:30 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/06/16 09:00 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	544	30.0	100		mg/L	100	12/28/15 03:17 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	12/28/15 12:30 PM
Sulfate	371	100	300		mg/L	100	12/28/15 03:17 PM
PH		M4500-H+ B		Analyst: LM			
pH	6.54	0	0		pH Units@17°C	1	12/18/15 03:34 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	1920	50.0	50.0		mg/L	1	12/23/15 08:05 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 22-Jan-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow - AX Landfill
Project No: 5164-E
Lab Order: 1512238

Client Sample ID: AX-26
Lab ID: 1512238-07
Collection Date: 12/17/15 02:55 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/22/15 12:48 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/05/16 04:32 PM
Arsenic	0.00348	0.00200	0.00500	J	mg/L	1	01/05/16 04:32 PM
Barium	0.0964	0.00300	0.0100		mg/L	1	01/05/16 04:32 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 04:32 PM
Boron	0.326	0.0100	0.0300		mg/L	1	01/05/16 04:32 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 04:32 PM
Calcium	915	10.0	30.0		mg/L	100	01/04/16 03:27 PM
Chromium	0.00650	0.00200	0.00500		mg/L	1	01/05/16 04:32 PM
Cobalt	0.0419	0.00300	0.00500		mg/L	1	01/05/16 04:32 PM
Lead	0.000823	0.000300	0.00100	J	mg/L	1	01/05/16 04:32 PM
Lithium	0.625	0.00500	0.0100		mg/L	1	01/05/16 04:32 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 04:32 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 04:32 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/06/16 09:02 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	2220	30.0	100		mg/L	100	12/28/15 03:32 PM
Fluoride	0.304	0.100	0.400	J	mg/L	1	12/28/15 12:44 PM
Sulfate	1050	100	300		mg/L	100	12/28/15 03:32 PM
PH		M4500-H+ B		Analyst: LM			
pH	6.48	0	0		pH Units@17.6°C	1	12/18/15 03:36 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	6440	50.0	50.0		mg/L	1	12/23/15 08:05 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 22-Jan-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow - AX Landfill
Project No: 5164-E
Lab Order: 1512238

Client Sample ID: AX-24
Lab ID: 1512238-08
Collection Date: 12/18/15 08:50 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/22/15 12:50 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/05/16 04:34 PM
Arsenic	0.00538	0.00200	0.00500		mg/L	1	01/05/16 04:34 PM
Barium	0.0680	0.00300	0.0100		mg/L	1	01/05/16 04:34 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 04:34 PM
Boron	0.165	0.0100	0.0300		mg/L	1	01/05/16 04:34 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 04:34 PM
Calcium	231	10.0	30.0		mg/L	100	01/04/16 03:29 PM
Chromium	0.00930	0.00200	0.00500		mg/L	1	01/05/16 04:34 PM
Cobalt	0.0266	0.00300	0.00500		mg/L	1	01/05/16 04:34 PM
Lead	0.00146	0.000300	0.00100		mg/L	1	01/05/16 04:34 PM
Lithium	0.0681	0.00500	0.0100		mg/L	1	01/05/16 04:34 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 04:34 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 04:34 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/06/16 09:04 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	195	30.0	100		mg/L	100	12/28/15 03:46 PM
Fluoride	0.149	0.100	0.400	J	mg/L	1	12/28/15 12:59 PM
Sulfate	766	100	300		mg/L	100	12/28/15 03:46 PM
PH		M4500-H+ B		Analyst: LM			
pH	6.41	0	0		pH Units@18°C	1	12/18/15 03:38 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	1840	50.0	50.0		mg/L	1	12/23/15 08:05 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 22-Jan-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow - AX Landfill
Project No: 5164-E
Lab Order: 1512238

Client Sample ID: AX-25
Lab ID: 1512238-09
Collection Date: 12/18/15 09:30 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/22/15 12:52 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	0.000916	0.000800	0.00250	J	mg/L	1	01/05/16 04:36 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 04:36 PM
Barium	0.184	0.00300	0.0100		mg/L	1	01/05/16 04:36 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 04:36 PM
Boron	0.141	0.0100	0.0300		mg/L	1	01/05/16 04:36 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 04:36 PM
Calcium	113	1.00	3.00		mg/L	10	01/04/16 03:32 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 04:36 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	01/05/16 04:36 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 04:36 PM
Lithium	0.0237	0.00500	0.0100		mg/L	1	01/05/16 04:36 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 04:36 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 04:36 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/06/16 09:06 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	160	3.00	10.0		mg/L	10	12/28/15 04:01 PM
Fluoride	0.212	0.100	0.400	J	mg/L	1	12/28/15 01:14 PM
Sulfate	278	10.0	30.0		mg/L	10	12/28/15 04:01 PM
PH		M4500-H+ B		Analyst: LM			
pH	7.05	0	0		pH Units@18.9°C	1	12/18/15 03:41 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	996	10.0	10.0		mg/L	1	12/23/15 08:05 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 22-Jan-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow - AX Landfill
Project No: 5164-E
Lab Order: 1512238

Client Sample ID: AX-28
Lab ID: 1512238-10
Collection Date: 12/18/15 10:40 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/22/15 12:55 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/05/16 04:38 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 04:38 PM
Barium	0.0476	0.00300	0.0100		mg/L	1	01/05/16 04:38 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 04:38 PM
Boron	0.150	0.0100	0.0300		mg/L	1	01/05/16 04:38 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 04:38 PM
Calcium	477	10.0	30.0		mg/L	100	01/04/16 03:34 PM
Chromium	0.00511	0.00200	0.00500		mg/L	1	01/05/16 04:38 PM
Cobalt	0.0210	0.00300	0.00500		mg/L	1	01/05/16 04:38 PM
Lead	0.000401	0.000300	0.00100	J	mg/L	1	01/05/16 04:38 PM
Lithium	0.254	0.00500	0.0100		mg/L	1	01/05/16 04:38 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 04:38 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 04:38 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/06/16 09:08 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	275	30.0	100		mg/L	100	12/28/15 04:15 PM
Fluoride	0.106	0.100	0.400	J	mg/L	1	12/28/15 01:28 PM
Sulfate	1420	100	300		mg/L	100	12/28/15 04:15 PM
PH		M4500-H+ B		Analyst: LM			
pH	6.52	0	0		pH Units@18.4°C	1	12/18/15 03:46 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	3150	50.0	50.0		mg/L	1	12/23/15 08:05 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT: Pastor, Behling & Wheeler

ANALYTICAL QC SUMMARY REPORT

Work Order: 1512238

Project: Sandow - AX Landfill

RunID: CETAC2_HG_151222A

The QC data in batch 72834 applies to the following samples: 1512238-01A, 1512238-02A, 1512238-03A, 1512238-04A, 1512238-05A, 1512238-06A, 1512238-07A, 1512238-08A, 1512238-09A, 1512238-10A

Sample ID	MB-72834	Batch ID:	72834	TestNo:	SW7470A	Units:	mg/L			
SampType:	MBLK	Run ID:	CETAC2_HG_151222A	Analysis Date:	12/22/2015 11:44:20 A	Prep Date:	12/19/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury <0.0000800 0.000200

Sample ID	LCS-72834	Batch ID:	72834	TestNo:	SW7470A	Units:	mg/L			
SampType:	LCS	Run ID:	CETAC2_HG_151222A	Analysis Date:	12/22/2015 11:46:37 A	Prep Date:	12/19/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00196 0.000200 0.00200 0 98.0 85 115

Sample ID	LCSD-72834	Batch ID:	72834	TestNo:	SW7470A	Units:	mg/L			
SampType:	LCSD	Run ID:	CETAC2_HG_151222A	Analysis Date:	12/22/2015 11:48:53 A	Prep Date:	12/19/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00189 0.000200 0.00200 0 94.5 85 115 3.64 15

Sample ID	1512237-01A SD	Batch ID:	72834	TestNo:	SW7470A	Units:	mg/L			
SampType:	SD	Run ID:	CETAC2_HG_151222A	Analysis Date:	12/22/2015 11:53:27 A	Prep Date:	12/19/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury <0.000400 0.00100 0 0 0 0 10

Sample ID	1512237-01A PDS	Batch ID:	72834	TestNo:	SW7470A	Units:	mg/L			
SampType:	PDS	Run ID:	CETAC2_HG_151222A	Analysis Date:	12/22/2015 11:55:43 A	Prep Date:	12/19/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00248 0.000200 0.00250 0 99.2 85 115

Sample ID	1512237-01A MS	Batch ID:	72834	TestNo:	SW7470A	Units:	mg/L			
SampType:	MS	Run ID:	CETAC2_HG_151222A	Analysis Date:	12/22/2015 11:58:00 A	Prep Date:	12/19/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00197 0.000200 0.00200 0 98.5 80 120

Sample ID	1512237-01A MSD	Batch ID:	72834	TestNo:	SW7470A	Units:	mg/L			
SampType:	MSD	Run ID:	CETAC2_HG_151222A	Analysis Date:	12/22/2015 12:00:17 P	Prep Date:	12/19/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00195 0.000200 0.00200 0 97.5 80 120 1.02 15

- Qualifiers:**
- B Analyte detected in the associated Method Blank
 - J Analyte detected between MDL and RL
 - ND Not Detected at the Method Detection Limit
 - RL Reporting Limit
 - J Analyte detected between SDL and RL
 - DF Dilution Factor
 - MDL Method Detection Limit
 - R RPD outside accepted control limits
 - S Spike Recovery outside control limits
 - N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1512238
Project: Sandow - AX Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_151222A

Sample ID ICV-151222	Batch ID: R83299	TestNo: SW7470A	Units: mg/L							
SampType: ICV	Run ID: CETAC2_HG_151222A	Analysis Date: 12/22/2015 10:31:35 A	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00397	0.000200	0.00400	0	99.2	90	110
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Sample ID CCV2-151222	Batch ID: R83299	TestNo: SW7470A	Units: mg/L							
SampType: CCV	Run ID: CETAC2_HG_151222A	Analysis Date: 12/22/2015 11:39:45 A	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00183	0.000200	0.00200	0	91.5	90	110
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Sample ID CCV3-151222	Batch ID: R83299	TestNo: SW7470A	Units: mg/L							
SampType: CCV	Run ID: CETAC2_HG_151222A	Analysis Date: 12/22/2015 12:23:10 P	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00192	0.000200	0.00200	0	96.0	90	110
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Sample ID CCV4-151222	Batch ID: R83299	TestNo: SW7470A	Units: mg/L							
SampType: CCV	Run ID: CETAC2_HG_151222A	Analysis Date: 12/22/2015 12:57:25 P	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00190	0.000200	0.00200	0	95.0	90	110
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Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1512238
Project: Sandow - AX Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160104E

The QC data in batch 72945 applies to the following samples: 1512238-01A, 1512238-02A, 1512238-03A, 1512238-04A, 1512238-05A, 1512238-06A, 1512238-07A, 1512238-08A, 1512238-09A, 1512238-10A

Sample ID 1512237-01A SD	Batch ID: 72945	TestNo: SW6020A	Units: mg/L							
SampType: SD	Run ID: ICP-MS4_160104E	Analysis Date: 1/4/2016 2:43:00 PM	Prep Date: 12/28/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	3.83	1.50	0	3.69				3.87	10	
Calcium	153	15.0	0	155				1.20	10	

Sample ID 1512237-01A PDS	Batch ID: 72945	TestNo: SW6020A	Units: mg/L							
SampType: PDS	Run ID: ICP-MS4_160104E	Analysis Date: 1/4/2016 3:04:00 PM	Prep Date: 12/28/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	5.44	0.300	2.00	3.69	87.8	80	120			
Calcium	199	3.00	50.0	155	88.1	80	120			

LUMINANT

Qualifiers:	<p>B Analyte detected in the associated Method Blank</p> <p>J Analyte detected between MDL and RL</p> <p>ND Not Detected at the Method Detection Limit</p> <p>RL Reporting Limit</p> <p>J Analyte detected between SDL and RL</p>	<p>DF Dilution Factor</p> <p>MDL Method Detection Limit</p> <p>R RPD outside accepted control limits</p> <p>S Spike Recovery outside control limits</p> <p>N Parameter not NELAC certified</p>
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1512238
Project: Sandow - AX Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160104E

Sample ID ICV-160104	Batch ID: R83480	TestNo: SW6020A	Units: mg/L							
SampType: ICV	Run ID: ICP-MS4_160104E	Analysis Date: 1/4/2016 10:01:00 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.102	0.0300	0.100	0	102	90	110			
Calcium	2.37	0.300	2.50	0	94.7	90	110			

Sample ID LCVL-160104	Batch ID: R83480	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160104E	Analysis Date: 1/4/2016 10:05:00 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0248	0.0300	0.0200	0	124	70	130			
Calcium	0.0945	0.300	0.100	0	94.5	70	130			

Sample ID CCV7-160104	Batch ID: R83480	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160104E	Analysis Date: 1/4/2016 2:27:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.221	0.0300	0.200	0	110	90	110			
Calcium	4.91	0.300	5.00	0	98.3	90	110			

Sample ID LCVL7-160104	Batch ID: R83480	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160104E	Analysis Date: 1/4/2016 2:37:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0238	0.0300	0.0200	0	119	70	130			
Calcium	0.0949	0.300	0.100	0	94.9	70	130			

Sample ID CCV8-160104	Batch ID: R83480	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160104E	Analysis Date: 1/4/2016 3:06:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.221	0.0300	0.200	0	110	90	110			
Calcium	4.94	0.300	5.00	0	98.8	90	110			

Sample ID LCVL8-160104	Batch ID: R83480	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160104E	Analysis Date: 1/4/2016 3:17:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0246	0.0300	0.0200	0	123	70	130			
Calcium	0.0945	0.300	0.100	0	94.5	70	130			

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1512238
Project: Sandow - AX Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160104E

Sample ID: CCV9-160104	Batch ID: R83480	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160104E	Analysis Date: 1/4/2016 3:44:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.209	0.0300	0.200	0	105	90	110			
Calcium	4.90	0.300	5.00	0	97.9	90	110			

Sample ID: LCVL9-160104	Batch ID: R83480	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160104E	Analysis Date: 1/4/2016 3:55:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0191	0.0300	0.0200	0	95.4	70	130			
Calcium	0.0900	0.300	0.100	0	90.0	70	130			

LUMINANT

Qualifiers:	<p>B Analyte detected in the associated Method Blank</p> <p>J Analyte detected between MDL and RL</p> <p>ND Not Detected at the Method Detection Limit</p> <p>RL Reporting Limit</p> <p>J Analyte detected between SDL and RL</p>	<p>DF Dilution Factor</p> <p>MDL Method Detection Limit</p> <p>R RPD outside accepted control limits</p> <p>S Spike Recovery outside control limits</p> <p>N Parameter not NELAC certified</p>
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1512238
Project: Sandow - AX Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160105A

The QC data in batch 72945 applies to the following samples: 1512238-01A, 1512238-02A, 1512238-03A, 1512238-04A, 1512238-05A, 1512238-06A, 1512238-07A, 1512238-08A, 1512238-09A, 1512238-10A

Sample ID: MB-72945	Batch ID: 72945	TestNo: SW6020A	Units: mg/L
SampType: MBLK	Run ID: ICP-MS4_160105A	Analysis Date: 1/5/2016 2:28:00 PM	Prep Date: 12/28/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.000800	0.00250								
Arsenic	<0.00200	0.00500								
Barium	<0.00300	0.0100								
Beryllium	<0.000300	0.00100								
Boron	0.0119	0.0300								
Cadmium	<0.000300	0.00100								
Calcium	<0.100	0.300								
Chromium	<0.00200	0.00500								
Cobalt	<0.00300	0.00500								
Lead	<0.000300	0.00100								
Lithium	<0.00500	0.0100								
Molybdenum	<0.00200	0.00500								
Selenium	<0.00200	0.00500								

Sample ID: LCS-72945	Batch ID: 72945	TestNo: SW6020A	Units: mg/L
SampType: LCS	Run ID: ICP-MS4_160105A	Analysis Date: 1/5/2016 2:30:00 PM	Prep Date: 12/28/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.186	0.00250	0.200	0	93.1	80	120			
Arsenic	0.196	0.00500	0.200	0	98.1	80	120			
Barium	0.193	0.0100	0.200	0	96.5	80	120			
Beryllium	0.193	0.00100	0.200	0	96.5	80	120			
Boron	0.198	0.0300	0.200	0	99.0	80	120			
Cadmium	0.191	0.00100	0.200	0	95.5	80	120			
Calcium	4.64	0.300	5.00	0	92.8	80	120			
Chromium	0.195	0.00500	0.200	0	97.6	80	120			
Cobalt	0.200	0.00500	0.200	0	100	80	120			
Lead	0.189	0.00100	0.200	0	94.7	80	120			
Lithium	0.194	0.0100	0.200	0	97.0	80	120			
Molybdenum	0.186	0.00500	0.200	0	93.0	80	120			
Selenium	0.197	0.00500	0.200	0	98.6	80	120			

Sample ID: LCSD-72945	Batch ID: 72945	TestNo: SW6020A	Units: mg/L
SampType: LCSD	Run ID: ICP-MS4_160105A	Analysis Date: 1/5/2016 2:32:00 PM	Prep Date: 12/28/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.190	0.00250	0.200	0	95.1	80	120	2.14	15	
Arsenic	0.198	0.00500	0.200	0	99.0	80	120	0.868	15	
Barium	0.198	0.0100	0.200	0	98.9	80	120	2.47	15	

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
J Analyte detected between MDL and RL MDL Method Detection Limit
ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
RL Reporting Limit S Spike Recovery outside control limits
J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1512238
 Project: Sandow - AX Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160105A

Sample ID: LCSD-72945	Batch ID: 72945	TestNo: SW6020A	Units: mg/L
SampType: LCSD	Run ID: ICP-MS4_160105A	Analysis Date: 1/5/2016 2:32:00 PM	Prep Date: 12/28/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.199	0.00100	0.200	0	99.3	80	120	2.85	15	
Boron	0.212	0.0300	0.200	0	106	80	120	6.77	15	
Cadmium	0.197	0.00100	0.200	0	98.3	80	120	2.87	15	
Calcium	4.64	0.300	5.00	0	92.7	80	120	0.117	15	
Chromium	0.198	0.00500	0.200	0	98.9	80	120	1.32	15	
Cobalt	0.204	0.00500	0.200	0	102	80	120	1.77	15	
Lead	0.195	0.00100	0.200	0	97.7	80	120	3.10	15	
Lithium	0.199	0.0100	0.200	0	99.5	80	120	2.47	15	
Molybdenum	0.191	0.00500	0.200	0	95.6	80	120	2.78	15	
Selenium	0.200	0.00500	0.200	0	100	80	120	1.35	15	

Sample ID: 1512237-01A SD	Batch ID: 72945	TestNo: SW6020A	Units: mg/L
SampType: SD	Run ID: ICP-MS4_160105A	Analysis Date: 1/5/2016 2:38:00 PM	Prep Date: 12/28/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.00400	0.0125	0	0				0	10	
Arsenic	<0.0100	0.0250	0	0				0	10	
Barium	0.201	0.0500	0	0.210				3.99	10	
Beryllium	<0.00150	0.00500	0	0				0	10	
Cadmium	<0.00150	0.00500	0	0				0	10	
Chromium	<0.0100	0.0250	0	0				0	10	
Cobalt	<0.0150	0.0250	0	0.00356				0	10	
Lead	<0.00150	0.00500	0	0				0	10	
Lithium	0.0416	0.0500	0	0.0417				0.296	10	
Molybdenum	<0.0100	0.0250	0	0.00805				0	10	
Selenium	0.0344	0.0250	0	0.0345				0.462	10	

Sample ID: 1512237-01A PDS	Batch ID: 72945	TestNo: SW6020A	Units: mg/L
SampType: PDS	Run ID: ICP-MS4_160105A	Analysis Date: 1/5/2016 2:58:00 PM	Prep Date: 12/28/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.172	0.00250	0.200	0	86.0	80	120			
Arsenic	0.204	0.00500	0.200	0	102	80	120			
Barium	0.390	0.0100	0.200	0.210	90.3	80	120			
Beryllium	0.194	0.00100	0.200	0	97.0	80	120			
Cadmium	0.190	0.00100	0.200	0	94.9	80	120			
Chromium	0.197	0.00500	0.200	0	98.4	80	120			
Cobalt	0.203	0.00500	0.200	0.00356	99.8	80	120			
Lead	0.197	0.00100	0.200	0	98.6	80	120			
Lithium	0.227	0.0100	0.200	0.0417	92.5	80	120			
Molybdenum	0.195	0.00500	0.200	0.00805	93.5	80	120			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1512238
 Project: Sandow - AX Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160105A

Sample ID 1512237-01A PDS	Batch ID: 72945	TestNo: SW6020A	Units: mg/L
SampType: PDS	Run ID: ICP-MS4_160105A	Analysis Date: 1/5/2016 2:58:00 PM	Prep Date: 12/28/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.233	0.00500	0.200	0.0345	99.4	80	120			

Sample ID 1512237-01A MS	Batch ID: 72945	TestNo: SW6020A	Units: mg/L
SampType: MS	Run ID: ICP-MS4_160105A	Analysis Date: 1/5/2016 3:00:00 PM	Prep Date: 12/28/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.191	0.00250	0.200	0	95.7	80	120			
Arsenic	0.202	0.00500	0.200	0	101	80	120			
Barium	0.394	0.0100	0.200	0.210	92.3	80	120			
Beryllium	0.191	0.00100	0.200	0	95.3	80	120			
Boron	3.71	0.0300	0.200	3.61	52.6	80	120			S
Cadmium	0.188	0.00100	0.200	0	94.2	80	120			
Calcium	150	0.300	5.00	151	-28.0	80	120			S
Chromium	0.191	0.00500	0.200	0	95.7	80	120			
Cobalt	0.195	0.00500	0.200	0.00356	96.0	80	120			
Lead	0.190	0.00100	0.200	0	95.2	80	120			
Lithium	0.226	0.0100	0.200	0.0417	92.0	80	120			
Molybdenum	0.196	0.00500	0.200	0.00805	94.2	80	120			
Selenium	0.234	0.00500	0.200	0.0345	99.6	80	120			

Sample ID 1512237-01A MSD	Batch ID: 72945	TestNo: SW6020A	Units: mg/L
SampType: MSD	Run ID: ICP-MS4_160105A	Analysis Date: 1/5/2016 3:02:00 PM	Prep Date: 12/28/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.190	0.00250	0.200	0	94.9	80	120	0.828	15	
Arsenic	0.201	0.00500	0.200	0	101	80	120	0.273	15	
Barium	0.395	0.0100	0.200	0.210	92.6	80	120	0.189	15	
Beryllium	0.193	0.00100	0.200	0	96.5	80	120	1.28	15	
Boron	3.83	0.0300	0.200	3.61	112	80	120	3.15	15	
Cadmium	0.187	0.00100	0.200	0	93.5	80	120	0.715	15	
Calcium	149	0.300	5.00	151	-52.2	80	120	0.806	15	S
Chromium	0.190	0.00500	0.200	0	94.9	80	120	0.844	15	
Cobalt	0.194	0.00500	0.200	0.00356	95.5	80	120	0.512	15	
Lead	0.190	0.00100	0.200	0	94.9	80	120	0.327	15	
Lithium	0.220	0.0100	0.200	0.0417	89.2	80	120	2.43	15	
Molybdenum	0.194	0.00500	0.200	0.00805	93.0	80	120	1.19	15	
Selenium	0.234	0.00500	0.200	0.0345	99.6	80	120	0.021	15	

Qualifiers: B Analyte detected in the associated Method Blank
 J Analyte detected between MDL and RL
 ND Not Detected at the Method Detection Limit
 RL Reporting Limit
 J Analyte detected between SDL and RL

DF Dilution Factor
 MDL Method Detection Limit
 R RPD outside accepted control limits
 S Spike Recovery outside control limits
 N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1512238
Project: Sandow - AX Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160105A

Sample ID ICV-160105	Batch ID: R83481	TestNo: SW6020A	Units: mg/L
SampType: ICV	Run ID: ICP-MS4_160105A	Analysis Date: 1/5/2016 11:22:00 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.0949	0.00250	0.100	0	94.9	90	110			
Arsenic	0.103	0.00500	0.100	0	103	90	110			
Barium	0.100	0.0100	0.100	0	100	90	110			
Beryllium	0.101	0.00100	0.100	0	101	90	110			
Boron	0.104	0.0300	0.100	0	104	90	110			
Cadmium	0.101	0.00100	0.100	0	101	90	110			
Calcium	2.30	0.300	2.50	0	92.1	90	110			
Chromium	0.105	0.00500	0.100	0	105	90	110			
Cobalt	0.108	0.00500	0.100	0	108	90	110			
Lead	0.102	0.00100	0.100	0	102	90	110			
Lithium	0.0984	0.0100	0.100	0	98.4	90	110			
Molybdenum	0.0966	0.00500	0.100	0	96.6	90	110			
Selenium	0.102	0.00500	0.100	0	102	90	110			

Sample ID LCVL-160105	Batch ID: R83481	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_160105A	Analysis Date: 1/5/2016 11:26:00 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00199	0.00250	0.00200	0	99.4	70	130			
Arsenic	0.00495	0.00500	0.00500	0	99.0	70	130			
Barium	0.00489	0.0100	0.00500	0	97.7	70	130			
Beryllium	0.000790	0.00100	0.00100	0	79.0	70	130			
Boron	0.0197	0.0300	0.0200	0	98.3	70	130			
Cadmium	0.000992	0.00100	0.00100	0	99.2	70	130			
Calcium	0.0944	0.300	0.100	0	94.4	70	130			
Chromium	0.00499	0.00500	0.00500	0	99.8	70	130			
Cobalt	0.00520	0.00500	0.00500	0	104	70	130			
Lead	0.000899	0.00100	0.00100	0	89.9	70	130			
Lithium	0.00999	0.0100	0.0100	0	99.9	70	130			
Molybdenum	0.00492	0.00500	0.00500	0	98.5	70	130			
Selenium	0.00551	0.00500	0.00500	0	110	70	130			

Sample ID CCV3-160105	Batch ID: R83481	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_160105A	Analysis Date: 1/5/2016 2:02:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.195	0.00250	0.200	0	97.4	90	110			
Arsenic	0.206	0.00500	0.200	0	103	90	110			
Barium	0.201	0.0100	0.200	0	101	90	110			
Beryllium	0.200	0.00100	0.200	0	100	90	110			
Boron	0.214	0.0300	0.200	0	107	90	110			

- Qualifiers:**
- B Analyte detected in the associated Method Blank
 - J Analyte detected between MDL and RL
 - ND Not Detected at the Method Detection Limit
 - RL Reporting Limit
 - J Analyte detected between SDL and RL
 - DF Dilution Factor
 - MDL Method Detection Limit
 - R RPD outside accepted control limits
 - S Spike Recovery outside control limits
 - N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1512238
 Project: Sandow - AX Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160105A

Sample ID CCV3-160105	Batch ID: R83481	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_160105A	Analysis Date: 1/5/2016 2:02:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.200	0.00100	0.200	0	100	90	110			
Calcium	4.81	0.300	5.00	0	96.2	90	110			
Chromium	0.202	0.00500	0.200	0	101	90	110			
Cobalt	0.209	0.00500	0.200	0	105	90	110			
Lead	0.201	0.00100	0.200	0	101	90	110			
Lithium	0.197	0.0100	0.200	0	98.4	90	110			
Molybdenum	0.195	0.00500	0.200	0	97.7	90	110			
Selenium	0.211	0.00500	0.200	0	105	90	110			

Sample ID LCVL3-160105	Batch ID: R83481	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_160105A	Analysis Date: 1/5/2016 2:21:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00185	0.00250	0.00200	0	92.4	70	130			
Arsenic	0.00496	0.00500	0.00500	0	99.2	70	130			
Barium	0.00479	0.0100	0.00500	0	95.8	70	130			
Beryllium	0.00102	0.00100	0.00100	0	102	70	130			
Boron	0.0249	0.0300	0.0200	0	124	70	130			
Cadmium	0.000938	0.00100	0.00100	0	93.8	70	130			
Calcium	0.101	0.300	0.100	0	101	70	130			
Chromium	0.00491	0.00500	0.00500	0	98.2	70	130			
Cobalt	0.00510	0.00500	0.00500	0	102	70	130			
Lead	0.000801	0.00100	0.00100	0	80.1	70	130			
Lithium	0.00960	0.0100	0.0100	0	96.0	70	130			
Molybdenum	0.00455	0.00500	0.00500	0	90.9	70	130			
Selenium	0.00512	0.00500	0.00500	0	102	70	130			

Sample ID CCV4-160105	Batch ID: R83481	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_160105A	Analysis Date: 1/5/2016 3:44:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.196	0.00250	0.200	0	98.2	90	110			
Arsenic	0.209	0.00500	0.200	0	105	90	110			
Barium	0.203	0.0100	0.200	0	102	90	110			
Beryllium	0.206	0.00100	0.200	0	103	90	110			
Boron	0.219	0.0300	0.200	0	110	90	110			
Cadmium	0.202	0.00100	0.200	0	101	90	110			
Calcium	4.76	0.300	5.00	0	95.2	90	110			
Chromium	0.204	0.00500	0.200	0	102	90	110			
Cobalt	0.211	0.00500	0.200	0	106	90	110			
Lead	0.197	0.00100	0.200	0	98.6	90	110			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1512238
 Project: Sandow - AX Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160105A

Sample ID CCV4-160105	Batch ID: R83481	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160105A	Analysis Date: 1/5/2016 3:44:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lithium	0.204	0.0100	0.200	0	102	90	110			
Molybdenum	0.197	0.00500	0.200	0	98.3	90	110			
Selenium	0.212	0.00500	0.200	0	106	90	110			

Sample ID LCVL4-160105	Batch ID: R83481	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160105A	Analysis Date: 1/5/2016 4:15:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00185	0.00250	0.00200	0	92.4	70	130			
Arsenic	0.00509	0.00500	0.00500	0	102	70	130			
Barium	0.00484	0.0100	0.00500	0	96.8	70	130			
Beryllium	0.00116	0.00100	0.00100	0	116	70	130			
Boron	0.0212	0.0300	0.0200	0	106	70	130			
Cadmium	0.000977	0.00100	0.00100	0	97.7	70	130			
Calcium	0.102	0.300	0.100	0	102	70	130			
Chromium	0.00502	0.00500	0.00500	0	100	70	130			
Cobalt	0.00522	0.00500	0.00500	0	104	70	130			
Lead	0.000793	0.00100	0.00100	0	79.3	70	130			
Lithium	0.0104	0.0100	0.0100	0	104	70	130			
Molybdenum	0.00456	0.00500	0.00500	0	91.3	70	130			
Selenium	0.00515	0.00500	0.00500	0	103	70	130			

Sample ID CCV5-160105	Batch ID: R83481	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160105A	Analysis Date: 1/5/2016 4:46:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.193	0.00250	0.200	0	96.4	90	110			
Arsenic	0.207	0.00500	0.200	0	104	90	110			
Barium	0.201	0.0100	0.200	0	101	90	110			
Beryllium	0.206	0.00100	0.200	0	103	90	110			
Boron	0.217	0.0300	0.200	0	109	90	110			
Cadmium	0.199	0.00100	0.200	0	99.3	90	110			
Calcium	4.79	0.300	5.00	0	95.8	90	110			
Chromium	0.204	0.00500	0.200	0	102	90	110			
Cobalt	0.210	0.00500	0.200	0	105	90	110			
Lead	0.199	0.00100	0.200	0	99.5	90	110			
Lithium	0.212	0.0100	0.200	0	106	90	110			
Molybdenum	0.193	0.00500	0.200	0	96.6	90	110			
Selenium	0.210	0.00500	0.200	0	105	90	110			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1512238
Project: Sandow - AX Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160105A

Sample ID: LCVL5-160105	Batch ID: R83481	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_160105A	Analysis Date: 1/5/2016 4:56:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00189	0.00250	0.00200	0	94.3	70	130			
Arsenic	0.00501	0.00500	0.00500	0	100	70	130			
Barium	0.00490	0.0100	0.00500	0	97.9	70	130			
Beryllium	0.000974	0.00100	0.00100	0	97.4	70	130			
Boron	0.0227	0.0300	0.0200	0	114	70	130			
Cadmium	0.000940	0.00100	0.00100	0	94.0	70	130			
Calcium	0.0993	0.300	0.100	0	99.3	70	130			
Chromium	0.00500	0.00500	0.00500	0	100	70	130			
Cobalt	0.00516	0.00500	0.00500	0	103	70	130			
Lead	0.000807	0.00100	0.00100	0	80.7	70	130			
Lithium	0.0117	0.0100	0.0100	0	117	70	130			
Molybdenum	0.00471	0.00500	0.00500	0	94.2	70	130			
Selenium	0.00519	0.00500	0.00500	0	104	70	130			

LUMINANT

Qualifiers:	B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1512238
Project: Sandow - AX Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160106B

The QC data in batch 72945 applies to the following samples: 1512238-01A, 1512238-02A, 1512238-03A, 1512238-04A, 1512238-05A, 1512238-06A, 1512238-07A, 1512238-08A, 1512238-09A, 1512238-10A

Sample ID MB-72945	Batch ID: 72945	TestNo: SW6020A	Units: mg/L							
SampType: MBLK	Run ID: ICP-MS4_160106B	Analysis Date: 1/6/2016 8:06:00 PM	Prep Date: 12/28/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Thallium <0.000500 0.00150

Sample ID LCS-72945	Batch ID: 72945	TestNo: SW6020A	Units: mg/L							
SampType: LCS	Run ID: ICP-MS4_160106B	Analysis Date: 1/6/2016 8:08:00 PM	Prep Date: 12/28/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Thallium 0.188 0.00150 0.200 0 94.2 80 120

Sample ID LCSD-72945	Batch ID: 72945	TestNo: SW6020A	Units: mg/L							
SampType: LCSD	Run ID: ICP-MS4_160106B	Analysis Date: 1/6/2016 8:10:00 PM	Prep Date: 12/28/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Thallium 0.193 0.00150 0.200 0 96.3 80 120 2.16 15

Sample ID 1512237-01A SD	Batch ID: 72945	TestNo: SW6020A	Units: mg/L							
SampType: SD	Run ID: ICP-MS4_160106B	Analysis Date: 1/6/2016 8:16:00 PM	Prep Date: 12/28/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Thallium <0.00250 0.00750 0 0 0 0 10

Sample ID 1512237-01A PDS	Batch ID: 72945	TestNo: SW6020A	Units: mg/L							
SampType: PDS	Run ID: ICP-MS4_160106B	Analysis Date: 1/6/2016 8:36:00 PM	Prep Date: 12/28/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Thallium 0.204 0.00150 0.200 0 102 80 120

Sample ID 1512237-01A MS	Batch ID: 72945	TestNo: SW6020A	Units: mg/L							
SampType: MS	Run ID: ICP-MS4_160106B	Analysis Date: 1/6/2016 8:38:00 PM	Prep Date: 12/28/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Thallium 0.194 0.00150 0.200 0 96.8 80 120

Sample ID 1512237-01A MSD	Batch ID: 72945	TestNo: SW6020A	Units: mg/L							
SampType: MSD	Run ID: ICP-MS4_160106B	Analysis Date: 1/6/2016 8:40:00 PM	Prep Date: 12/28/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Thallium 0.192 0.00150 0.200 0 95.9 80 120 0.887 15

- Qualifiers:**
- B Analyte detected in the associated Method Blank
 - J Analyte detected between MDL and RL
 - ND Not Detected at the Method Detection Limit
 - RL Reporting Limit
 - J Analyte detected between SDL and RL
 - DF Dilution Factor
 - MDL Method Detection Limit
 - R RPD outside accepted control limits
 - S Spike Recovery outside control limits
 - N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1512238
Project: Sandow - AX Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160106B

Sample ID ICV2-160106	Batch ID: R83506	TestNo: SW6020A	Units: mg/L							
SampType: ICV	Run ID: ICP-MS4_160106B	Analysis Date: 1/6/2016 7:56:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Thallium	0.0956	0.00150	0.100	0	95.6	90	110			
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Sample ID ILCVL2-160106	Batch ID: R83506	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160106B	Analysis Date: 1/6/2016 8:00:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Thallium	0.000858	0.00150	0.00100	0	85.8	70	130			
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Sample ID CCV1-160106	Batch ID: R83506	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160106B	Analysis Date: 1/6/2016 8:42:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Thallium	0.199	0.00150	0.200	0	99.6	90	110			
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Sample ID LCVL1-160106	Batch ID: R83506	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160106B	Analysis Date: 1/6/2016 8:46:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Thallium	0.000931	0.00150	0.00100	0	93.1	70	130			
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Sample ID CCV2-160106	Batch ID: R83506	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160106B	Analysis Date: 1/6/2016 9:10:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Thallium	0.199	0.00150	0.200	0	99.7	90	110			
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Sample ID LCVL2-160106	Batch ID: R83506	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160106B	Analysis Date: 1/6/2016 9:14:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Thallium	0.000892	0.00150	0.00100	0	89.2	70	130			
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Sample ID CCV4-160106	Batch ID: R83506	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160106B	Analysis Date: 1/6/2016 10:17:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Thallium	0.194	0.00150	0.200	0	97.0	90	110			
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Qualifiers: B Analyte detected in the associated Method Blank
 J Analyte detected between MDL and RL
 ND Not Detected at the Method Detection Limit
 RL Reporting Limit
 J Analyte detected between SDL and RL
 DF Dilution Factor
 MDL Method Detection Limit
 R RPD outside accepted control limits
 S Spike Recovery outside control limits
 N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1512238
Project: Sandow - AX Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160106B

Sample ID	LCVL4-160106	Batch ID:	R83506	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160106B	Analysis Date:	1/6/2016 10:21:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Thallium	0.000872	0.00150	0.00100	0	87.2	70	130			

LUMINANT

Qualifiers:	B Analyte detected in the associated Method Blank	DF Dilution Factor	
	J Analyte detected between MDL and RL	MDL Method Detection Limit	
	ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits	
	RL Reporting Limit	S Spike Recovery outside control limits	
	J Analyte detected between SDL and RL	N Parameter not NELAC certified	

CLIENT: Pastor, Behling & Wheeler
Work Order: 1512238
Project: Sandow - AX Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_151228A

The QC data in batch 72953 applies to the following samples: 1512238-01D, 1512238-02D, 1512238-03D, 1512238-04D, 1512238-05D, 1512238-06D, 1512238-07D, 1512238-08D, 1512238-09D, 1512238-10D

Sample ID MB-72953	Batch ID: 72953	TestNo: E300	Units: mg/L							
SampType: MBLK	Run ID: IC2_151228A	Analysis Date: 12/28/2015 10:15:55 A	Prep Date: 12/28/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	<0.300	1.00								
Fluoride	<0.100	0.400								
Sulfate	<1.00	3.00								

Sample ID LCS-72953	Batch ID: 72953	TestNo: E300	Units: mg/L							
SampType: LCS	Run ID: IC2_151228A	Analysis Date: 12/28/2015 10:30:31 A	Prep Date: 12/28/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	9.99	1.00	10.00	0	99.9	90	110			
Fluoride	3.68	0.400	4.000	0	92.0	90	110			
Sulfate	29.0	3.00	30.00	0	96.7	90	110			

Sample ID LCSD-72953	Batch ID: 72953	TestNo: E300	Units: mg/L							
SampType: LCSD	Run ID: IC2_151228A	Analysis Date: 12/28/2015 10:45:08 A	Prep Date: 12/28/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	9.99	1.00	10.00	0	99.9	90	110	0.009	20	
Fluoride	3.84	0.400	4.000	0	95.9	90	110	4.13	20	
Sulfate	29.2	3.00	30.00	0	97.3	90	110	0.586	20	

Sample ID 1512238-03DMS	Batch ID: 72953	TestNo: E300	Units: mg/L							
SampType: MS	Run ID: IC2_151228A	Analysis Date: 12/28/2015 4:32:26 PM	Prep Date: 12/28/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	2230	100	2000	279.2	97.6	90	110			
Fluoride	1990	40.0	2000	0	99.6	90	110			
Sulfate	2920	300	2000	1079	91.8	90	110			

Sample ID 1512238-03DMSD	Batch ID: 72953	TestNo: E300	Units: mg/L							
SampType: MSD	Run ID: IC2_151228A	Analysis Date: 12/28/2015 4:47:02 PM	Prep Date: 12/28/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	2240	100	2000	279.2	98.1	90	110	0.432	20	
Fluoride	2010	40.0	2000	0	100	90	110	0.764	20	
Sulfate	2950	300	2000	1079	93.3	90	110	1.01	20	

<p>Qualifiers:</p> <p>B Analyte detected in the associated Method Blank</p> <p>J Analyte detected between MDL and RL</p> <p>ND Not Detected at the Method Detection Limit</p> <p>RL Reporting Limit</p> <p>J Analyte detected between SDL and RL</p>	<p>DF Dilution Factor</p> <p>MDL Method Detection Limit</p> <p>R RPD outside accepted control limits</p> <p>S Spike Recovery outside control limits</p> <p>N Parameter not NELAC certified</p>
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1512238
Project: Sandow - AX Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_151228A

Sample ID ICV-151228	Batch ID: R83389	TestNo: E300	Units: mg/L
SampType: ICV	Run ID: IC2_151228A	Analysis Date: 12/28/2015 9:44:28 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	23.7	1.00	25.00	0	94.8	90	110			
Fluoride	9.13	0.400	10.00	0	91.3	90	110			
Sulfate	71.4	3.00	75.00	0	95.2	90	110			

Sample ID CCV1-151228	Batch ID: R83389	TestNo: E300	Units: mg/L
SampType: CCV	Run ID: IC2_151228A	Analysis Date: 12/28/2015 1:45:40 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.94	1.00	10.00	0	99.4	90	110			
Fluoride	4.02	0.400	4.000	0	100	90	110			
Sulfate	30.7	3.00	30.00	0	102	90	110			

Sample ID CCV2-151228	Batch ID: R83389	TestNo: E300	Units: mg/L
SampType: CCV	Run ID: IC2_151228A	Analysis Date: 12/28/2015 5:01:39 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.67	1.00	10.00	0	96.7	90	110			
Fluoride	4.08	0.400	4.000	0	102	90	110			
Sulfate	29.3	3.00	30.00	0	97.7	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1512238
Project: Sandow - AX Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_151218A

The QC data in batch 72803 applies to the following samples: 1512238-01D, 1512238-02D, 1512238-03D, 1512238-04D, 1512238-05D, 1512238-06D, 1512238-07D, 1512238-08D, 1512238-09D, 1512238-10D

Sample ID 1512237-01D DUP	Batch ID: 72803	TestNo: M4500-H+ B	Units: pH Units@15.5°C
SampType: DUP	Run ID: TITRATOR_151218A	Analysis Date: 12/18/2015 3:00:00 PM	Prep Date: 12/18/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	7.25	0	0	7.230				0.276		5

Sample ID 1512238-10D DUP	Batch ID: 72803	TestNo: M4500-H+ B	Units: pH Units@18.8°C
SampType: DUP	Run ID: TITRATOR_151218A	Analysis Date: 12/18/2015 3:47:00 PM	Prep Date: 12/18/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	6.54	0	0	6.520				0.306		5

LUMINANT

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|--|---|
| <p>Qualifiers:</p> <ul style="list-style-type: none"> B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL | <ul style="list-style-type: none"> DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified |
|--|---|

CLIENT: Pastor, Behling & Wheeler
Work Order: 1512238
Project: Sandow - AX Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_151218A

Sample ID ICV-151218	Batch ID: R83249	TestNo: M4500-H+ B	Units: pH Units@21.2°C							
SampType: ICV	Run ID: TITRATOR_151218A	Analysis Date: 12/18/2015 2:48:00 PM	Prep Date: 12/18/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	9.96	0	10.00	0	99.6	99	101			
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Sample ID CCV1-151218	Batch ID: R83249	TestNo: M4500-H+ B	Units: pH Units@20.2°C							
SampType: CCV	Run ID: TITRATOR_151218A	Analysis Date: 12/18/2015 3:17:00 PM	Prep Date: 12/18/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	7.01	0	7.000	0	100	97.1	102.9			
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Sample ID CCV2-151218	Batch ID: R83249	TestNo: M4500-H+ B	Units: pH Units@19.2°C							
SampType: CCV	Run ID: TITRATOR_151218A	Analysis Date: 12/18/2015 3:42:00 PM	Prep Date: 12/18/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	6.97	0	7.000	0	99.6	97.1	102.9			
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Sample ID CCV3-151218	Batch ID: R83249	TestNo: M4500-H+ B	Units: pH Units@19.9°C							
SampType: CCV	Run ID: TITRATOR_151218A	Analysis Date: 12/18/2015 3:48:00 PM	Prep Date: 12/18/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	6.97	0	7.000	0	99.6	97.1	102.9			
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Sample ID CCV-151218-PH12	Batch ID: R83249	TestNo: M4500-H+ B	Units: pH Units@21.4°C							
SampType: CCV	Run ID: TITRATOR_151218A	Analysis Date: 12/18/2015 4:48:00 PM	Prep Date: 12/18/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	12.0	0	12.00	0	100	97.1	102.9			
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Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1512238
Project: Sandow - AX Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: WC_151221A

The QC data in batch 72884 applies to the following samples: 1512238-01D, 1512238-02D

Sample ID MB-72884	Batch ID: 72884	TestNo: M2540C	Units: mg/L							
SampType: MBLK	Run ID: WC_151221A	Analysis Date: 12/22/2015 8:00:00 AM	Prep Date: 12/21/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera		<10.0	10.0							

Sample ID LCS-72884	Batch ID: 72884	TestNo: M2540C	Units: mg/L							
SampType: LCS	Run ID: WC_151221A	Analysis Date: 12/22/2015 8:00:00 AM	Prep Date: 12/21/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera		749	10.0	745.6	0	100	90	113		

Sample ID 1512251-01B-DUP	Batch ID: 72884	TestNo: M2540C	Units: mg/L							
SampType: DUP	Run ID: WC_151221A	Analysis Date: 12/22/2015 8:00:00 AM	Prep Date: 12/21/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera		340	10.0	0	338.0			0.590	5	

Sample ID 1512237-07D-DUP	Batch ID: 72884	TestNo: M2540C	Units: mg/L							
SampType: DUP	Run ID: WC_151221A	Analysis Date: 12/22/2015 8:00:00 AM	Prep Date: 12/21/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera		1900	50.0	0	1875			1.32	5	

Qualifiers:	B Analyte detected in the associated Method Blank	DF Dilution Factor
	J Analyte detected between MDL and RL	MDL Method Detection Limit
	ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
	RL Reporting Limit	S Spike Recovery outside control limits
	J Analyte detected between SDL and RL	N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1512238
Project: Sandow - AX Landfill

ANALYTICAL QC SUMMARY REPORT

RunID: WC_151222B

The QC data in batch 72907 applies to the following samples: 1512238-03D, 1512238-04D, 1512238-05D, 1512238-06D, 1512238-07D, 1512238-08D, 1512238-09D, 1512238-10D

Sample ID MB-72907	Batch ID: 72907	TestNo: M2540C	Units: mg/L							
SampType: MBLK	Run ID: WC_151222B	Analysis Date: 12/23/2015 8:05:00 AM	Prep Date: 12/22/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	<10.0	10.0								

Sample ID LCS-72907	Batch ID: 72907	TestNo: M2540C	Units: mg/L							
SampType: LCS	Run ID: WC_151222B	Analysis Date: 12/23/2015 8:05:00 AM	Prep Date: 12/22/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	736	10.0	745.6	0	98.7	90	113			

Sample ID 1512238-03D-DUP	Batch ID: 72907	TestNo: M2540C	Units: mg/L							
SampType: DUP	Run ID: WC_151222B	Analysis Date: 12/23/2015 8:05:00 AM	Prep Date: 12/22/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	2400	50.0	0	2425				1.04	5	

Sample ID 1512286-06D-DUP	Batch ID: 72907	TestNo: M2540C	Units: mg/L							
SampType: DUP	Run ID: WC_151222B	Analysis Date: 12/23/2015 8:05:00 AM	Prep Date: 12/22/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	960	50.0	0	940.0				2.11	5	

Qualifiers:	B Analyte detected in the associated Method Blank	DF Dilution Factor
	J Analyte detected between MDL and RL	MDL Method Detection Limit
	ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
	RL Reporting Limit	S Spike Recovery outside control limits
	J Analyte detected between SDL and RL	N Parameter not NELAC certified

January 15, 2016

Mr. John DuPont
DHL Analytical
2300 Double Creek Drive
Round Rock, Texas 78664

Re: Routine Analysis
Work Order: 387927
SDG: 1512238

Dear Mr. DuPont:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on December 22, 2015. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4707.

Sincerely,



Anna Day
Project Manager

Purchase Order: 14095
Enclosures



GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

**Certificate of Analysis Report
for**

DHLA002 DHL Analytical

Client SDG: 1512238 GEL Work Order: 387927

The Qualifiers in this report are defined as follows:

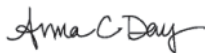
- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a Tracer compound
- ** Analyte is a surrogate compound
- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Anna Day.

LUMINANT



Reviewed by _____

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: January 15, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: AX-22R	Project: DHLA00112
Sample ID: 387927001	Client ID: DHLA002
Matrix: Water	
Collect Date: 17-DEC-15 08:20	
Receive Date: 22-DEC-15	
Collector: Client	

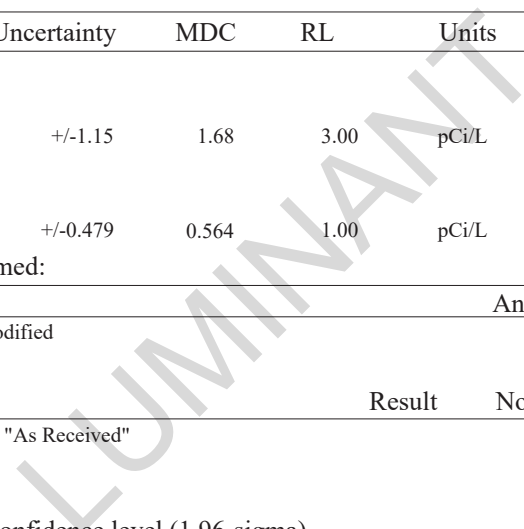
Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time Batch	Method
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228		2.13	+/-1.15	1.68	3.00	pCi/L		AXM6	01/11/16	1122 1534782	1
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226		1.15	+/-0.479	0.564	1.00	pCi/L		CXP3	01/13/16	0715 1533729	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			84.2	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).



GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: January 15, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: AXMW-2	Project: DHLA00112
Sample ID: 387927002	Client ID: DHLA002
Matrix: Water	
Collect Date: 17-DEC-15 10:10	
Receive Date: 22-DEC-15	
Collector: Client	

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time Batch	Method
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228		2.21	+/-1.08	1.48	3.00	pCi/L		AXM6	01/11/16	1122 1534782	1
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226		1.27	+/-0.450	0.488	1.00	pCi/L		CXP3	01/13/16	0715 1533729	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			80.4	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

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Certificate of Analysis

Report Date: January 15, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: AX-29	Project: DHLA00112
Sample ID: 387927003	Client ID: DHLA002
Matrix: Water	
Collect Date: 17-DEC-15 10:35	
Receive Date: 22-DEC-15	
Collector: Client	

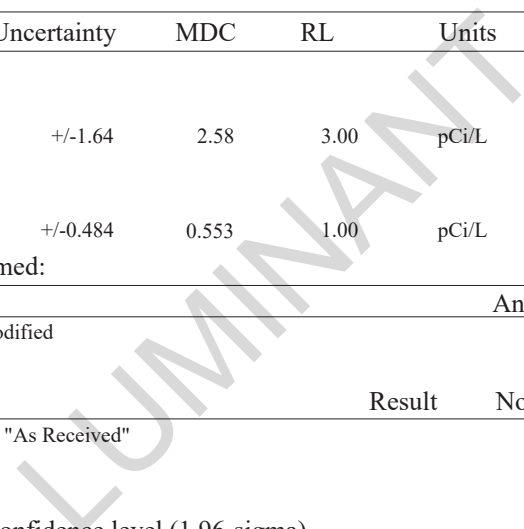
Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	2.43	+/-1.64	2.58	3.00	pCi/L		AXM6	01/14/16	1116	1534782	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.23	+/-0.484	0.553	1.00	pCi/L		CXP3	01/13/16	0715	1533729	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			70.3	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).



GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: January 15, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: AX-23	Project: DHLA00112
Sample ID: 387927004	Client ID: DHLA002
Matrix: Water	
Collect Date: 17-DEC-15 11:30	
Receive Date: 22-DEC-15	
Collector: Client	

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	0.677	+/-1.05	1.82	3.00	pCi/L		AXM6	01/11/16	1120	1534782	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.912	+/-0.458	0.589	1.00	pCi/L		CXP3	01/13/16	0715	1533729	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			88.1	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: January 15, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: AXMW-1	Project: DHLA00112
Sample ID: 387927005	Client ID: DHLA002
Matrix: Water	
Collect Date: 17-DEC-15 12:50	
Receive Date: 22-DEC-15	
Collector: Client	

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time Batch	Method
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228		4.58	+/-1.73	2.37	3.00	pCi/L		AXM6	01/14/16	1116 1534782	1
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226	U	0.557	+/-0.386	0.562	1.00	pCi/L		CXP3	01/13/16	0715 1533729	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			69.7	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: January 15, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: AX-27	Project: DHLA00112
Sample ID: 387927006	Client ID: DHLA002
Matrix: Water	
Collect Date: 17-DEC-15 13:35	
Receive Date: 22-DEC-15	
Collector: Client	

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	0.748	+/-1.10	1.89	3.00	pCi/L		AXM6	01/11/16	1122	1534782	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.36	+/-0.482	0.522	1.00	pCi/L		CXP3	01/13/16	0745	1533729	2

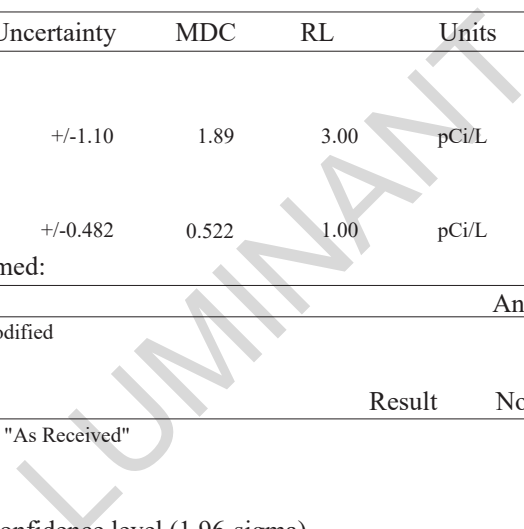
The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			89.9	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).



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Certificate of Analysis

Report Date: January 15, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: AX-26	Project: DHLA00112
Sample ID: 387927007	Client ID: DHLA002
Matrix: Water	
Collect Date: 17-DEC-15 14:55	
Receive Date: 22-DEC-15	
Collector: Client	

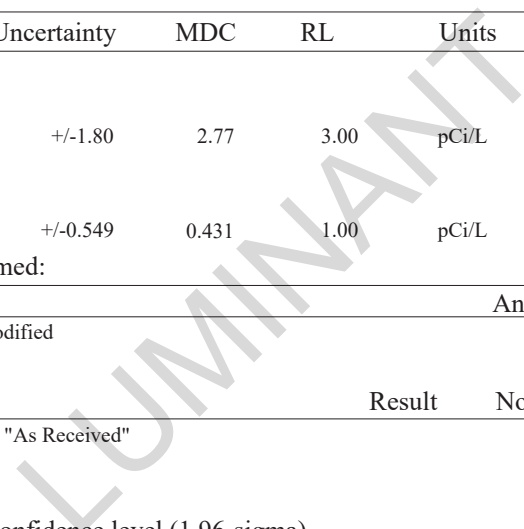
Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228		2.93	+/-1.80	2.77	3.00	pCi/L		AXM6	01/14/16	1116	1534782	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.96	+/-0.549	0.431	1.00	pCi/L		CXP3	01/13/16	0745	1533729	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			58.6	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).



GEL LABORATORIES LLC

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Certificate of Analysis

Report Date: January 15, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: AX-24	Project: DHLA00112
Sample ID: 387927008	Client ID: DHLA002
Matrix: Water	
Collect Date: 18-DEC-15 08:50	
Receive Date: 22-DEC-15	
Collector: Client	

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time Batch	Method
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228		2.65	+/-1.21	1.70	3.00	pCi/L		AXM6	01/11/16	1122 1534782	1
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226		1.67	+/-0.594	0.643	1.00	pCi/L		CXP3	01/13/16	0745 1533729	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			87	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: January 15, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: AX-25	Project: DHLA00112
Sample ID: 387927009	Client ID: DHLA002
Matrix: Water	
Collect Date: 18-DEC-15 09:30	
Receive Date: 22-DEC-15	
Collector: Client	

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time Batch	Method
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228		1.55	+/-1.01	1.50	3.00	pCi/L		AXM6	01/11/16	1122 1534782	1
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226		0.306	+/-0.224	0.293	1.00	pCi/L		CXP3	01/13/16	0745 1533729	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			79.6	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: January 15, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: AX-28	Project: DHLA00112
Sample ID: 387927010	Client ID: DHLA002
Matrix: Water	
Collect Date: 18-DEC-15 10:40	
Receive Date: 22-DEC-15	
Collector: Client	

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time Batch	Method
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228	U	1.49	+/-1.06	1.62	3.00	pCi/L		AXM6	01/11/16	1121 1534782	1
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226		1.02	+/-0.433	0.515	1.00	pCi/L		CXP3	01/13/16	0745 1533729	2

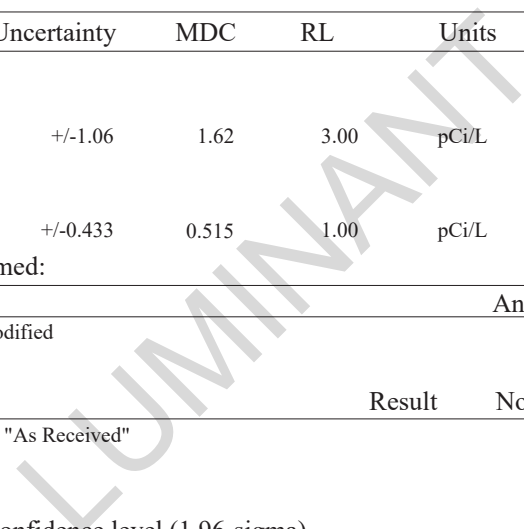
The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			80.6	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).



GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Report Date: January 15, 2016

Page 1 of 2

DHL Analytical
2300 Double Creek Drive
Round Rock, Texas

Contact: Mr. John DuPont

Workorder: 387927

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gas Flow											
Batch	1534782										
QC1203462630	387923008	DUP									
Radium-228	U	-1.01	U	1.44	pCi/L	N/A		N/A	AXM6	01/11/16	11:23
	Uncertainty	+/-1.22		+/-1.67							
QC1203462631	LCS										
Radium-228		28.8		32.1	pCi/L		111	(75%-125%)		01/11/16	11:23
	Uncertainty			+/-3.04							
QC1203462629	MB										
Radium-228			U	0.140	pCi/L					01/11/16	11:22
	Uncertainty			+/-0.932							
Rad Ra-226											
Batch	1533729										
QC1203459858	387939001	DUP									
Radium-226	U	0.553		1.43	pCi/L	88.7		(0% - 100%)	CXP3	01/13/16	09:30
	Uncertainty	+/-0.383		+/-0.574							
QC1203459860	LCS										
Radium-226		30.5		23.2	pCi/L		76.1	(75%-125%)		01/13/16	09:30
	Uncertainty			+/-1.83							
QC1203459857	MB										
Radium-226			U	0.124	pCi/L					01/13/16	09:30
	Uncertainty			+/-0.353							
QC1203459859	387939001	MS									
Radium-226	U	61.0	U	0.553	pCi/L		85.1	(75%-125%)		01/13/16	09:30
	Uncertainty	+/-0.383		+/-4.09							

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

The Qualifiers in this report are defined as follows:

- ** Analyte is a Tracer compound
- < Result is less than value reported
- > Result is greater than value reported
- BD Results are either below the MDC or tracer recovery is low
- FA Failed analysis.
- H Analytical holding time was exceeded
- J Value is estimated
- K Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- L Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- M M if above MDC and less than LLD
- M REMP Result > MDC/CL and < RDL
- N/A RPD or %Recovery limits do not apply.

GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Workorder: 387927

Page 2 of 2

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
N1	See case narrative										
ND	Analyte concentration is not detected above the detection limit										
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier										
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.										
R	Sample results are rejected										
U	Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.										
UI	Gamma Spectroscopy--Uncertain identification										
UJ	Gamma Spectroscopy--Uncertain identification										
UL	Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.										
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier										
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.										
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.										
h	Preparation or preservation holding time was exceeded										

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

LUMINANT

There are no "Data Exception Reports" associated with this analytical report.

LUMINANT

CHAIN-OF-CUSTODY RECORD

FAX: (512) 388-8229

TEL: (843) 556-8171

FAX:

Acct #:

357927

18-Dec-15

Matrix	DHL#	Date Collected	Bottle Type	Requested Tests			
				E903.1	E904.0		
Aqueous	-01B	12/17/15 08:20 AM	500HDPEHNO3		1		
Aqueous	-01C	12/17/15 08:20 AM	500HDPEHNO3	1			
Aqueous	-02B	12/17/15 10:10 AM	500HDPEHNO3		1		
Aqueous	-02C	12/17/15 10:10 AM	500HDPEHNO3	1			
Aqueous	-03B	12/17/15 10:35 AM	500HDPEHNO3		1		
Aqueous	-03C	12/17/15 10:35 AM	500HDPEHNO3	1			
Aqueous	-04B	12/17/15 11:30 AM	500HDPEHNO3		1		
Aqueous	-04C	12/17/15 11:30 AM	500HDPEHNO3	1			
Aqueous	-05B	12/17/15 12:50 PM	500HDPEHNO3		1		
Aqueous	-05C	12/17/15 12:50 PM	500HDPEHNO3	1			
Aqueous	-06B	12/17/15 01:35 PM	500HDPEHNO3		1		
Aqueous	-06C	12/17/15 01:35 PM	500HDPEHNO3	1			
Aqueous	-07B	12/17/15 02:55 PM	500HDPEHNO3		1		
Aqueous	-07C	12/17/15 02:55 PM	500HDPEHNO3	1			
Aqueous	-08B	12/18/15 08:50 AM	500HDPEHNO3		1		
Aqueous	-08C	12/18/15 08:50 AM	500HDPEHNO3	1			
Aqueous	-09B	12/18/15 09:30 AM	500HDPEHNO3		1		
Aqueous	-09C	12/18/15 09:30 AM	500HDPEHNO3	1			

We analyze these samples with a Standard Turnaround Time.
 John DuPont if you have questions.
 Quality Control Package Needed: Standard / _____
 E-mail report to both cac@dhlanalytical.com & dupont@dhlanalytical.com

Date/Time	Date/Time
<u>[Signature]</u> 12/19/15 1730	Received by: <u>[Signature]</u> 12/18/15 1730
	Received by: <u>B Luthman</u> 12/22/15 0850

CHAIN-OF-CUSTODY RECORD

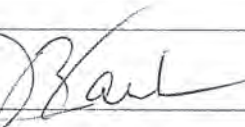
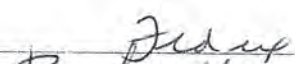
FAX: (512) 388-8229

TEL: (843) 556-8171
 FAX:
 Acct #:

18-Dec-15

Matrix	DHL#	Date Collected	Bottle Type	Requested Tests			
				E903.1	E904.0		
Aqueous	-10B	12/18/15 10:40 AM	500HDPEHNO3		1		
Aqueous	-10C	12/18/15 10:40 AM	500HDPEHNO3	1			

Analyze these samples with a Standard Turnaround Time.
 John DuPont if you have questions.
 Quality Control Package Needed: Standard / _____
 Report to both cac@dhlanalytical.com & dupont@dhlanalytical.com

	Date/Time 12/18/15 1730	Received by:		Date/Time 12/18/15 1730
		Received by:	B. Luthman	12/22/15 0850

SAMPLE RECEIPT & REVIEW FORM

Client: DHLA		SDG/AR/COC/Work Order: 387927
Received By: Brielle Luthman		Date Received: 12/22/15 0850
Suspected Hazard Information	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
COC/Samples marked as radioactive?	<input checked="" type="checkbox"/>	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): 0
Classified Radioactive II or III by RSO?	<input checked="" type="checkbox"/>	If yes, Were swipes taken of sample containers < action levels?
COC/Samples marked containing PCBs?	<input checked="" type="checkbox"/>	
Package, COC, and/or Samples marked as beryllium or asbestos containing?	<input checked="" type="checkbox"/>	If yes, samples are to be segregated as Safety Controlled Samples, and opened by the GEL Safety Group.
Shipped as a DOT Hazardous?	<input checked="" type="checkbox"/>	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?	<input checked="" type="checkbox"/>	

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2 Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Preservation Method: Ice bags Blue ice Dry ice <u>None</u> Other (describe) *all temperatures are recorded in Celsius 18°
2a Daily check performed and passed on IR temperature gun?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Temperature Device Serial #: Secondary Temperature Device Serial # (if Applicable): E5032015830
3 Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4 Sample containers intact and sealed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
5 Samples requiring chemical preservation at proper pH?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6 Do Low Level Perchlorate samples have headspace as required?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sample ID's and containers affected:
7 VOA vials contain acid preservation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(If unknown, select No)
8 VOA vials free of headspace (defined as < 6mm bubble)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sample ID's and containers affected:
9 Are Encore containers present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(If yes, immediately deliver to Volatiles laboratory)
10 Samples received within holding time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ID's and tests affected:
11 Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sample ID's and containers affected:
12 Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sample ID's affected: AX MW-2 1035 AX-29 1010
13 Number of containers received match number indicated on COC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sample ID's affected:
14 Are sample containers identifiable as GEL provided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
15 COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
16 Carrier and tracking number.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: FedEx Air <u>FedEx Ground</u> UPS Field Services Courier Other 7752 4994 4957

Comments (Use Continuation Form if needed):

List of current GEL Certifications as of 15 January 2016

State	Certification
Alaska	UST-110
Arkansas	88-0651
CLIA	42D0904046
California	2940 Interim
Colorado	SC00012
Connecticut	PH-0169
Delaware	SC000122013-10
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-15-00283, P330-15-00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC000122013-10
Idaho Chemistry	SC00012
Idaho Radiochemistry	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana NELAP	03046 (AI33904)
Louisiana SDWA	LA150001
Maryland	270
Massachusetts	M-SC012
Michigan	9976
Mississippi	SC000122013-10
Nebraska	NE-OS-26-13
Nevada	SC000122016-1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R-158
Oklahoma	9904
Pennsylvania NELAP	68-00485
S.Carolina Radchem	10120002
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-15-10
Utah NELAP	SC000122015-19
Vermont	VT87156
Virginia NELAP	460202
Washington	C780
West Virginia	997404



March 14, 2016

Will Vienne
Pastor, Behling & Wheeler
2201 Double Creek Dr #4004
Round Rock, Texas 78664
TEL: (512) 671-3434
FAX (512) 671-3446
RE: Sandow CCR

Order No.: 1602090

Dear Will Vienne:

DHL Analytical, Inc. received 7 sample(s) on 2/9/2016 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

A handwritten signature in orange ink, appearing to read "John DuPont".

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-15-15



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LUMINANT



2300 Double Creek Dr. ■ Round Rock, TX 78664
 Phone (512) 388-8222 ■ FAX (512) 388-8229
 Web: www.dhlanalytical.com
 E-Mail: login@dhlanalytical.com



CHA

CLIENT: Pastor, Behling & Wheeler
 ADDRESS: 2201 Double Creek Dr Ste 7007
 PHONE: 512-671-3434 FAX/E-MAIL: _____
 DATA REPORTED TO: Will Vienne
 ADDITIONAL REPORT COPIES TO: Karla Henson

DATE: 2/8/2016
 PO #: _____ DHL WORK ORD _____
 PROJECT LOCATION OR NAME: Sandow CC
 CLIENT PROJECT #: 5167E COLL _____

Authorize 5% surcharge for TRRP Report?
 Yes No

S=SOIL P=PAINT
 W=WATER SL=SLUDGE
 A=AIR O=OTHER
 L=LIQUID SO=SOLID
 SE=SEDIMENT

PRESERVATION
 HCl HNO₃ H₂SO₄ NaOH
 ICE UNPRESERVED

ANALYSES
 BTEX MTBE (METHOD 8021)
 TPH 1005 TPH 1006 HOLD 1006
 GRO (METHOD 8019) VOC 624 VOC 8260/5035
 SVOC 8270 PAH 8270 HOLD PAH SVOC 628
 8270 O-P PEST 8082 PCB 608 PCB
 8321 HERB T PHOS, AMMONIA
 METALS 6020 METALS 2008 DISS. METALS
 RCRA HEX CHROM ALKALINITY
 PH HEX CHROM ANIONS
 CHLORIDE YOC P
 TCLP-METALS P
 RCL FLA
 TDS

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	HCl	HNO ₃	H ₂ SO ₄	NaOH	ICE	UNPRESERVED	ANALYSES
AX-28	1	2/8/16	9:35	W	900/200	4	X						
AX-29	2		10:20										
AXMW-2	3		12:10										
AX-23	4		13:00										
AXMW-1	5		14:20										
AX-27	6		15:05										
AX-26	7		15:55										

RELINQUISHED BY: (Signature) [Signature] DATE/TIME 2/8/16 17:55 RECEIVED BY: (Signature) _____
 RELINQUISHED BY: (Signature) [Signature] DATE/TIME 2/9/16 8:29 RECEIVED BY: (Signature) _____
 RELINQUISHED BY: (Signature) _____ DATE/TIME _____ RECEIVED BY: (Signature) _____

TURN AROUND TIME
 RUSH CALL FIRST
 1 DAY CALL FIRST
 2 DAY
 NORMAL
 OTHER

LABORATORY USE OF
 RECEIVING TEMP: 4
 CUSTODY SEALS:
 CARRIER: LONE STAR
 COURIER DELIVERY
 HAND DELIVERED

John Dupont

From: Sara Taube [Sara.Taube@pbwffc.com]
Sent: Wednesday, July 22, 2015 12:05 PM
To: John Dupont
Subject: CCR Appendix III and IV
Follow Up Flag: Follow up
Flag Status: Completed

Hi John,

Here are the Appendix III and Appendix IV constituents that we will need to have analyzed under the CCR Rule.

Appendix III

Boron
Calcium
Chloride
Fluoride
pH
sulfate
TDS

Appendix IV

Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cobalt
Fluoride
Lead
Lithium
Mercury
Molybdenum
Selenium
Thallium
Radium 226 and 228

We are looking to have approximately 74 wells sampled 8 times over the course of the next two years. Please let me know if there is any more information you might need.

Cheers,

Sara

10/26/2015

LUMINANT

CUSTODY SEAL
DATE: 2/9/16
SIGNATURE: *Chris Kalden*

QEC
Quality Environmental Cor
800-255-3950 • 304-255-

Sample Receipt Checklist

Client Name Pastor, Behling & Wheeler

Date Received: 2/9/2016

Work Order Number 1602090

Received by MB

Checklist completed by: [Signature] 2/9/2016
Signature Date

Reviewed by [Initials] 2/9/2016
Initials Date

Carrier name Hand Delivered

- 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 4.2 °C
- Water - VOA vials have zero headspace? Yes No No VOA vials submitted
- Water - pH<2 acceptable upon receipt? Yes No NA LOT # 8086
Adjusted? No Checked by MB
- Water - pH>9 (S) or pH>12 (CN) acceptable upon receipt? Yes No NA LOT #
Adjusted? _____ Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Lab Order: 1602090

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

- Method SW6020A - Metals Analysis
- Method SW7470A - Mercury Analysis
- Method E300 - Anions Analysis
- Method M4500-H+ B - pH of a Water Analysis
- Method M2540C - TDS Analysis
- Sub-contract - Radium-228 and Radium-226 analyses by methods E904.0/SW8469320 Modified and E903.1 Modified. Analyzed at GEL Laboratory.

LOG IN

The samples were received and log-in performed on 2/9/16. A total of 7 samples were received. The samples arrived in good condition and were properly packaged.

METALS ANALYSIS

For Metals analysis performed on 2/12/16 the matrix spike and matrix spike duplicate recoveries were above control limits for Calcium. These are flagged accordingly in the QC summary report. The sample selected for the matrix spike and matrix spike duplicate was not from this work order. The LCS was within control limits for this analyte. No further corrective actions were taken.

For Metals analysis performed on 2/12/16 the RPD for the serial dilution was slightly above control limits for Boron. This is flagged accordingly. The PDS was within control limits for this analyte. No further corrective actions were taken.

For Metals analysis performed on 2/15/16 ILCVL2-160215 was slightly above control limits for Boron. This is flagged accordingly. The associated ICV2-160215 was within control limits for this analyte. No further corrective actions were taken.

ANIONS ANALYSIS

For Anions analysis performed on 2/9/16 the matrix spike recovery was slightly above control limits for Sulfate. This is flagged accordingly in the QC summary report. The sample selected for the matrix spike and matrix spike duplicate was not from this work order. The LCS was within control limits for this analyte. No further corrective actions were taken.

TDS ANALYSIS

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Lab Order: 1602090

CASE NARRATIVE

For TDS analysis performed on 2/10/16 the sample and sample duplicate (1602090-01 & 1602090-01 DUP) had the RPD slightly above control limits. This is flagged accordingly in the QC summary report. This may be due to the sample being turbid. No further corrective actions were taken.

LUMINANT

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Lab Order: 1602090

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1602090-01	AX-28		02/08/16 09:35 AM	2/9/2016
1602090-02	AX-29		02/08/16 10:20 AM	2/9/2016
1602090-03	AXMW-2		02/08/16 12:10 PM	2/9/2016
1602090-04	AX-23		02/08/16 01:00 PM	2/9/2016
1602090-05	AXMW-1		02/08/16 02:20 PM	2/9/2016
1602090-06	AX-27		02/08/16 03:05 PM	2/9/2016
1602090-07	AX-26		02/08/16 03:55 PM	2/9/2016

LUMINANT

PREP DATES REPORT

Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
02/08/16 09:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/11/16 08:56 AM	73623
02/08/16 09:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/11/16 08:56 AM	73623
02/08/16 09:35 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	02/09/16 11:11 AM	73599
02/08/16 09:35 AM	Aqueous	E300	Anion Preparation	02/09/16 10:20 AM	73596
02/08/16 09:35 AM	Aqueous	E300	Anion Preparation	02/09/16 10:20 AM	73596
02/08/16 09:35 AM	Aqueous	M4500-H+ B	pH Preparation	02/10/16 09:36 AM	73612
02/08/16 09:35 AM	Aqueous	M2540C	TDS Preparation	02/10/16 11:52 AM	73615
02/08/16 10:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/11/16 08:56 AM	73623
02/08/16 10:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/11/16 08:56 AM	73623
02/08/16 10:20 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	02/09/16 11:11 AM	73599
02/08/16 10:20 AM	Aqueous	E300	Anion Preparation	02/09/16 10:20 AM	73596
02/08/16 10:20 AM	Aqueous	E300	Anion Preparation	02/09/16 10:20 AM	73596
02/08/16 10:20 AM	Aqueous	M4500-H+ B	pH Preparation	02/10/16 09:36 AM	73612
02/08/16 10:20 AM	Aqueous	M2540C	TDS Preparation	02/10/16 11:52 AM	73615
02/08/16 12:10 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/11/16 08:56 AM	73623
02/08/16 12:10 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/11/16 08:56 AM	73623
02/08/16 12:10 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/11/16 08:56 AM	73623
02/08/16 12:10 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	02/09/16 11:11 AM	73599
02/08/16 12:10 PM	Aqueous	E300	Anion Preparation	02/09/16 10:20 AM	73596
02/08/16 12:10 PM	Aqueous	E300	Anion Preparation	02/09/16 10:20 AM	73596
02/08/16 12:10 PM	Aqueous	M4500-H+ B	pH Preparation	02/10/16 09:36 AM	73612
02/08/16 12:10 PM	Aqueous	M2540C	TDS Preparation	02/10/16 11:52 AM	73615
02/08/16 01:00 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/11/16 08:56 AM	73623
02/08/16 01:00 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/11/16 08:56 AM	73623
02/08/16 01:00 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	02/09/16 11:11 AM	73599
02/08/16 01:00 PM	Aqueous	E300	Anion Preparation	02/09/16 10:20 AM	73596
02/08/16 01:00 PM	Aqueous	E300	Anion Preparation	02/09/16 10:20 AM	73596
02/08/16 01:00 PM	Aqueous	M4500-H+ B	pH Preparation	02/10/16 09:36 AM	73612

PREP DATES REPORT

Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
02/08/16 01:00 PM	Aqueous	M2540C	TDS Preparation	02/10/16 11:52 AM	73615
02/08/16 02:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/11/16 08:56 AM	73623
02/08/16 02:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/11/16 08:56 AM	73623
02/08/16 02:20 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	02/09/16 11:11 AM	73599
02/08/16 02:20 PM	Aqueous	E300	Anion Preparation	02/09/16 10:20 AM	73596
02/08/16 02:20 PM	Aqueous	E300	Anion Preparation	02/09/16 10:20 AM	73596
02/08/16 02:20 PM	Aqueous	M4500-H+ B	pH Preparation	02/10/16 09:36 AM	73612
02/08/16 02:20 PM	Aqueous	M2540C	TDS Preparation	02/10/16 11:52 AM	73615
02/08/16 03:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/11/16 08:56 AM	73623
02/08/16 03:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/11/16 08:56 AM	73623
02/08/16 03:05 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	02/09/16 11:11 AM	73599
02/08/16 03:05 PM	Aqueous	E300	Anion Preparation	02/09/16 10:20 AM	73596
02/08/16 03:05 PM	Aqueous	E300	Anion Preparation	02/09/16 10:20 AM	73596
02/08/16 03:05 PM	Aqueous	M4500-H+ B	pH Preparation	02/10/16 09:36 AM	73612
02/08/16 03:05 PM	Aqueous	M2540C	TDS Preparation	02/10/16 11:52 AM	73615
02/08/16 03:55 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/11/16 08:56 AM	73623
02/08/16 03:55 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/11/16 08:56 AM	73623
02/08/16 03:55 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	02/09/16 11:11 AM	73599
02/08/16 03:55 PM	Aqueous	E300	Anion Preparation	02/09/16 10:20 AM	73596
02/08/16 03:55 PM	Aqueous	E300	Anion Preparation	02/09/16 10:20 AM	73596
02/08/16 03:55 PM	Aqueous	M4500-H+ B	pH Preparation	02/10/16 09:36 AM	73612
02/08/16 03:55 PM	Aqueous	M2540C	TDS Preparation	02/10/16 11:52 AM	73615

ANALYTICAL DATES REPORT

Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
Aqueous	SW7470A	Mercury Total: Aqueous	73599	1	02/09/16 03:01 PM	CETAC2_HG_160209 C
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73623	1	02/12/16 12:15 PM	ICP-MS4_160212C
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73623	50	02/15/16 04:40 PM	ICP-MS4_160215F
Aqueous	E300	Anions by IC method - Water	73596	1	02/09/16 11:38 AM	IC3_160209A
Aqueous	E300	Anions by IC method - Water	73596	100	02/09/16 03:23 PM	IC3_160209A
Aqueous	M4500-H+ B	pH	73612	1	02/10/16 10:03 AM	TITRATOR_160210A
Aqueous	M2540C	Total Dissolved Solids	73615	1	02/11/16 08:30 AM	WC_160210B
Aqueous	SW7470A	Mercury Total: Aqueous	73599	1	02/09/16 03:12 PM	CETAC2_HG_160209 C
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73623	1	02/12/16 12:17 PM	ICP-MS4_160212C
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73623	50	02/15/16 04:42 PM	ICP-MS4_160215F
Aqueous	E300	Anions by IC method - Water	73596	100	02/09/16 03:46 PM	IC3_160209A
Aqueous	E300	Anions by IC method - Water	73596	1	02/09/16 12:02 PM	IC3_160209A
Aqueous	M4500-H+ B	pH	73612	1	02/10/16 10:05 AM	TITRATOR_160210A
Aqueous	M2540C	Total Dissolved Solids	73615	1	02/11/16 08:30 AM	WC_160210B
Aqueous	SW7470A	Mercury Total: Aqueous	73599	1	02/09/16 03:14 PM	CETAC2_HG_160209 C
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73623	1	02/12/16 12:19 PM	ICP-MS4_160212C
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73623	50	02/15/16 04:44 PM	ICP-MS4_160215F
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73623	5	02/15/16 04:46 PM	ICP-MS4_160215F
Aqueous	E300	Anions by IC method - Water	73596	1	02/09/16 12:23 PM	IC3_160209A
Aqueous	E300	Anions by IC method - Water	73596	100	02/09/16 04:07 PM	IC3_160209A
Aqueous	M4500-H+ B	pH	73612	1	02/10/16 10:07 AM	TITRATOR_160210A
Aqueous	M2540C	Total Dissolved Solids	73615	1	02/11/16 08:30 AM	WC_160210B
Aqueous	SW7470A	Mercury Total: Aqueous	73599	1	02/09/16 03:16 PM	CETAC2_HG_160209 C
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73623	1	02/12/16 12:21 PM	ICP-MS4_160212C
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73623	10	02/15/16 04:48 PM	ICP-MS4_160215F
Aqueous	E300	Anions by IC method - Water	73596	10	02/09/16 04:28 PM	IC3_160209A

ANALYTICAL DATES REPORT

Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
Aqueous	E300	Anions by IC method - Water	73596	1	02/09/16 12:43 PM	IC3_160209A
Aqueous	M4500-H+ B	pH	73612	1	02/10/16 10:09 AM	TITRATOR_160210A
Aqueous	M2540C	Total Dissolved Solids	73615	1	02/11/16 08:30 AM	WC_160210B
Aqueous	SW7470A	Mercury Total: Aqueous	73599	1	02/09/16 03:19 PM	CETAC2_HG_160209 C
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73623	1	02/12/16 12:23 PM	ICP-MS4_160212C
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73623	50	02/15/16 04:50 PM	ICP-MS4_160215F
Aqueous	E300	Anions by IC method - Water	73596	1	02/09/16 01:04 PM	IC3_160209A
Aqueous	E300	Anions by IC method - Water	73596	100	02/09/16 04:48 PM	IC3_160209A
Aqueous	M4500-H+ B	pH	73612	1	02/10/16 10:11 AM	TITRATOR_160210A
Aqueous	M2540C	Total Dissolved Solids	73615	1	02/11/16 08:30 AM	WC_160210B
Aqueous	SW7470A	Mercury Total: Aqueous	73599	1	02/09/16 03:26 PM	CETAC2_HG_160209 C
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73623	1	02/12/16 12:25 PM	ICP-MS4_160212C
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73623	50	02/15/16 04:52 PM	ICP-MS4_160215F
Aqueous	E300	Anions by IC method - Water	73596	1	02/09/16 01:24 PM	IC3_160209A
Aqueous	E300	Anions by IC method - Water	73596	100	02/09/16 05:09 PM	IC3_160209A
Aqueous	M4500-H+ B	pH	73612	1	02/10/16 10:15 AM	TITRATOR_160210A
Aqueous	M2540C	Total Dissolved Solids	73615	1	02/11/16 08:30 AM	WC_160210B
Aqueous	SW7470A	Mercury Total: Aqueous	73599	1	02/09/16 03:28 PM	CETAC2_HG_160209 C
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73623	1	02/12/16 12:27 PM	ICP-MS4_160212C
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73623	50	02/15/16 04:54 PM	ICP-MS4_160215F
Aqueous	E300	Anions by IC method - Water	73596	1	02/09/16 01:45 PM	IC3_160209A
Aqueous	E300	Anions by IC method - Water	73596	100	02/09/16 05:30 PM	IC3_160209A
Aqueous	M4500-H+ B	pH	73612	1	02/10/16 10:18 AM	TITRATOR_160210A
Aqueous	M2540C	Total Dissolved Solids	73615	1	02/11/16 08:30 AM	WC_160210B

DHL Analytical, Inc.

Date: 14-Mar-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1602090

Client Sample ID: AX-28
Lab ID: 1602090-01
Collection Date: 02/08/16 09:35 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A			Analyst: KL		
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	02/09/16 03:01 PM
TRACE METALS: ICP-MS - WATER		SW6020A			Analyst: RO		
Antimony	<0.000800	0.000800	0.00250		mg/L	1	02/12/16 12:15 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	02/12/16 12:15 PM
Barium	0.0555	0.00300	0.0100		mg/L	1	02/12/16 12:15 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	02/12/16 12:15 PM
Boron	0.213	0.0100	0.0300		mg/L	1	02/12/16 12:15 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	02/12/16 12:15 PM
Calcium	518	5.00	15.0		mg/L	50	02/15/16 04:40 PM
Chromium	0.00692	0.00200	0.00500		mg/L	1	02/12/16 12:15 PM
Cobalt	0.0211	0.00300	0.00500		mg/L	1	02/12/16 12:15 PM
Lead	0.00210	0.000300	0.00100		mg/L	1	02/12/16 12:15 PM
Lithium	0.252	0.00500	0.0100		mg/L	1	02/12/16 12:15 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	02/12/16 12:15 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	02/12/16 12:15 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	02/12/16 12:15 PM
ANIONS BY IC METHOD - WATER		E300			Analyst: AV		
Chloride	206	30.0	100		mg/L	100	02/09/16 03:23 PM
Fluoride	0.272	0.100	0.400	J	mg/L	1	02/09/16 11:38 AM
Sulfate	1950	100	300		mg/L	100	02/09/16 03:23 PM
PH		M4500-H+ B			Analyst: BJT		
pH	6.68	0	0		pH Units@12.6°C	1	02/10/16 10:03 AM
TOTAL DISSOLVED SOLIDS		M2540C			Analyst: AJH		
Total Dissolved Solids (Residue, Filterable)	3270	50.0	50.0		mg/L	1	02/11/16 08:30 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 14-Mar-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1602090

Client Sample ID: AX-29
Lab ID: 1602090-02
Collection Date: 02/08/16 10:20 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: KL			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	02/09/16 03:12 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	02/12/16 12:17 PM
Arsenic	0.00413	0.00200	0.00500	J	mg/L	1	02/12/16 12:17 PM
Barium	0.118	0.00300	0.0100		mg/L	1	02/12/16 12:17 PM
Beryllium	0.000317	0.000300	0.00100	J	mg/L	1	02/12/16 12:17 PM
Boron	0.299	0.0100	0.0300		mg/L	1	02/12/16 12:17 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	02/12/16 12:17 PM
Calcium	334	5.00	15.0		mg/L	50	02/15/16 04:42 PM
Chromium	0.0187	0.00200	0.00500		mg/L	1	02/12/16 12:17 PM
Cobalt	0.124	0.00300	0.00500		mg/L	1	02/12/16 12:17 PM
Lead	0.00572	0.000300	0.00100		mg/L	1	02/12/16 12:17 PM
Lithium	0.0469	0.00500	0.0100		mg/L	1	02/12/16 12:17 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	02/12/16 12:17 PM
Selenium	0.00382	0.00200	0.00500	J	mg/L	1	02/12/16 12:17 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	02/12/16 12:17 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	269	30.0	100		mg/L	100	02/09/16 03:46 PM
Fluoride	0.227	0.100	0.400	J	mg/L	1	02/09/16 12:02 PM
Sulfate	1170	100	300		mg/L	100	02/09/16 03:46 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.45	0	0		pH Units@12.4°C	1	02/10/16 10:05 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	2620	50.0	50.0		mg/L	1	02/11/16 08:30 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 14-Mar-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1602090

Client Sample ID: AXMW-2
Lab ID: 1602090-03
Collection Date: 02/08/16 12:10 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A			Analyst: KL		
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	02/09/16 03:14 PM
TRACE METALS: ICP-MS - WATER		SW6020A			Analyst: RO		
Antimony	<0.000800	0.000800	0.00250		mg/L	1	02/12/16 12:19 PM
Arsenic	0.0480	0.00200	0.00500		mg/L	1	02/12/16 12:19 PM
Barium	0.0417	0.00300	0.0100		mg/L	1	02/12/16 12:19 PM
Beryllium	0.000559	0.000300	0.00100	J	mg/L	1	02/12/16 12:19 PM
Boron	2.17	0.0500	0.150		mg/L	5	02/15/16 04:46 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	02/12/16 12:19 PM
Calcium	549	5.00	15.0		mg/L	50	02/15/16 04:44 PM
Chromium	0.0436	0.00200	0.00500		mg/L	1	02/12/16 12:19 PM
Cobalt	0.0474	0.00300	0.00500		mg/L	1	02/12/16 12:19 PM
Lead	0.00282	0.000300	0.00100		mg/L	1	02/12/16 12:19 PM
Lithium	0.0809	0.00500	0.0100		mg/L	1	02/12/16 12:19 PM
Molybdenum	0.00276	0.00200	0.00500	J	mg/L	1	02/12/16 12:19 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	02/12/16 12:19 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	02/12/16 12:19 PM
ANIONS BY IC METHOD - WATER		E300			Analyst: AV		
Chloride	192	30.0	100		mg/L	100	02/09/16 04:07 PM
Fluoride	1.09	0.100	0.400		mg/L	1	02/09/16 12:23 PM
Sulfate	2200	100	300		mg/L	100	02/09/16 04:07 PM
PH		M4500-H+ B			Analyst: BJT		
pH	6.31	0	0		pH Units@13.1°C	1	02/10/16 10:07 AM
TOTAL DISSOLVED SOLIDS		M2540C			Analyst: AJH		
Total Dissolved Solids (Residue, Filterable)	3800	50.0	50.0		mg/L	1	02/11/16 08:30 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 14-Mar-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1602090

Client Sample ID: AX-23
Lab ID: 1602090-04
Collection Date: 02/08/16 01:00 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: KL			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	02/09/16 03:16 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	02/12/16 12:21 PM
Arsenic	0.00984	0.00200	0.00500		mg/L	1	02/12/16 12:21 PM
Barium	0.119	0.00300	0.0100		mg/L	1	02/12/16 12:21 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	02/12/16 12:21 PM
Boron	0.287	0.0100	0.0300		mg/L	1	02/12/16 12:21 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	02/12/16 12:21 PM
Calcium	177	1.00	3.00		mg/L	10	02/15/16 04:48 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	02/12/16 12:21 PM
Cobalt	0.00518	0.00300	0.00500		mg/L	1	02/12/16 12:21 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	02/12/16 12:21 PM
Lithium	0.00590	0.00500	0.0100	J	mg/L	1	02/12/16 12:21 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	02/12/16 12:21 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	02/12/16 12:21 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	02/12/16 12:21 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	124	3.00	10.0		mg/L	10	02/09/16 04:28 PM
Fluoride	0.273	0.100	0.400	J	mg/L	1	02/09/16 12:43 PM
Sulfate	459	10.0	30.0		mg/L	10	02/09/16 04:28 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.72	0	0		pH Units@13.3°C	1	02/10/16 10:09 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	1250	50.0	50.0		mg/L	1	02/11/16 08:30 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 14-Mar-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1602090

Client Sample ID: AXMW-1
Lab ID: 1602090-05
Collection Date: 02/08/16 02:20 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A			Analyst: KL		
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	02/09/16 03:19 PM
TRACE METALS: ICP-MS - WATER		SW6020A			Analyst: RO		
Antimony	0.00331	0.000800	0.00250		mg/L	1	02/12/16 12:23 PM
Arsenic	0.00301	0.00200	0.00500	J	mg/L	1	02/12/16 12:23 PM
Barium	0.0360	0.00300	0.0100		mg/L	1	02/12/16 12:23 PM
Beryllium	0.000462	0.000300	0.00100	J	mg/L	1	02/12/16 12:23 PM
Boron	0.516	0.0100	0.0300		mg/L	1	02/12/16 12:23 PM
Cadmium	0.00101	0.000300	0.00100		mg/L	1	02/12/16 12:23 PM
Calcium	399	5.00	15.0		mg/L	50	02/15/16 04:50 PM
Chromium	0.0113	0.00200	0.00500		mg/L	1	02/12/16 12:23 PM
Cobalt	0.388	0.00300	0.00500		mg/L	1	02/12/16 12:23 PM
Lead	0.000724	0.000300	0.00100	J	mg/L	1	02/12/16 12:23 PM
Lithium	0.107	0.00500	0.0100		mg/L	1	02/12/16 12:23 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	02/12/16 12:23 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	02/12/16 12:23 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	02/12/16 12:23 PM
ANIONS BY IC METHOD - WATER		E300			Analyst: AV		
Chloride	263	30.0	100		mg/L	100	02/09/16 04:48 PM
Fluoride	0.188	0.100	0.400	J	mg/L	1	02/09/16 01:04 PM
Sulfate	2260	100	300		mg/L	100	02/09/16 04:48 PM
PH		M4500-H+ B			Analyst: BJT		
pH	5.57	0	0		pH Units@13.8°C	1	02/10/16 10:11 AM
TOTAL DISSOLVED SOLIDS		M2540C			Analyst: AJH		
Total Dissolved Solids (Residue, Filterable)	3450	50.0	50.0		mg/L	1	02/11/16 08:30 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 14-Mar-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1602090

Client Sample ID: AX-27
Lab ID: 1602090-06
Collection Date: 02/08/16 03:05 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: KL			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	02/09/16 03:26 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	02/12/16 12:25 PM
Arsenic	0.00413	0.00200	0.00500	J	mg/L	1	02/12/16 12:25 PM
Barium	0.173	0.00300	0.0100		mg/L	1	02/12/16 12:25 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	02/12/16 12:25 PM
Boron	0.189	0.0100	0.0300		mg/L	1	02/12/16 12:25 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	02/12/16 12:25 PM
Calcium	324	5.00	15.0		mg/L	50	02/15/16 04:52 PM
Chromium	0.00431	0.00200	0.00500	J	mg/L	1	02/12/16 12:25 PM
Cobalt	0.0245	0.00300	0.00500		mg/L	1	02/12/16 12:25 PM
Lead	0.00112	0.000300	0.00100		mg/L	1	02/12/16 12:25 PM
Lithium	0.0841	0.00500	0.0100		mg/L	1	02/12/16 12:25 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	02/12/16 12:25 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	02/12/16 12:25 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	02/12/16 12:25 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	548	30.0	100		mg/L	100	02/09/16 05:09 PM
Fluoride	0.185	0.100	0.400	J	mg/L	1	02/09/16 01:24 PM
Sulfate	400	100	300		mg/L	100	02/09/16 05:09 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.55	0	0		pH Units@14.9°C	1	02/10/16 10:15 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	2140	50.0	50.0		mg/L	1	02/11/16 08:30 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 14-Mar-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1602090

Client Sample ID: AX-26
Lab ID: 1602090-07
Collection Date: 02/08/16 03:55 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: KL			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	02/09/16 03:28 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	02/12/16 12:27 PM
Arsenic	0.00380	0.00200	0.00500	J	mg/L	1	02/12/16 12:27 PM
Barium	0.0676	0.00300	0.0100		mg/L	1	02/12/16 12:27 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	02/12/16 12:27 PM
Boron	0.366	0.0100	0.0300		mg/L	1	02/12/16 12:27 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	02/12/16 12:27 PM
Calcium	670	5.00	15.0		mg/L	50	02/15/16 04:54 PM
Chromium	0.00550	0.00200	0.00500		mg/L	1	02/12/16 12:27 PM
Cobalt	0.0276	0.00300	0.00500		mg/L	1	02/12/16 12:27 PM
Lead	0.00106	0.000300	0.00100		mg/L	1	02/12/16 12:27 PM
Lithium	0.474	0.00500	0.0100		mg/L	1	02/12/16 12:27 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	02/12/16 12:27 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	02/12/16 12:27 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	02/12/16 12:27 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	1420	30.0	100		mg/L	100	02/09/16 05:30 PM
Fluoride	0.119	0.100	0.400	J	mg/L	1	02/09/16 01:45 PM
Sulfate	1100	100	300		mg/L	100	02/09/16 05:30 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.65	0	0		pH Units@15.2°C	1	02/10/16 10:18 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	4610	50.0	50.0		mg/L	1	02/11/16 08:30 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602090
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_160209C

The QC data in batch 73599 applies to the following samples: 1602090-01A, 1602090-02A, 1602090-03A, 1602090-04A, 1602090-05A, 1602090-06A, 1602090-07A

Sample ID MB-73599	Batch ID: 73599	TestNo: SW7470A	Units: mg/L
SampType: MBLK	Run ID: CETAC2_HG_160209C	Analysis Date: 2/9/2016 2:43:00 PM	Prep Date: 2/9/2016
Analyte	Result	RL	SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	<0.0000800	0.000200	

Sample ID LCS-73599	Batch ID: 73599	TestNo: SW7470A	Units: mg/L
SampType: LCS	Run ID: CETAC2_HG_160209C	Analysis Date: 2/9/2016 2:45:16 PM	Prep Date: 2/9/2016
Analyte	Result	RL	SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	0.00221	0.000200	0.00200 0 110 85 115

Sample ID LCSD-73599	Batch ID: 73599	TestNo: SW7470A	Units: mg/L
SampType: LCSD	Run ID: CETAC2_HG_160209C	Analysis Date: 2/9/2016 2:47:32 PM	Prep Date: 2/9/2016
Analyte	Result	RL	SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	0.00215	0.000200	0.00200 0 108 85 115 2.75 15

Sample ID 1602090-01A SD	Batch ID: 73599	TestNo: SW7470A	Units: mg/L
SampType: SD	Run ID: CETAC2_HG_160209C	Analysis Date: 2/9/2016 3:03:23 PM	Prep Date: 2/9/2016
Analyte	Result	RL	SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	<0.000400	0.00100	0 0 0 0 0 10

Sample ID 1602090-01A PDS	Batch ID: 73599	TestNo: SW7470A	Units: mg/L
SampType: PDS	Run ID: CETAC2_HG_160209C	Analysis Date: 2/9/2016 3:05:39 PM	Prep Date: 2/9/2016
Analyte	Result	RL	SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	0.00213	0.000200	0.00250 0 85.2 85 115

Sample ID 1602090-01A MS	Batch ID: 73599	TestNo: SW7470A	Units: mg/L
SampType: MS	Run ID: CETAC2_HG_160209C	Analysis Date: 2/9/2016 3:07:55 PM	Prep Date: 2/9/2016
Analyte	Result	RL	SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	0.00213	0.000200	0.00200 0 106 80 120

Sample ID 1602090-01A MSD	Batch ID: 73599	TestNo: SW7470A	Units: mg/L
SampType: MSD	Run ID: CETAC2_HG_160209C	Analysis Date: 2/9/2016 3:10:11 PM	Prep Date: 2/9/2016
Analyte	Result	RL	SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Mercury	0.00207	0.000200	0.00200 0 104 80 120 2.86 15

- Qualifiers:**
- B Analyte detected in the associated Method Blank
 - J Analyte detected between MDL and RL
 - ND Not Detected at the Method Detection Limit
 - RL Reporting Limit
 - J Analyte detected between SDL and RL
 - DF Dilution Factor
 - MDL Method Detection Limit
 - R RPD outside accepted control limits
 - S Spike Recovery outside control limits
 - N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602090
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_160209C

Sample ID ICV-160209	Batch ID: R84071	TestNo: SW7470A	Units: mg/L							
SampType: ICV	Run ID: CETAC2_HG_160209C	Analysis Date: 2/9/2016 1:34:04 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00380	0.000200	0.00400	0	95.0	90	110
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Sample ID CCV2-160209	Batch ID: R84071	TestNo: SW7470A	Units: mg/L							
SampType: CCV	Run ID: CETAC2_HG_160209C	Analysis Date: 2/9/2016 2:35:23 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00195	0.000200	0.00200	0	97.5	90	110
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Sample ID CCV3-160209	Batch ID: R84071	TestNo: SW7470A	Units: mg/L							
SampType: CCV	Run ID: CETAC2_HG_160209C	Analysis Date: 2/9/2016 3:21:33 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00199	0.000200	0.00200	0	99.5	90	110
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Sample ID CCV4-160209	Batch ID: R84071	TestNo: SW7470A	Units: mg/L							
SampType: CCV	Run ID: CETAC2_HG_160209C	Analysis Date: 2/9/2016 3:30:41 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00196	0.000200	0.00200	0	98.0	90	110
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Qualifiers:	<p>B Analyte detected in the associated Method Blank</p> <p>J Analyte detected between MDL and RL</p> <p>ND Not Detected at the Method Detection Limit</p> <p>RL Reporting Limit</p> <p>J Analyte detected between SDL and RL</p>	<p>DF Dilution Factor</p> <p>MDL Method Detection Limit</p> <p>R RPD outside accepted control limits</p> <p>S Spike Recovery outside control limits</p> <p>N Parameter not NELAC certified</p>
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1602090
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160212C

The QC data in batch 73623 applies to the following samples: 1602090-01A, 1602090-02A, 1602090-03A, 1602090-04A, 1602090-05A, 1602090-06A, 1602090-07A

Sample ID MB-73623	Batch ID: 73623	TestNo: SW6020A	Units: mg/L
SampType: MBLK	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 12:01:00 PM	Prep Date: 2/11/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.000800	0.00250								
Arsenic	<0.00200	0.00500								
Barium	<0.00300	0.0100								
Beryllium	<0.000300	0.00100								
Boron	<0.0100	0.0300								
Cadmium	<0.000300	0.00100								
Calcium	<0.100	0.300								
Chromium	<0.00200	0.00500								
Cobalt	<0.00300	0.00500								
Lead	<0.000300	0.00100								
Lithium	<0.00500	0.0100								
Molybdenum	<0.00200	0.00500								
Selenium	<0.00200	0.00500								
Thallium	<0.000500	0.00150								

Sample ID LCS-73623	Batch ID: 73623	TestNo: SW6020A	Units: mg/L
SampType: LCS	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 12:03:00 PM	Prep Date: 2/11/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.188	0.00250	0.200	0	94.1	80	120			
Arsenic	0.187	0.00500	0.200	0	93.3	80	120			
Barium	0.186	0.0100	0.200	0	92.9	80	120			
Beryllium	0.195	0.00100	0.200	0	97.3	80	120			
Boron	0.190	0.0300	0.200	0	94.8	80	120			
Cadmium	0.189	0.00100	0.200	0	94.3	80	120			
Calcium	4.58	0.300	5.00	0	91.6	80	120			
Chromium	0.188	0.00500	0.200	0	93.9	80	120			
Cobalt	0.190	0.00500	0.200	0	94.8	80	120			
Lead	0.179	0.00100	0.200	0	89.3	80	120			
Lithium	0.199	0.0100	0.200	0	99.5	80	120			
Molybdenum	0.179	0.00500	0.200	0	89.7	80	120			
Selenium	0.187	0.00500	0.200	0	93.3	80	120			
Thallium	0.179	0.00150	0.200	0	89.4	80	120			

Sample ID LCSD-73623	Batch ID: 73623	TestNo: SW6020A	Units: mg/L
SampType: LCSD	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 12:05:00 PM	Prep Date: 2/11/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.189	0.00250	0.200	0	94.3	80	120	0.249	15	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1602090
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160212C

Sample ID: LCSD-73623	Batch ID: 73623	TestNo: SW6020A	Units: mg/L
SampType: LCSD	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 12:05:00 PM	Prep Date: 2/11/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.188	0.00500	0.200	0	94.2	80	120	0.894	15	
Barium	0.185	0.0100	0.200	0	92.3	80	120	0.643	15	
Beryllium	0.193	0.00100	0.200	0	96.5	80	120	0.734	15	
Boron	0.201	0.0300	0.200	0	100	80	120	5.67	15	
Cadmium	0.188	0.00100	0.200	0	93.9	80	120	0.415	15	
Calcium	4.58	0.300	5.00	0	91.6	80	120	0.014	15	
Chromium	0.185	0.00500	0.200	0	92.5	80	120	1.57	15	
Cobalt	0.191	0.00500	0.200	0	95.7	80	120	0.883	15	
Lead	0.182	0.00100	0.200	0	91.0	80	120	1.83	15	
Lithium	0.198	0.0100	0.200	0	99.2	80	120	0.244	15	
Molybdenum	0.180	0.00500	0.200	0	89.8	80	120	0.103	15	
Selenium	0.188	0.00500	0.200	0	94.0	80	120	0.775	15	
Thallium	0.183	0.00150	0.200	0	91.3	80	120	2.15	15	

Sample ID: 1602096-01A SD	Batch ID: 73623	TestNo: SW6020A	Units: mg/L
SampType: SD	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 12:11:00 PM	Prep Date: 2/11/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.00400	0.0125	0	0				0	10	
Arsenic	<0.0100	0.0250	0	0.00358				0	10	
Barium	0.0356	0.0500	0	0.0347				2.78	10	
Beryllium	<0.00150	0.00500	0	0				0	10	
Boron	0.375	0.150	0	0.329				13.1	10	R
Cadmium	<0.00150	0.00500	0	0				0	10	
Chromium	<0.0100	0.0250	0	0				0	10	
Cobalt	<0.0150	0.0250	0	0.00519				0	10	
Lead	<0.00150	0.00500	0	0				0	10	
Lithium	0.128	0.0500	0	0.127				1.00	10	
Molybdenum	<0.0100	0.0250	0	0				0	10	
Selenium	<0.0100	0.0250	0	0				0	10	
Thallium	<0.00250	0.00750	0	0				0	10	

Sample ID: 1602096-01A PDS	Batch ID: 73623	TestNo: SW6020A	Units: mg/L
SampType: PDS	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 12:31:00 PM	Prep Date: 2/11/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.194	0.00250	0.200	0	97.2	80	120			
Arsenic	0.193	0.00500	0.200	0.00358	94.5	80	120			
Barium	0.219	0.0100	0.200	0.0347	92.4	80	120			
Beryllium	0.182	0.00100	0.200	0	91.0	80	120			
Boron	0.507	0.0300	0.200	0.329	88.9	80	120			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1602090
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160212C

Sample ID: 1602096-01A PDS	Batch ID: 73623	TestNo: SW6020A	Units: mg/L
SampType: PDS	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 12:31:00 PM	Prep Date: 2/11/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.177	0.00100	0.200	0	88.4	80	120			
Chromium	0.184	0.00500	0.200	0	92.0	80	120			
Cobalt	0.184	0.00500	0.200	0.00519	89.6	80	120			
Lead	0.185	0.00100	0.200	0	92.4	80	120			
Lithium	0.297	0.0100	0.200	0.127	85.1	80	120			
Molybdenum	0.178	0.00500	0.200	0	88.8	80	120			
Selenium	0.191	0.00500	0.200	0	95.6	80	120			
Thallium	0.184	0.00150	0.200	0	92.0	80	120			

Sample ID: 1602096-01A MS	Batch ID: 73623	TestNo: SW6020A	Units: mg/L
SampType: MS	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 12:33:00 PM	Prep Date: 2/11/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.200	0.00250	0.200	0	100	80	120			
Arsenic	0.198	0.00500	0.200	0.00358	97.2	80	120			
Barium	0.233	0.0100	0.200	0.0347	99.4	80	120			
Beryllium	0.187	0.00100	0.200	0	93.3	80	120			
Boron	0.527	0.0300	0.200	0.329	98.9	80	120			
Cadmium	0.188	0.00100	0.200	0	93.8	80	120			
Calcium	431	0.300	5.00	420	221	80	120			S
Chromium	0.185	0.00500	0.200	0	92.3	80	120			
Cobalt	0.186	0.00500	0.200	0.00519	90.3	80	120			
Lead	0.191	0.00100	0.200	0	95.5	80	120			
Lithium	0.312	0.0100	0.200	0.127	92.5	80	120			
Molybdenum	0.190	0.00500	0.200	0	94.8	80	120			
Selenium	0.197	0.00500	0.200	0	98.4	80	120			
Thallium	0.193	0.00150	0.200	0	96.3	80	120			

Sample ID: 1602096-01A MSD	Batch ID: 73623	TestNo: SW6020A	Units: mg/L
SampType: MSD	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 12:35:00 PM	Prep Date: 2/11/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.201	0.00250	0.200	0	101	80	120	0.475	15	
Arsenic	0.199	0.00500	0.200	0.00358	97.9	80	120	0.686	15	
Barium	0.229	0.0100	0.200	0.0347	97.3	80	120	1.78	15	
Beryllium	0.187	0.00100	0.200	0	93.6	80	120	0.278	15	
Boron	0.545	0.0300	0.200	0.329	108	80	120	3.46	15	
Cadmium	0.186	0.00100	0.200	0	93.0	80	120	0.764	15	
Calcium	433	0.300	5.00	420	276	80	120	0.636	15	S
Chromium	0.187	0.00500	0.200	0	93.3	80	120	1.04	15	
Cobalt	0.188	0.00500	0.200	0.00519	91.4	80	120	1.15	15	

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602090
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160212C

Sample ID: 1602096-01A MSD	Batch ID: 73623	TestNo: SW6020A	Units: mg/L
SampType: MSD	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 12:35:00 PM	Prep Date: 2/11/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.191	0.00100	0.200	0	95.4	80	120	0.106	15	
Lithium	0.315	0.0100	0.200	0.127	94.3	80	120	1.14	15	
Molybdenum	0.189	0.00500	0.200	0	94.7	80	120	0.103	15	
Selenium	0.197	0.00500	0.200	0	98.5	80	120	0.056	15	
Thallium	0.192	0.00150	0.200	0	96.1	80	120	0.174	15	

LUMINANT

Qualifiers:	B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified	
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1602090
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160212C

Sample ID ICV-160212	Batch ID: R84167	TestNo: SW6020A	Units: mg/L
SampType: ICV	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 10:33:00 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.0978	0.00250	0.100	0	97.8	90	110			
Arsenic	0.0980	0.00500	0.100	0	98.0	90	110			
Barium	0.0968	0.0100	0.100	0	96.8	90	110			
Beryllium	0.0981	0.00100	0.100	0	98.1	90	110			
Boron	0.0974	0.0300	0.100	0	97.4	90	110			
Cadmium	0.0972	0.00100	0.100	0	97.2	90	110			
Calcium	2.35	0.300	2.50	0	94.0	90	110			
Chromium	0.101	0.00500	0.100	0	101	90	110			
Cobalt	0.101	0.00500	0.100	0	101	90	110			
Lead	0.0983	0.00100	0.100	0	98.3	90	110			
Lithium	0.0990	0.0100	0.100	0	99.0	90	110			
Molybdenum	0.0932	0.00500	0.100	0	93.2	90	110			
Selenium	0.0999	0.00500	0.100	0	99.9	90	110			
Thallium	0.0970	0.00150	0.100	0	97.0	90	110			

Sample ID LCVL-160212	Batch ID: R84167	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 10:42:00 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00190	0.00250	0.00200	0	95.1	70	130			
Arsenic	0.00497	0.00500	0.00500	0	99.4	70	130			
Barium	0.00474	0.0100	0.00500	0	94.8	70	130			
Beryllium	0.000922	0.00100	0.00100	0	92.2	70	130			
Boron	0.0258	0.0300	0.0200	0	129	70	130			
Cadmium	0.000982	0.00100	0.00100	0	98.2	70	130			
Calcium	0.104	0.300	0.100	0	104	70	130			
Chromium	0.00503	0.00500	0.00500	0	101	70	130			
Cobalt	0.00509	0.00500	0.00500	0	102	70	130			
Lead	0.000993	0.00100	0.00100	0	99.3	70	130			
Lithium	0.0105	0.0100	0.0100	0	105	70	130			
Molybdenum	0.00463	0.00500	0.00500	0	92.6	70	130			
Selenium	0.00521	0.00500	0.00500	0	104	70	130			
Thallium	0.000972	0.00150	0.00100	0	97.2	70	130			

Sample ID CCV2-160212	Batch ID: R84167	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 11:40:00 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.189	0.00250	0.200	0	94.5	90	110			
Arsenic	0.191	0.00500	0.200	0	95.7	90	110			
Barium	0.190	0.0100	0.200	0	94.9	90	110			

- Qualifiers:**
- B Analyte detected in the associated Method Blank
 - J Analyte detected between MDL and RL
 - ND Not Detected at the Method Detection Limit
 - RL Reporting Limit
 - J Analyte detected between SDL and RL
 - DF Dilution Factor
 - MDL Method Detection Limit
 - R RPD outside accepted control limits
 - S Spike Recovery outside control limits
 - N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1602090
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160212C

Sample ID	CCV2-160212	Batch ID:	R84167	TestNo:	SW6020A	Units:	mg/L
SampType:	CCV	Run ID:	ICP-MS4_160212C	Analysis Date:	2/12/2016 11:40:00 AM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.195	0.00100	0.200	0	97.7	90	110			
Boron	0.195	0.0300	0.200	0	97.7	90	110			
Cadmium	0.191	0.00100	0.200	0	95.7	90	110			
Calcium	4.55	0.300	5.00	0	91.1	90	110			
Chromium	0.190	0.00500	0.200	0	95.0	90	110			
Cobalt	0.194	0.00500	0.200	0	96.9	90	110			
Lead	0.186	0.00100	0.200	0	93.1	90	110			
Lithium	0.197	0.0100	0.200	0	98.4	90	110			
Molybdenum	0.182	0.00500	0.200	0	90.8	90	110			
Selenium	0.191	0.00500	0.200	0	95.5	90	110			
Thallium	0.186	0.00150	0.200	0	93.1	90	110			

Sample ID	LCVL2-160212	Batch ID:	R84167	TestNo:	SW6020A	Units:	mg/L
SampType:	LCVL	Run ID:	ICP-MS4_160212C	Analysis Date:	2/12/2016 11:57:00 AM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00196	0.00250	0.00200	0	98.2	70	130			
Arsenic	0.00498	0.00500	0.00500	0	99.5	70	130			
Barium	0.00495	0.0100	0.00500	0	98.9	70	130			
Beryllium	0.000937	0.00100	0.00100	0	93.7	70	130			
Boron	0.0206	0.0300	0.0200	0	103	70	130			
Cadmium	0.000953	0.00100	0.00100	0	95.3	70	130			
Calcium	0.104	0.300	0.100	0	104	70	130			
Chromium	0.00499	0.00500	0.00500	0	99.8	70	130			
Cobalt	0.00495	0.00500	0.00500	0	99.0	70	130			
Lead	0.000935	0.00100	0.00100	0	93.5	70	130			
Lithium	0.0112	0.0100	0.0100	0	112	70	130			
Molybdenum	0.00467	0.00500	0.00500	0	93.4	70	130			
Selenium	0.00510	0.00500	0.00500	0	102	70	130			
Thallium	0.000978	0.00150	0.00100	0	97.8	70	130			

Sample ID	CCV3-160212	Batch ID:	R84167	TestNo:	SW6020A	Units:	mg/L
SampType:	CCV	Run ID:	ICP-MS4_160212C	Analysis Date:	2/12/2016 12:37:00 PM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.191	0.00250	0.200	0	95.4	90	110			
Arsenic	0.198	0.00500	0.200	0	99.1	90	110			
Barium	0.194	0.0100	0.200	0	96.8	90	110			
Beryllium	0.196	0.00100	0.200	0	98.1	90	110			
Cadmium	0.192	0.00100	0.200	0	96.1	90	110			
Calcium	4.86	0.300	5.00	0	97.2	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602090
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160212C

Sample ID CCV3-160212	Batch ID: R84167	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 12:37:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.191	0.00500	0.200	0	95.4	90	110			
Cobalt	0.196	0.00500	0.200	0	98.2	90	110			
Lead	0.192	0.00100	0.200	0	96.0	90	110			
Lithium	0.199	0.0100	0.200	0	99.4	90	110			
Molybdenum	0.181	0.00500	0.200	0	90.6	90	110			
Selenium	0.197	0.00500	0.200	0	98.6	90	110			
Thallium	0.190	0.00150	0.200	0	95.1	90	110			

Sample ID CCV3-160212	Batch ID: R84167	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 12:48:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.197	0.0300	0.200	0	98.5	90	110			

Sample ID LCVL3-160212	Batch ID: R84167	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 1:19:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00197	0.00250	0.00200	0	98.4	70	130			
Arsenic	0.00508	0.00500	0.00500	0	102	70	130			
Barium	0.00486	0.0100	0.00500	0	97.2	70	130			
Beryllium	0.000872	0.00100	0.00100	0	87.2	70	130			
Boron	0.0257	0.0300	0.0200	0	128	70	130			
Cadmium	0.000988	0.00100	0.00100	0	98.8	70	130			
Calcium	0.106	0.300	0.100	0	106	70	130			
Chromium	0.00487	0.00500	0.00500	0	97.4	70	130			
Cobalt	0.00498	0.00500	0.00500	0	99.6	70	130			
Lead	0.000913	0.00100	0.00100	0	91.3	70	130			
Lithium	0.0101	0.0100	0.0100	0	101	70	130			
Molybdenum	0.00457	0.00500	0.00500	0	91.4	70	130			
Selenium	0.00646	0.00500	0.00500	0	129	70	130			
Thallium	0.000957	0.00150	0.00100	0	95.7	70	130			

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1602090
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160215F

The QC data in batch 73623 applies to the following samples: 1602090-01A, 1602090-02A, 1602090-03A, 1602090-04A, 1602090-05A, 1602090-06A, 1602090-07A

Sample ID 1602096-01A SD	Batch ID: 73623	TestNo: SW6020A	Units: mg/L							
SampType: SD	Run ID: ICP-MS4_160215F	Analysis Date: 2/15/2016 4:38:00 PM	Prep Date: 2/11/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	432	75.0	0	422				2.33	10	

Sample ID 1602096-01A PDS	Batch ID: 73623	TestNo: SW6020A	Units: mg/L							
SampType: PDS	Run ID: ICP-MS4_160215F	Analysis Date: 2/15/2016 4:58:00 PM	Prep Date: 2/11/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	646	15.0	250	422	89.7	80	120			

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1602090
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160215F

Sample ID ICV2-160215	Batch ID: R84190	TestNo: SW6020A	Units: mg/L							
SampType: ICV	Run ID: ICP-MS4_160215F	Analysis Date: 2/15/2016 4:21:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.109	0.0300	0.100	0	109	90	110			
Calcium	2.28	0.300	2.50	0	91.1	90	110			

Sample ID ILCVL2-160215	Batch ID: R84190	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160215F	Analysis Date: 2/15/2016 4:25:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0272	0.0300	0.0200	0	136	70	130			S
Calcium	0.103	0.300	0.100	0	103	70	130			

Sample ID CCV1-160215	Batch ID: R84190	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160215F	Analysis Date: 2/15/2016 5:00:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.204	0.0300	0.200	0	102	90	110			
Calcium	4.82	0.300	5.00	0	96.3	90	110			

Sample ID LCVL1-160215	Batch ID: R84190	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160215F	Analysis Date: 2/15/2016 5:05:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0250	0.0300	0.0200	0	125	70	130			
Calcium	0.101	0.300	0.100	0	101	70	130			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602090
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC3_160209A

The QC data in batch 73596 applies to the following samples: 1602090-01D, 1602090-02D, 1602090-03D, 1602090-04D, 1602090-05D, 1602090-06D, 1602090-07D

Sample ID: MB-73596	Batch ID: 73596	TestNo: E300	Units: mg/L
SampType: MBLK	Run ID: IC3_160209A	Analysis Date: 2/9/2016 10:29:11 AM	Prep Date: 2/9/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	<0.300	1.00								
Fluoride	<0.100	0.400								
Sulfate	<1.00	3.00								

Sample ID: LCS-73596	Batch ID: 73596	TestNo: E300	Units: mg/L
SampType: LCS	Run ID: IC3_160209A	Analysis Date: 2/9/2016 10:52:40 AM	Prep Date: 2/9/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.66	1.00	10.00	0	96.6	90	110			
Fluoride	4.27	0.400	4.000	0	107	90	110			
Sulfate	31.5	3.00	30.00	0	105	90	110			

Sample ID: LCSD-73596	Batch ID: 73596	TestNo: E300	Units: mg/L
SampType: LCSD	Run ID: IC3_160209A	Analysis Date: 2/9/2016 11:13:20 AM	Prep Date: 2/9/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.99	1.00	10.00	0	99.9	90	110	3.35	20	
Fluoride	4.18	0.400	4.000	0	105	90	110	2.04	20	
Sulfate	31.0	3.00	30.00	0	103	90	110	1.58	20	

Sample ID: 1602082-02AMS	Batch ID: 73596	TestNo: E300	Units: mg/L
SampType: MS	Run ID: IC3_160209A	Analysis Date: 2/9/2016 6:52:35 PM	Prep Date: 2/9/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	2020	100	2000	101.3	95.9	90	110			
Fluoride	1940	40.0	2000	12.24	96.3	90	110			
Sulfate	4180	300	2000	1827	118	90	110			S

Sample ID: 1602082-02AMSD	Batch ID: 73596	TestNo: E300	Units: mg/L
SampType: MSD	Run ID: IC3_160209A	Analysis Date: 2/9/2016 7:13:15 PM	Prep Date: 2/9/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	2020	100	2000	101.3	96.1	90	110	0.199	20	
Fluoride	1950	40.0	2000	12.24	96.8	90	110	0.548	20	
Sulfate	3940	300	2000	1827	106	90	110	5.93	20	

<p>Qualifiers:</p> <p>B Analyte detected in the associated Method Blank</p> <p>J Analyte detected between MDL and RL</p> <p>ND Not Detected at the Method Detection Limit</p> <p>RL Reporting Limit</p> <p>J Analyte detected between SDL and RL</p>	<p>DF Dilution Factor</p> <p>MDL Method Detection Limit</p> <p>R RPD outside accepted control limits</p> <p>S Spike Recovery outside control limits</p> <p>N Parameter not NELAC certified</p>
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1602090
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC3_160209A

Sample ID ICV-160209	Batch ID: R84078	TestNo: E300	Units: mg/L
SampType: ICV	Run ID: IC3_160209A	Analysis Date: 2/9/2016 9:43:31 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	24.3	1.00	25.00	0	97.4	90	110			
Fluoride	10.1	0.400	10.00	0	101	90	110			
Sulfate	76.5	3.00	75.00	0	102	90	110			

Sample ID CCV1-160209	Batch ID: R84078	TestNo: E300	Units: mg/L
SampType: CCV	Run ID: IC3_160209A	Analysis Date: 2/9/2016 2:26:52 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.84	1.00	10.00	0	98.4	90	110			
Fluoride	4.17	0.400	4.000	0	104	90	110			
Sulfate	31.9	3.00	30.00	0	106	90	110			

Sample ID CCV2-160209	Batch ID: R84078	TestNo: E300	Units: mg/L
SampType: CCV	Run ID: IC3_160209A	Analysis Date: 2/9/2016 8:15:11 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.70	1.00	10.00	0	97.0	90	110			
Fluoride	4.24	0.400	4.000	0	106	90	110			
Sulfate	31.4	3.00	30.00	0	105	90	110			

Qualifiers:

B Analyte detected in the associated Method Blank	DF Dilution Factor
J Analyte detected between MDL and RL	MDL Method Detection Limit
ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
RL Reporting Limit	S Spike Recovery outside control limits
J Analyte detected between SDL and RL	N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602090
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_160210A

The QC data in batch 73612 applies to the following samples: 1602090-01D, 1602090-02D, 1602090-03D, 1602090-04D, 1602090-05D, 1602090-06D, 1602090-07D

Sample ID	1602072-01D-DUP	Batch ID:	73612	TestNo:	M4500-H+ B	Units:	pH Units@13.8°C
SampType:	DUP	Run ID:	TITRATOR_160210A	Analysis Date:	2/10/2016 9:55:00 AM	Prep Date:	2/10/2016
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit HighLimit %RPD RPDLimit Qual
pH		9.48	0	0	9.480		0 5

Sample ID	1602090-07D-DUP	Batch ID:	73612	TestNo:	M4500-H+ B	Units:	pH Units@16.2°C
SampType:	DUP	Run ID:	TITRATOR_160210A	Analysis Date:	2/10/2016 10:21:00 AM	Prep Date:	2/10/2016
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit HighLimit %RPD RPDLimit Qual
pH		6.59	0	0	6.650		0.906 5

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1602090
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_160210A

Sample ID ICV-160210	Batch ID: R84089	TestNo: M4500-H+ B	Units: pH Units@21.3°C							
SampType: ICV	Run ID: TITRATOR_160210A	Analysis Date: 2/10/2016 9:50:00 AM	Prep Date: 2/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	10.1	0	10.00	0	101	99	101			
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Sample ID CCV1-160210	Batch ID: R84089	TestNo: M4500-H+ B	Units: pH Units@20.4°C							
SampType: CCV	Run ID: TITRATOR_160210A	Analysis Date: 2/10/2016 10:12:00 AM	Prep Date: 2/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	7.01	0	7.000	0	100	97.1	102.9			
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Sample ID CCV2-160210	Batch ID: R84089	TestNo: M4500-H+ B	Units: pH Units@20.8°C							
SampType: CCV	Run ID: TITRATOR_160210A	Analysis Date: 2/10/2016 10:27:00 AM	Prep Date: 2/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	7.01	0	7.000	0	100	97.1	102.9			
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LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1602090
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: WC_160210B

The QC data in batch 73615 applies to the following samples: 1602090-01D, 1602090-02D, 1602090-03D, 1602090-04D, 1602090-05D, 1602090-06D, 1602090-07D

Sample ID MB-73615	Batch ID: 73615	TestNo: M2540C	Units: mg/L							
SampType: MBLK	Run ID: WC_160210B	Analysis Date: 2/11/2016 8:30:00 AM	Prep Date: 2/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	<10.0	10.0								

Sample ID LCS-73615	Batch ID: 73615	TestNo: M2540C	Units: mg/L							
SampType: LCS	Run ID: WC_160210B	Analysis Date: 2/11/2016 8:30:00 AM	Prep Date: 2/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	759	10.0	745.6	0	102	90	113			

Sample ID 1602090-01D-DUP	Batch ID: 73615	TestNo: M2540C	Units: mg/L							
SampType: DUP	Run ID: WC_160210B	Analysis Date: 2/11/2016 8:30:00 AM	Prep Date: 2/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	3610	50.0	0	3270				9.88	5	R

Sample ID 1602096-01C-DUP	Batch ID: 73615	TestNo: M2540C	Units: mg/L							
SampType: DUP	Run ID: WC_160210B	Analysis Date: 2/11/2016 8:30:00 AM	Prep Date: 2/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	2600	50.0	0	2525				3.12	5	

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
--	---

March 11, 2016

Mr. John DuPont
DHL Analytical
2300 Double Creek Drive
Round Rock, Texas 78664

Re: Routine Analysis
Work Order: 391269

Dear Mr. DuPont:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on February 12, 2016. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4707.

Sincerely,



Anna Day
Project Manager

Purchase Order: 14230
Enclosures



GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

**Certificate of Analysis Report
for**

DHLA002 DHL Analytical

Client SDG: 391269 GEL Work Order: 391269

The Qualifiers in this report are defined as follows:

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a Tracer compound
- ** Analyte is a surrogate compound
- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Anna Day.

LUMINANT

Anna C Day

Reviewed by _____

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: March 11, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: AX-28	Project: DHLA00112
Sample ID: 391269001	Client ID: DHLA002
Matrix: Water	
Collect Date: 08-FEB-16 09:35	
Receive Date: 12-FEB-16	
Collector: Client	

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228		1.89	+/-1.11	1.66	3.00	pCi/L		AXM6	03/10/16	1529	1547100	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.84	+/-0.486	0.365	1.00	pCi/L		CXP3	02/29/16	0730	1544971	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			81.1	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: March 11, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: AX-29	Project: DHLA00112
Sample ID: 391269002	Client ID: DHLA002
Matrix: Water	
Collect Date: 08-FEB-16 10:20	
Receive Date: 12-FEB-16	
Collector: Client	

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	1.30	+/-1.12	1.82	3.00	pCi/L		AXM6	03/10/16	1529	1547100	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.74	+/-0.405	0.183	1.00	pCi/L		CXP3	02/29/16	0730	1544971	2

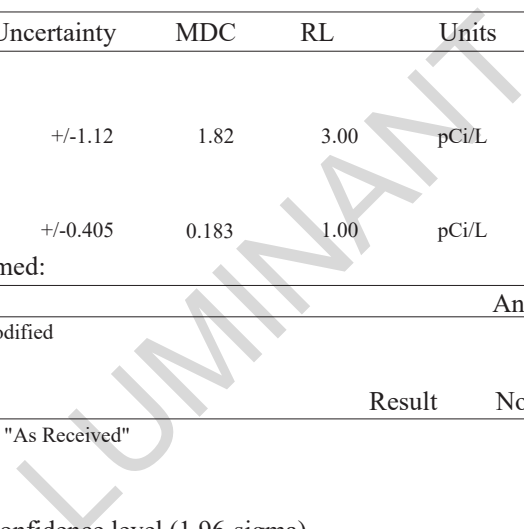
The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			86.4	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).



GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: March 11, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: AXMW-2	Project: DHLA00112
Sample ID: 391269003	Client ID: DHLA002
Matrix: Water	
Collect Date: 08-FEB-16 12:10	
Receive Date: 12-FEB-16	
Collector: Client	

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228		1.41	+/-0.889	1.34	3.00	pCi/L		AXM6	03/10/16	1529	1547100	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.606	+/-0.252	0.193	1.00	pCi/L		CXP3	02/29/16	0730	1544971	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			93	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: March 11, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: AX-23	Project: DHLA00112
Sample ID: 391269004	Client ID: DHLA002
Matrix: Water	
Collect Date: 08-FEB-16 13:00	
Receive Date: 12-FEB-16	
Collector: Client	

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	0.911	+/-1.12	1.90	3.00	pCi/L		AXM6	03/10/16	1529	1547100	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.49	+/-0.492	0.497	1.00	pCi/L		CXP3	02/29/16	0800	1544971	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			96.7	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: March 11, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: AXMW-1	Project: DHLA00112
Sample ID: 391269005	Client ID: DHLA002
Matrix: Water	
Collect Date: 08-FEB-16 14:20	
Receive Date: 12-FEB-16	
Collector: Client	

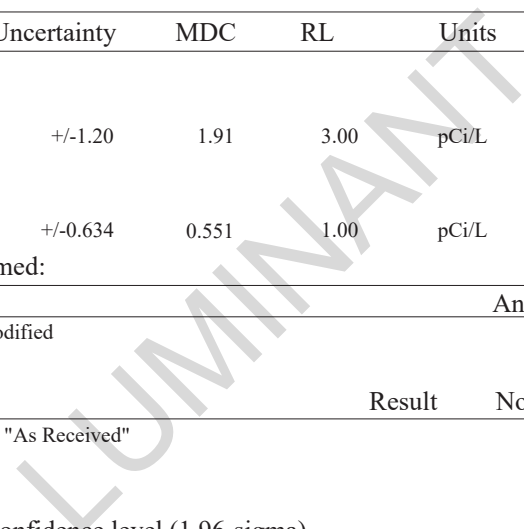
Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	1.72	+/-1.20	1.91	3.00	pCi/L		AXM6	03/10/16	1529	1547100	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		2.52	+/-0.634	0.551	1.00	pCi/L		CXP3	02/29/16	0800	1544971	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			94.3	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).



GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: March 11, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: AX-27	Project: DHLA00112
Sample ID: 391269006	Client ID: DHLA002
Matrix: Water	
Collect Date: 08-FEB-16 15:05	
Receive Date: 12-FEB-16	
Collector: Client	

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time Batch	Method
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228		3.09	+/-1.11	1.39	3.00	pCi/L		AXM6	03/10/16	1529 1547100	1
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226		1.69	+/-0.498	0.450	1.00	pCi/L		CXP3	02/29/16	0800 1544971	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			88.2	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: March 11, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: AX-26	Project: DHLA00112
Sample ID: 391269007	Client ID: DHLA002
Matrix: Water	
Collect Date: 08-FEB-16 15:55	
Receive Date: 12-FEB-16	
Collector: Client	

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228		2.99	+/-1.12	1.46	3.00	pCi/L		AXM6	03/10/16	1529	1547100	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.48	+/-0.462	0.395	1.00	pCi/L		CXP3	02/29/16	0800	1544971	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			87.1	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Report Date: March 11, 2016

Page 1 of 2

DHL Analytical
2300 Double Creek Drive
Round Rock, Texas

Contact: Mr. John DuPont

Workorder: 391269

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gas Flow											
Batch	1547100										
QC1203495195	391269004	DUP									
Radium-228	U	0.911	U	-0.266	pCi/L	N/A		N/A	AXM6	03/10/16	15:32
	Uncertainty	+/-1.12		+/-1.07							
QC1203495196	LCS										
Radium-228		47.1		44.4	pCi/L		94.3	(75%-125%)		03/10/16	15:32
	Uncertainty			+/-2.95							
QC1203495194	MB										
Radium-228			U	-1.06	pCi/L					03/10/16	15:32
	Uncertainty			+/-0.650							
Rad Ra-226											
Batch	1544971										
QC1203489430	391300001	DUP									
Radium-226				1.00	pCi/L	18.3		(0% - 100%)	CXP3	02/29/16	08:30
	Uncertainty			+/-0.405							
QC1203489432	LCS										
Radium-226		24.4		24.0	pCi/L		98.3	(75%-125%)		02/29/16	09:05
	Uncertainty			+/-1.73							
QC1203489429	MB										
Radium-226			U	0.216	pCi/L					02/29/16	08:30
	Uncertainty			+/-0.205							
QC1203489431	391300001	MS									
Radium-226		122	1.00	124	pCi/L		101	(75%-125%)		02/29/16	09:05
	Uncertainty			+/-0.405							

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

The Qualifiers in this report are defined as follows:

- ** Analyte is a Tracer compound
- < Result is less than value reported
- > Result is greater than value reported
- BD Results are either below the MDC or tracer recovery is low
- FA Failed analysis.
- H Analytical holding time was exceeded
- J Value is estimated
- K Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- L Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- M M if above MDC and less than LLD
- M REMP Result > MDC/CL and < RDL
- N/A RPD or %Recovery limits do not apply.

GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Workorder: 391269

Page 2 of 2

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
N1											
ND											
NJ											
Q											
R											
U											
UI											
UJ											
UL											
X											
Y											
^											
h											

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

LUMINANT

There are no "Data Exception Reports" associated with this analytical report.

LUMINANT

CHAIN-OF-CUSTODY RECORD

FAX: (512) 388-8229

391269

TEL: (843) 556-8171

FAX:

Acct #:

09-Feb-16

Matrix	DHL#	Date Collected	Bottle Type	Requested Tests						
				224 E903.1	228 E904.0					
Aqueous	-01B	02/08/16 09:35 AM	500HDPEHNO3		1					
Aqueous	-01C	02/08/16 09:35 AM	500HDPEHNO3	1						
Aqueous	-02B	02/08/16 10:20 AM	500HDPEHNO3		1					
Aqueous	-02C	02/08/16 10:20 AM	500HDPEHNO3	1						
Aqueous	-03B	02/08/16 12:10 PM	500HDPEHNO3		1					
Aqueous	-03C	02/08/16 12:10 PM	500HDPEHNO3	1						
Aqueous	-04B	02/08/16 01:00 PM	500HDPEHNO3		1					
Aqueous	-04C	02/08/16 01:00 PM	500HDPEHNO3	1						
Aqueous	-05B	02/08/16 02:20 PM	500HDPEHNO3		1					
Aqueous	-05C	02/08/16 02:20 PM	500HDPEHNO3	1						
Aqueous	-06B	02/08/16 03:05 PM	500HDPEHNO3		1					
Aqueous	-06C	02/08/16 03:05 PM	500HDPEHNO3	1						
Aqueous	-07B	02/08/16 03:55 PM	500HDPEHNO3		1					
Aqueous	-07C	02/08/16 03:55 PM	500HDPEHNO3	1						

Analyze these samples with a Standard Turnaround Time.
 In DuPont if you have questions.
 Control Package Needed: Standard / _____
 Report to both cac@dhlanalytical.com & dupont@dhlanalytical.com

Date/Time	Date/Time
<u>[Signature]</u> 2/9/16 1730	Received by: <u>[Signature]</u> 2/9/16 1730
	Received by: <u>[Signature]</u> 2/12/16 8:40



SAMPLE RECEIPT & REVIEW FORM

Client: DHLA		SDG/AR/COC/Work Order: 391269
Received By: Zkw		Date Received: 2/12/16
Suspected Hazard Information	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
COC/Samples marked as radioactive?	<input checked="" type="checkbox"/>	Maximum Net Counts Observed* (Observed Counts - Area Background Counts):
Classified Radioactive II or III by RSO?	<input checked="" type="checkbox"/>	If yes, Were swipes taken of sample containers < action levels?
COC/Samples marked containing PCBs?	<input checked="" type="checkbox"/>	
Package, COC, and/or Samples marked as beryllium or asbestos containing?	<input checked="" type="checkbox"/>	If yes, samples are to be segregated as Safety Controlled Samples, and opened by the GEL Safety Group.
Shipped as a DOT Hazardous?	<input checked="" type="checkbox"/>	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?	<input checked="" type="checkbox"/>	

Sample Receipt Criteria		Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	<input checked="" type="checkbox"/>			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*		<input checked="" type="checkbox"/>		Preservation Method: Ice bags Blue ice Dry ice <u>None</u> Other (describe) *all temperatures are recorded in Celsius 10°C
2a	Daily check performed and passed on IR temperature gun?	<input checked="" type="checkbox"/>			Temperature Device Serial #: Secondary Temperature Device Serial # (If Applicable): 130462966
3	Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>			
4	Sample containers intact and sealed?	<input checked="" type="checkbox"/>			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
5	Samples requiring chemical preservation at proper pH?	<input checked="" type="checkbox"/>			Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	Do Low Level Perchlorate samples have headspace as required?		<input checked="" type="checkbox"/>		Sample ID's and containers affected:
7	VOA vials contain acid preservation?		<input checked="" type="checkbox"/>		(If unknown, select No)
8	VOA vials free of headspace (defined as < 6mm bubble)?		<input checked="" type="checkbox"/>		Sample ID's and containers affected:
9	Are Encore containers present?		<input checked="" type="checkbox"/>		(If yes, immediately deliver to Volatiles laboratory)
10	Samples received within holding time?	<input checked="" type="checkbox"/>			ID's and tests affected:
11	Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>			Sample ID's and containers affected:
12	Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>			Sample ID's affected:
13	Number of containers received match number indicated on COC?	<input checked="" type="checkbox"/>			Sample ID's affected:
14	Are sample containers identifiable as GEL provided?		<input checked="" type="checkbox"/>		
15	COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>			
16	Carrier and tracking number.	<input checked="" type="checkbox"/>			Circle Applicable: FedEx Air <u>FedEx Ground</u> UPS Field Services Courier Other 7756 0622 0617

Comments (Use Continuation Form if needed):

List of current GEL Certifications as of 11 March 2016

State	Certification
Alaska	UST-0110
Arkansas	88-0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH-0169
Delaware	SC00012
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-15-00283, P330-15-00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho Chemistry	SC00012
Idaho Radiochemistry	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana NELAP	03046 (AI33904)
Louisiana SDWA	LA160006
Maryland	270
Massachusetts	M-SC012
Michigan	9976
Mississippi	SC00012
Nebraska	NE-OS-26-13
Nevada	SC000122016-1
New Hampshire NELAP	205415
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R-158
Oklahoma	9904
Pennsylvania NELAP	68-00485
S.Carolina Radchem	10120002
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-16-11
Utah NELAP	SC000122016-20
Vermont	VT87156
Virginia NELAP	460202
Washington	C780
West Virginia	997404



March 14, 2016

Will Vienne
Pastor, Behling & Wheeler
2201 Double Creek Dr #4004
Round Rock, Texas 78664
TEL: (512) 671-3434
FAX (512) 671-3446
RE: Sandow CCR

Order No.: 1602095

Dear Will Vienne:

DHL Analytical, Inc. received 3 sample(s) on 2/9/2016 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

A handwritten signature in orange ink, appearing to read "John DuPont", is written over a light blue circular background.

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-15-15



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LUMINANT

John Dupont

From: Sara Taube [Sara.Taube@pbw/lc.com]
Sent: Wednesday, July 22, 2015 12:05 PM
To: John Dupont
Subject: CCR Appendix III and IV
Follow Up Flag: Follow up
Flag Status: Completed

Hi John,

Here are the Appendix III and Appendix IV constituents that we will need to have analyzed under the CCR Rule.

Appendix III

Boron
Calcium
Chloride
Fluoride
pH
sulfate
TDS

Appendix IV

Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cobalt
Fluoride
Lead
Lithium
Mercury
Molybdenum
Selenium
Thallium
Radium 226 and 228

We are looking to have approximately 74 wells sampled 8 times over the course of the next two years. Please let me know if there is any more information you might need.

Cheers,

Sara

10/26/2015

LUMINANT

CUSTODY SEAL
DATE: 7/19/16
SIGNATURE: *[Handwritten Signature]*

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

Sample Receipt Checklist

Client Name Pastor, Behling & Wheeler

Date Received: 2/9/2016

Work Order Number 1602095

Received by MB

Checklist completed by: [Signature] 2/9/2016

Reviewed by [JD] 2/9/2016

Carrier name Hand Delivered

- 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 4.2 °C
- Water - VOA vials have zero headspace? Yes No No VOA vials submitted
- Water - pH<2 acceptable upon receipt? Yes No NA LOT # 8086
- Adjusted? No Checked by MB
- Water - pH>9 (S) or pH>12 (CN) acceptable upon receipt? Yes No NA LOT #
- Adjusted? _____ Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Lab Order: 1602095

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Method SW6020A - Metals Analysis
Method SW7470A - Mercury Analysis
Method E300 - Anions Analysis
Method M4500-H+ B - pH of a Water Analysis
Method M2540C - TDS Analysis

Sub-contract - Radium-228 and Radium-226 analyses by methods E904.0/SW8469320 Modified and E903.1 Modified. Analyzed at GEL Laboratory.

LOG IN

The samples were received and log-in performed on 2/9/16. A total of 3 samples were received. The samples arrived in good condition and were properly packaged.

METALS ANALYSIS

For Metals analysis performed on 2/12/16 the matrix spike and matrix spike duplicate recoveries were above control limits for Calcium. These are flagged accordingly in the QC summary report. The sample selected for the matrix spike and matrix spike duplicate was not from this work order. The LCS was within control limits for this analyte. No further corrective actions were taken.

For Metals analysis performed on 2/12/16 the RPD for the serial dilution was slightly above control limits for Boron. This is flagged accordingly. The PDS was within control limits for this analyte. No further corrective actions were taken.

TDS ANALYSIS

For TDS analysis performed on 2/10/16 the sample and sample duplicate (1602090-01 & 1602090-01 DUP) had the RPD slightly above control limits. This is flagged accordingly in the QC summary report. This may be due to the sample being turbid. No further corrective actions were taken.

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Lab Order: 1602095

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1602095-01	AX-22R		02/09/16 09:35 AM	2/9/2016
1602095-02	AX-25		02/09/16 10:35 AM	2/9/2016
1602095-03	AX-24		02/09/16 12:20 PM	2/9/2016

LUMINANT

PREP DATES REPORT

Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
02/09/16 09:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/11/16 08:56 AM	73623
02/09/16 09:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/11/16 08:56 AM	73623
02/09/16 09:35 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	02/19/16 08:28 AM	73748
02/09/16 09:35 AM	Aqueous	E300	Anion Preparation	02/10/16 09:33 AM	73611
02/09/16 09:35 AM	Aqueous	E300	Anion Preparation	02/10/16 09:33 AM	73611
02/09/16 09:35 AM	Aqueous	M4500-H+ B	pH Preparation	02/10/16 09:36 AM	73612
02/09/16 09:35 AM	Aqueous	M2540C	TDS Preparation	02/10/16 11:52 AM	73615
02/09/16 10:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/11/16 08:56 AM	73623
02/09/16 10:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/11/16 08:56 AM	73623
02/09/16 10:35 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	02/19/16 08:28 AM	73748
02/09/16 10:35 AM	Aqueous	E300	Anion Preparation	02/10/16 09:33 AM	73611
02/09/16 10:35 AM	Aqueous	E300	Anion Preparation	02/10/16 09:33 AM	73611
02/09/16 10:35 AM	Aqueous	M4500-H+ B	pH Preparation	02/10/16 09:36 AM	73612
02/09/16 10:35 AM	Aqueous	M2540C	TDS Preparation	02/10/16 11:52 AM	73615
02/09/16 12:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/11/16 08:56 AM	73623
02/09/16 12:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/11/16 08:56 AM	73623
02/09/16 12:20 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	02/19/16 08:28 AM	73748
02/09/16 12:20 PM	Aqueous	E300	Anion Preparation	02/10/16 09:33 AM	73611
02/09/16 12:20 PM	Aqueous	E300	Anion Preparation	02/10/16 09:33 AM	73611
02/09/16 12:20 PM	Aqueous	M4500-H+ B	pH Preparation	02/10/16 09:36 AM	73612
02/09/16 12:20 PM	Aqueous	M2540C	TDS Preparation	02/10/16 11:52 AM	73615

ANALYTICAL DATES REPORT

Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
Aqueous	SW7470A	Mercury Total: Aqueous	73748	1	02/19/16 03:42 PM	CETAC2_HG_160219 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73623	1	02/12/16 12:29 PM	ICP-MS4_160212C
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73623	10	02/15/16 04:56 PM	ICP-MS4_160215F
Aqueous	E300	Anions by IC method - Water	73611	1	02/10/16 10:47 AM	IC3_160210A
Aqueous	E300	Anions by IC method - Water	73611	10	02/10/16 11:56 AM	IC3_160210A
Aqueous	M4500-H+ B	pH	73612	1	02/10/16 10:22 AM	TITRATOR_160210A
Aqueous	M2540C	Total Dissolved Solids	73615	1	02/11/16 08:30 AM	WC_160210B
Aqueous	SW7470A	Mercury Total: Aqueous	73748	1	02/19/16 03:53 PM	CETAC2_HG_160219 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73623	50	02/15/16 05:09 PM	ICP-MS4_160215F
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73623	1	02/12/16 01:23 PM	ICP-MS4_160212C
Aqueous	E300	Anions by IC method - Water	73611	100	02/10/16 12:20 PM	IC3_160210A
Aqueous	E300	Anions by IC method - Water	73611	1	02/10/16 11:08 AM	IC3_160210A
Aqueous	M4500-H+ B	pH	73612	1	02/10/16 10:23 AM	TITRATOR_160210A
Aqueous	M2540C	Total Dissolved Solids	73615	1	02/11/16 08:30 AM	WC_160210B
Aqueous	SW7470A	Mercury Total: Aqueous	73748	1	02/19/16 03:55 PM	CETAC2_HG_160219 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73623	1	02/12/16 01:25 PM	ICP-MS4_160212C
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73623	50	02/15/16 05:11 PM	ICP-MS4_160215F
Aqueous	E300	Anions by IC method - Water	73611	1	02/10/16 11:29 AM	IC3_160210A
Aqueous	E300	Anions by IC method - Water	73611	100	02/10/16 12:41 PM	IC3_160210A
Aqueous	M4500-H+ B	pH	73612	1	02/10/16 10:25 AM	TITRATOR_160210A
Aqueous	M2540C	Total Dissolved Solids	73615	1	02/11/16 08:30 AM	WC_160210B

DHL Analytical, Inc.

Date: 14-Mar-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1602095

Client Sample ID: AX-22R
Lab ID: 1602095-01
Collection Date: 02/09/16 09:35 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A			Analyst: AH		
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	02/19/16 03:42 PM
TRACE METALS: ICP-MS - WATER		SW6020A			Analyst: RO		
Antimony	<0.000800	0.000800	0.00250		mg/L	1	02/12/16 12:29 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	02/12/16 12:29 PM
Barium	0.102	0.00300	0.0100		mg/L	1	02/12/16 12:29 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	02/12/16 12:29 PM
Boron	0.117	0.0100	0.0300		mg/L	1	02/12/16 12:29 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	02/12/16 12:29 PM
Calcium	76.4	1.00	3.00		mg/L	10	02/15/16 04:56 PM
Chromium	0.0108	0.00200	0.00500		mg/L	1	02/12/16 12:29 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	02/12/16 12:29 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	02/12/16 12:29 PM
Lithium	0.0526	0.00500	0.0100		mg/L	1	02/12/16 12:29 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	02/12/16 12:29 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	02/12/16 12:29 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	02/12/16 12:29 PM
ANIONS BY IC METHOD - WATER		E300			Analyst: AV		
Chloride	88.4	3.00	10.0		mg/L	10	02/10/16 11:56 AM
Fluoride	0.139	0.100	0.400	J	mg/L	1	02/10/16 10:47 AM
Sulfate	49.3	1.00	3.00		mg/L	1	02/10/16 10:47 AM
PH		M4500-H+ B			Analyst: BJT		
pH	7.12	0	0		pH Units@17°C	1	02/10/16 10:22 AM
TOTAL DISSOLVED SOLIDS		M2540C			Analyst: AJH		
Total Dissolved Solids (Residue, Filterable)	505	10.0	10.0		mg/L	1	02/11/16 08:30 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 14-Mar-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1602095

Client Sample ID: AX-25
Lab ID: 1602095-02
Collection Date: 02/09/16 10:35 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	02/19/16 03:53 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	02/12/16 01:23 PM
Arsenic	0.00420	0.00200	0.00500	J	mg/L	1	02/12/16 01:23 PM
Barium	0.119	0.00300	0.0100		mg/L	1	02/12/16 01:23 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	02/12/16 01:23 PM
Boron	0.172	0.0100	0.0300		mg/L	1	02/12/16 01:23 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	02/12/16 01:23 PM
Calcium	242	5.00	15.0		mg/L	50	02/15/16 05:09 PM
Chromium	0.0376	0.00200	0.00500		mg/L	1	02/12/16 01:23 PM
Cobalt	0.0232	0.00300	0.00500		mg/L	1	02/12/16 01:23 PM
Lead	0.000662	0.000300	0.00100	J	mg/L	1	02/12/16 01:23 PM
Lithium	0.0548	0.00500	0.0100		mg/L	1	02/12/16 01:23 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	02/12/16 01:23 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	02/12/16 01:23 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	02/12/16 01:23 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	457	30.0	100		mg/L	100	02/10/16 12:20 PM
Fluoride	0.342	0.100	0.400	J	mg/L	1	02/10/16 11:08 AM
Sulfate	410	100	300		mg/L	100	02/10/16 12:20 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.61	0	0		pH Units@17.1°C	1	02/10/16 10:23 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	2080	50.0	50.0		mg/L	1	02/11/16 08:30 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 14-Mar-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1602095

Client Sample ID: AX-24
Lab ID: 1602095-03
Collection Date: 02/09/16 12:20 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	02/19/16 03:55 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	02/12/16 01:25 PM
Arsenic	0.00333	0.00200	0.00500	J	mg/L	1	02/12/16 01:25 PM
Barium	0.0650	0.00300	0.0100		mg/L	1	02/12/16 01:25 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	02/12/16 01:25 PM
Boron	0.0929	0.0100	0.0300		mg/L	1	02/12/16 01:25 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	02/12/16 01:25 PM
Calcium	232	5.00	15.0		mg/L	50	02/15/16 05:11 PM
Chromium	0.00505	0.00200	0.00500		mg/L	1	02/12/16 01:25 PM
Cobalt	0.00925	0.00300	0.00500		mg/L	1	02/12/16 01:25 PM
Lead	0.00110	0.000300	0.00100		mg/L	1	02/12/16 01:25 PM
Lithium	0.0795	0.00500	0.0100		mg/L	1	02/12/16 01:25 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	02/12/16 01:25 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	02/12/16 01:25 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	02/12/16 01:25 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	249	30.0	100		mg/L	100	02/10/16 12:41 PM
Fluoride	0.207	0.100	0.400	J	mg/L	1	02/10/16 11:29 AM
Sulfate	783	100	300		mg/L	100	02/10/16 12:41 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.41	0	0		pH Units@17.5°C	1	02/10/16 10:25 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	1900	50.0	50.0		mg/L	1	02/11/16 08:30 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_160219A

The QC data in batch 73748 applies to the following samples: 1602095-01A, 1602095-02A, 1602095-03A

Sample ID MB-73748	Batch ID: 73748	TestNo: SW7470A	Units: mg/L							
SampType: MBLK	Run ID: CETAC2_HG_160219A	Analysis Date: 2/19/2016 3:30:39 PM	Prep Date: 2/19/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury <0.0000800 0.000200

Sample ID LCS-73748	Batch ID: 73748	TestNo: SW7470A	Units: mg/L							
SampType: LCS	Run ID: CETAC2_HG_160219A	Analysis Date: 2/19/2016 3:37:28 PM	Prep Date: 2/19/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00196 0.000200 0.00200 0 98.0 85 115

Sample ID LCSD-73748	Batch ID: 73748	TestNo: SW7470A	Units: mg/L							
SampType: LCSD	Run ID: CETAC2_HG_160219A	Analysis Date: 2/19/2016 3:39:44 PM	Prep Date: 2/19/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00187 0.000200 0.00200 0 93.5 85 115 4.70 15

Sample ID 1602095-01A SD	Batch ID: 73748	TestNo: SW7470A	Units: mg/L							
SampType: SD	Run ID: CETAC2_HG_160219A	Analysis Date: 2/19/2016 3:44:15 PM	Prep Date: 2/19/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury <0.000400 0.00100 0 0 0 0 10

Sample ID 1602095-01A PDS	Batch ID: 73748	TestNo: SW7470A	Units: mg/L							
SampType: PDS	Run ID: CETAC2_HG_160219A	Analysis Date: 2/19/2016 3:46:31 PM	Prep Date: 2/19/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00237 0.000200 0.00250 0 94.8 85 115

Sample ID 1602095-01A MS	Batch ID: 73748	TestNo: SW7470A	Units: mg/L							
SampType: MS	Run ID: CETAC2_HG_160219A	Analysis Date: 2/19/2016 3:48:47 PM	Prep Date: 2/19/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00196 0.000200 0.00200 0 98.0 80 120

Sample ID 1602095-01A MSD	Batch ID: 73748	TestNo: SW7470A	Units: mg/L							
SampType: MSD	Run ID: CETAC2_HG_160219A	Analysis Date: 2/19/2016 3:51:03 PM	Prep Date: 2/19/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00192 0.000200 0.00200 0 96.0 80 120 2.06 15

- Qualifiers:**
- B Analyte detected in the associated Method Blank
 - J Analyte detected between MDL and RL
 - ND Not Detected at the Method Detection Limit
 - RL Reporting Limit
 - J Analyte detected between SDL and RL
 - DF Dilution Factor
 - MDL Method Detection Limit
 - R RPD outside accepted control limits
 - S Spike Recovery outside control limits
 - N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_160219A

Sample ID ICV-160219	Batch ID: R84257	TestNo: SW7470A	Units: mg/L							
SampType: ICV	Run ID: CETAC2_HG_160219A	Analysis Date: 2/19/2016 2:20:12 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00388	0.000200	0.00400	0	97.0	90	110			
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Sample ID CCV2-160219	Batch ID: R84257	TestNo: SW7470A	Units: mg/L							
SampType: CCV	Run ID: CETAC2_HG_160219A	Analysis Date: 2/19/2016 3:26:05 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00195	0.000200	0.00200	0	97.5	90	110			
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Sample ID CCV3-160219	Batch ID: R84257	TestNo: SW7470A	Units: mg/L							
SampType: CCV	Run ID: CETAC2_HG_160219A	Analysis Date: 2/19/2016 4:13:44 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00196	0.000200	0.00200	0	98.0	90	110			
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LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
 Work Order: 1602095
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160212C

The QC data in batch 73623 applies to the following samples: 1602095-01A, 1602095-02A, 1602095-03A

Sample ID MB-73623	Batch ID: 73623	TestNo: SW6020A	Units: mg/L
SampType: MBLK	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 12:01:00 PM	Prep Date: 2/11/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.000800	0.00250								
Arsenic	<0.00200	0.00500								
Barium	<0.00300	0.0100								
Beryllium	<0.000300	0.00100								
Boron	<0.0100	0.0300								
Cadmium	<0.000300	0.00100								
Calcium	<0.100	0.300								
Chromium	<0.00200	0.00500								
Cobalt	<0.00300	0.00500								
Lead	<0.000300	0.00100								
Lithium	<0.00500	0.0100								
Molybdenum	<0.00200	0.00500								
Selenium	<0.00200	0.00500								
Thallium	<0.000500	0.00150								

Sample ID LCS-73623	Batch ID: 73623	TestNo: SW6020A	Units: mg/L
SampType: LCS	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 12:03:00 PM	Prep Date: 2/11/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.188	0.00250	0.200	0	94.1	80	120			
Arsenic	0.187	0.00500	0.200	0	93.3	80	120			
Barium	0.186	0.0100	0.200	0	92.9	80	120			
Beryllium	0.195	0.00100	0.200	0	97.3	80	120			
Boron	0.190	0.0300	0.200	0	94.8	80	120			
Cadmium	0.189	0.00100	0.200	0	94.3	80	120			
Calcium	4.58	0.300	5.00	0	91.6	80	120			
Chromium	0.188	0.00500	0.200	0	93.9	80	120			
Cobalt	0.190	0.00500	0.200	0	94.8	80	120			
Lead	0.179	0.00100	0.200	0	89.3	80	120			
Lithium	0.199	0.0100	0.200	0	99.5	80	120			
Molybdenum	0.179	0.00500	0.200	0	89.7	80	120			
Selenium	0.187	0.00500	0.200	0	93.3	80	120			
Thallium	0.179	0.00150	0.200	0	89.4	80	120			

Sample ID LCSD-73623	Batch ID: 73623	TestNo: SW6020A	Units: mg/L
SampType: LCSD	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 12:05:00 PM	Prep Date: 2/11/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.189	0.00250	0.200	0	94.3	80	120	0.249	15	
Arsenic	0.188	0.00500	0.200	0	94.2	80	120	0.894	15	

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1602095
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160212C

Sample ID: LCSD-73623	Batch ID: 73623	TestNo: SW6020A	Units: mg/L
SampType: LCSD	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 12:05:00 PM	Prep Date: 2/11/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.185	0.0100	0.200	0	92.3	80	120	0.643	15	
Beryllium	0.193	0.00100	0.200	0	96.5	80	120	0.734	15	
Boron	0.201	0.0300	0.200	0	100	80	120	5.67	15	
Cadmium	0.188	0.00100	0.200	0	93.9	80	120	0.415	15	
Calcium	4.58	0.300	5.00	0	91.6	80	120	0.014	15	
Chromium	0.185	0.00500	0.200	0	92.5	80	120	1.57	15	
Cobalt	0.191	0.00500	0.200	0	95.7	80	120	0.883	15	
Lead	0.182	0.00100	0.200	0	91.0	80	120	1.83	15	
Lithium	0.198	0.0100	0.200	0	99.2	80	120	0.244	15	
Molybdenum	0.180	0.00500	0.200	0	89.8	80	120	0.103	15	
Selenium	0.188	0.00500	0.200	0	94.0	80	120	0.775	15	
Thallium	0.183	0.00150	0.200	0	91.3	80	120	2.15	15	

Sample ID: 1602096-01A SD	Batch ID: 73623	TestNo: SW6020A	Units: mg/L
SampType: SD	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 12:11:00 PM	Prep Date: 2/11/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.00400	0.0125	0	0				0	10	
Arsenic	<0.0100	0.0250	0	0.00358				0	10	
Barium	0.0356	0.0500	0	0.0347				2.78	10	
Beryllium	<0.00150	0.00500	0	0				0	10	
Boron	0.375	0.150	0	0.329				13.1	10	R
Cadmium	<0.00150	0.00500	0	0				0	10	
Chromium	<0.0100	0.0250	0	0				0	10	
Cobalt	<0.0150	0.0250	0	0.00519				0	10	
Lead	<0.00150	0.00500	0	0				0	10	
Lithium	0.128	0.0500	0	0.127				1.00	10	
Molybdenum	<0.0100	0.0250	0	0				0	10	
Selenium	<0.0100	0.0250	0	0				0	10	
Thallium	<0.00250	0.00750	0	0				0	10	

Sample ID: 1602096-01A PDS	Batch ID: 73623	TestNo: SW6020A	Units: mg/L
SampType: PDS	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 12:31:00 PM	Prep Date: 2/11/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.194	0.00250	0.200	0	97.2	80	120			
Arsenic	0.193	0.00500	0.200	0.00358	94.5	80	120			
Barium	0.219	0.0100	0.200	0.0347	92.4	80	120			
Beryllium	0.182	0.00100	0.200	0	91.0	80	120			
Boron	0.507	0.0300	0.200	0.329	88.9	80	120			
Cadmium	0.177	0.00100	0.200	0	88.4	80	120			

- Qualifiers:**
- B Analyte detected in the associated Method Blank
 - J Analyte detected between MDL and RL
 - ND Not Detected at the Method Detection Limit
 - RL Reporting Limit
 - J Analyte detected between SDL and RL
 - DF Dilution Factor
 - MDL Method Detection Limit
 - R RPD outside accepted control limits
 - S Spike Recovery outside control limits
 - N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1602095
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160212C

Sample ID: 1602096-01A PDS	Batch ID: 73623	TestNo: SW6020A	Units: mg/L
SampType: PDS	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 12:31:00 PM	Prep Date: 2/11/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.184	0.00500	0.200	0	92.0	80	120			
Cobalt	0.184	0.00500	0.200	0.00519	89.6	80	120			
Lead	0.185	0.00100	0.200	0	92.4	80	120			
Lithium	0.297	0.0100	0.200	0.127	85.1	80	120			
Molybdenum	0.178	0.00500	0.200	0	88.8	80	120			
Selenium	0.191	0.00500	0.200	0	95.6	80	120			
Thallium	0.184	0.00150	0.200	0	92.0	80	120			

Sample ID: 1602096-01A MS	Batch ID: 73623	TestNo: SW6020A	Units: mg/L
SampType: MS	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 12:33:00 PM	Prep Date: 2/11/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.200	0.00250	0.200	0	100	80	120			
Arsenic	0.198	0.00500	0.200	0.00358	97.2	80	120			
Barium	0.233	0.0100	0.200	0.0347	99.4	80	120			
Beryllium	0.187	0.00100	0.200	0	93.3	80	120			
Boron	0.527	0.0300	0.200	0.329	98.9	80	120			
Cadmium	0.188	0.00100	0.200	0	93.8	80	120			
Calcium	431	0.300	5.00	420	221	80	120			S
Chromium	0.185	0.00500	0.200	0	92.3	80	120			
Cobalt	0.186	0.00500	0.200	0.00519	90.3	80	120			
Lead	0.191	0.00100	0.200	0	95.5	80	120			
Lithium	0.312	0.0100	0.200	0.127	92.5	80	120			
Molybdenum	0.190	0.00500	0.200	0	94.8	80	120			
Selenium	0.197	0.00500	0.200	0	98.4	80	120			
Thallium	0.193	0.00150	0.200	0	96.3	80	120			

Sample ID: 1602096-01A MSD	Batch ID: 73623	TestNo: SW6020A	Units: mg/L
SampType: MSD	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 12:35:00 PM	Prep Date: 2/11/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.201	0.00250	0.200	0	101	80	120	0.475	15	
Arsenic	0.199	0.00500	0.200	0.00358	97.9	80	120	0.686	15	
Barium	0.229	0.0100	0.200	0.0347	97.3	80	120	1.78	15	
Beryllium	0.187	0.00100	0.200	0	93.6	80	120	0.278	15	
Boron	0.545	0.0300	0.200	0.329	108	80	120	3.46	15	
Cadmium	0.186	0.00100	0.200	0	93.0	80	120	0.764	15	
Calcium	433	0.300	5.00	420	276	80	120	0.636	15	S
Chromium	0.187	0.00500	0.200	0	93.3	80	120	1.04	15	
Cobalt	0.188	0.00500	0.200	0.00519	91.4	80	120	1.15	15	
Lead	0.191	0.00100	0.200	0	95.4	80	120	0.106	15	

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160212C

Sample ID	1602096-01A MSD	Batch ID:	73623	TestNo:	SW6020A	Units:	mg/L			
SampType:	MSD	Run ID:	ICP-MS4_160212C	Analysis Date:	2/12/2016 12:35:00 PM	Prep Date:	2/11/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lithium	0.315	0.0100	0.200	0.127	94.3	80	120	1.14	15	
Molybdenum	0.189	0.00500	0.200	0	94.7	80	120	0.103	15	
Selenium	0.197	0.00500	0.200	0	98.5	80	120	0.056	15	
Thallium	0.192	0.00150	0.200	0	96.1	80	120	0.174	15	

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
 Work Order: 1602095
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160212C

Sample ID: ICV-160212	Batch ID: R84167	TestNo: SW6020A	Units: mg/L
SampType: ICV	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 10:33:00 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.0978	0.00250	0.100	0	97.8	90	110			
Arsenic	0.0980	0.00500	0.100	0	98.0	90	110			
Barium	0.0968	0.0100	0.100	0	96.8	90	110			
Beryllium	0.0981	0.00100	0.100	0	98.1	90	110			
Boron	0.0974	0.0300	0.100	0	97.4	90	110			
Cadmium	0.0972	0.00100	0.100	0	97.2	90	110			
Calcium	2.35	0.300	2.50	0	94.0	90	110			
Chromium	0.101	0.00500	0.100	0	101	90	110			
Cobalt	0.101	0.00500	0.100	0	101	90	110			
Lead	0.0983	0.00100	0.100	0	98.3	90	110			
Lithium	0.0990	0.0100	0.100	0	99.0	90	110			
Molybdenum	0.0932	0.00500	0.100	0	93.2	90	110			
Selenium	0.0999	0.00500	0.100	0	99.9	90	110			
Thallium	0.0970	0.00150	0.100	0	97.0	90	110			

Sample ID: LCVL-160212	Batch ID: R84167	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 10:42:00 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00190	0.00250	0.00200	0	95.1	70	130			
Arsenic	0.00497	0.00500	0.00500	0	99.4	70	130			
Barium	0.00474	0.0100	0.00500	0	94.8	70	130			
Beryllium	0.000922	0.00100	0.00100	0	92.2	70	130			
Boron	0.0258	0.0300	0.0200	0	129	70	130			
Cadmium	0.000982	0.00100	0.00100	0	98.2	70	130			
Calcium	0.104	0.300	0.100	0	104	70	130			
Chromium	0.00503	0.00500	0.00500	0	101	70	130			
Cobalt	0.00509	0.00500	0.00500	0	102	70	130			
Lead	0.000993	0.00100	0.00100	0	99.3	70	130			
Lithium	0.0105	0.0100	0.0100	0	105	70	130			
Molybdenum	0.00463	0.00500	0.00500	0	92.6	70	130			
Selenium	0.00521	0.00500	0.00500	0	104	70	130			
Thallium	0.000972	0.00150	0.00100	0	97.2	70	130			

Sample ID: CCV2-160212	Batch ID: R84167	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 11:40:00 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.189	0.00250	0.200	0	94.5	90	110			
Arsenic	0.191	0.00500	0.200	0	95.7	90	110			
Barium	0.190	0.0100	0.200	0	94.9	90	110			

- Qualifiers:**
- B Analyte detected in the associated Method Blank
 - J Analyte detected between MDL and RL
 - ND Not Detected at the Method Detection Limit
 - RL Reporting Limit
 - J Analyte detected between SDL and RL
 - DF Dilution Factor
 - MDL Method Detection Limit
 - R RPD outside accepted control limits
 - S Spike Recovery outside control limits
 - N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1602095
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160212C

Sample ID: CCV2-160212	Batch ID: R84167	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 11:40:00 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.195	0.00100	0.200	0	97.7	90	110			
Boron	0.195	0.0300	0.200	0	97.7	90	110			
Cadmium	0.191	0.00100	0.200	0	95.7	90	110			
Calcium	4.55	0.300	5.00	0	91.1	90	110			
Chromium	0.190	0.00500	0.200	0	95.0	90	110			
Cobalt	0.194	0.00500	0.200	0	96.9	90	110			
Lead	0.186	0.00100	0.200	0	93.1	90	110			
Lithium	0.197	0.0100	0.200	0	98.4	90	110			
Molybdenum	0.182	0.00500	0.200	0	90.8	90	110			
Selenium	0.191	0.00500	0.200	0	95.5	90	110			
Thallium	0.186	0.00150	0.200	0	93.1	90	110			

Sample ID: LCVL2-160212	Batch ID: R84167	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 11:57:00 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00196	0.00250	0.00200	0	98.2	70	130			
Arsenic	0.00498	0.00500	0.00500	0	99.5	70	130			
Barium	0.00495	0.0100	0.00500	0	98.9	70	130			
Beryllium	0.000937	0.00100	0.00100	0	93.7	70	130			
Boron	0.0206	0.0300	0.0200	0	103	70	130			
Cadmium	0.000953	0.00100	0.00100	0	95.3	70	130			
Calcium	0.104	0.300	0.100	0	104	70	130			
Chromium	0.00499	0.00500	0.00500	0	99.8	70	130			
Cobalt	0.00495	0.00500	0.00500	0	99.0	70	130			
Lead	0.000935	0.00100	0.00100	0	93.5	70	130			
Lithium	0.0112	0.0100	0.0100	0	112	70	130			
Molybdenum	0.00467	0.00500	0.00500	0	93.4	70	130			
Selenium	0.00510	0.00500	0.00500	0	102	70	130			
Thallium	0.000978	0.00150	0.00100	0	97.8	70	130			

Sample ID: CCV3-160212	Batch ID: R84167	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 12:37:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.191	0.00250	0.200	0	95.4	90	110			
Arsenic	0.198	0.00500	0.200	0	99.1	90	110			
Barium	0.194	0.0100	0.200	0	96.8	90	110			
Beryllium	0.196	0.00100	0.200	0	98.1	90	110			
Cadmium	0.192	0.00100	0.200	0	96.1	90	110			
Calcium	4.86	0.300	5.00	0	97.2	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1602095
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160212C

Sample ID CCV3-160212	Batch ID: R84167	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 12:37:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.191	0.00500	0.200	0	95.4	90	110			
Cobalt	0.196	0.00500	0.200	0	98.2	90	110			
Lead	0.192	0.00100	0.200	0	96.0	90	110			
Lithium	0.199	0.0100	0.200	0	99.4	90	110			
Molybdenum	0.181	0.00500	0.200	0	90.6	90	110			
Selenium	0.197	0.00500	0.200	0	98.6	90	110			
Thallium	0.190	0.00150	0.200	0	95.1	90	110			

Sample ID CCV3-160212	Batch ID: R84167	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 12:48:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.197	0.0300	0.200	0	98.5	90	110			

Sample ID LCVL3-160212	Batch ID: R84167	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 1:19:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00197	0.00250	0.00200	0	98.4	70	130			
Arsenic	0.00508	0.00500	0.00500	0	102	70	130			
Barium	0.00486	0.0100	0.00500	0	97.2	70	130			
Beryllium	0.000872	0.00100	0.00100	0	87.2	70	130			
Boron	0.0257	0.0300	0.0200	0	128	70	130			
Cadmium	0.000988	0.00100	0.00100	0	98.8	70	130			
Calcium	0.106	0.300	0.100	0	106	70	130			
Chromium	0.00487	0.00500	0.00500	0	97.4	70	130			
Cobalt	0.00498	0.00500	0.00500	0	99.6	70	130			
Lead	0.000913	0.00100	0.00100	0	91.3	70	130			
Lithium	0.0101	0.0100	0.0100	0	101	70	130			
Molybdenum	0.00457	0.00500	0.00500	0	91.4	70	130			
Selenium	0.00646	0.00500	0.00500	0	129	70	130			
Thallium	0.000957	0.00150	0.00100	0	95.7	70	130			

Sample ID CCV4-160212	Batch ID: R84167	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 1:52:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.190	0.00250	0.200	0	95.0	90	110			
Arsenic	0.200	0.00500	0.200	0	99.8	90	110			
Barium	0.189	0.0100	0.200	0	94.6	90	110			
Beryllium	0.197	0.00100	0.200	0	98.6	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160212C

Sample ID: CCV4-160212	Batch ID: R84167	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 1:52:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.200	0.0300	0.200	0	100	90	110			
Cadmium	0.191	0.00100	0.200	0	95.4	90	110			
Chromium	0.193	0.00500	0.200	0	96.6	90	110			
Cobalt	0.198	0.00500	0.200	0	99.1	90	110			
Lead	0.191	0.00100	0.200	0	95.5	90	110			
Lithium	0.201	0.0100	0.200	0	100	90	110			
Molybdenum	0.181	0.00500	0.200	0	90.3	90	110			
Selenium	0.202	0.00500	0.200	0	101	90	110			
Thallium	0.190	0.00150	0.200	0	94.8	90	110			

Sample ID: LCVL4-160212	Batch ID: R84167	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_160212C	Analysis Date: 2/12/2016 2:20:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00200	0.00250	0.00200	0	99.8	70	130			
Arsenic	0.00500	0.00500	0.00500	0	100	70	130			
Barium	0.00486	0.0100	0.00500	0	97.3	70	130			
Beryllium	0.000878	0.00100	0.00100	0	87.8	70	130			
Boron	0.0197	0.0300	0.0200	0	98.6	70	130			
Cadmium	0.000928	0.00100	0.00100	0	92.8	70	130			
Chromium	0.00485	0.00500	0.00500	0	96.9	70	130			
Cobalt	0.00494	0.00500	0.00500	0	98.8	70	130			
Lead	0.000889	0.00100	0.00100	0	88.9	70	130			
Lithium	0.0104	0.0100	0.0100	0	104	70	130			
Molybdenum	0.00471	0.00500	0.00500	0	94.2	70	130			
Selenium	0.00632	0.00500	0.00500	0	126	70	130			
Thallium	0.000938	0.00150	0.00100	0	93.8	70	130			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160215F

The QC data in batch 73623 applies to the following samples: 1602095-01A, 1602095-02A, 1602095-03A

Sample ID 1602096-01A SD	Batch ID: 73623	TestNo: SW6020A	Units: mg/L
SampType: SD	Run ID: ICP-MS4_160215F	Analysis Date: 2/15/2016 4:38:00 PM	Prep Date: 2/11/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	432	75.0	0	422				2.33	10	

Sample ID 1602096-01A PDS	Batch ID: 73623	TestNo: SW6020A	Units: mg/L
SampType: PDS	Run ID: ICP-MS4_160215F	Analysis Date: 2/15/2016 4:58:00 PM	Prep Date: 2/11/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	646	15.0	250	422	89.7	80	120			

LUMINANT

Qualifiers:	B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1602095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160215F

Sample ID ICV2-160215	Batch ID: R84190	TestNo: SW6020A	Units: mg/L							
SampType: ICV	Run ID: ICP-MS4_160215F	Analysis Date: 2/15/2016 4:21:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	2.28	0.300	2.50	0	91.1	90	110			
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Sample ID ILCVL2-160215	Batch ID: R84190	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160215F	Analysis Date: 2/15/2016 4:25:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	0.103	0.300	0.100	0	103	70	130			
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Sample ID CCV1-160215	Batch ID: R84190	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160215F	Analysis Date: 2/15/2016 5:00:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	4.82	0.300	5.00	0	96.3	90	110			
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Sample ID LCVL1-160215	Batch ID: R84190	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160215F	Analysis Date: 2/15/2016 5:05:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	0.101	0.300	0.100	0	101	70	130			
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Sample ID CCV2-160215	Batch ID: R84190	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160215F	Analysis Date: 2/15/2016 5:24:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	4.82	0.300	5.00	0	96.4	90	110			
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Sample ID LCVL2-160215	Batch ID: R84190	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160215F	Analysis Date: 2/15/2016 5:28:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	0.101	0.300	0.100	0	101	70	130			
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Qualifiers: B Analyte detected in the associated Method Blank
 J Analyte detected between MDL and RL
 ND Not Detected at the Method Detection Limit
 RL Reporting Limit
 J Analyte detected between SDL and RL
 DF Dilution Factor
 MDL Method Detection Limit
 R RPD outside accepted control limits
 S Spike Recovery outside control limits
 N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC3_160210A

The QC data in batch 73611 applies to the following samples: 1602095-01D, 1602095-02D, 1602095-03D

Sample ID MB-73611	Batch ID: 73611	TestNo: E300	Units: mg/L
SampType: MBLK	Run ID: IC3_160210A	Analysis Date: 2/10/2016 9:43:05 AM	Prep Date: 2/10/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	<0.300	1.00								
Fluoride	<0.100	0.400								
Sulfate	<1.00	3.00								

Sample ID LCS-73611	Batch ID: 73611	TestNo: E300	Units: mg/L
SampType: LCS	Run ID: IC3_160210A	Analysis Date: 2/10/2016 10:06:35 AM	Prep Date: 2/10/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.67	1.00	10.00	0	96.7	90	110			
Fluoride	4.36	0.400	4.000	0	109	90	110			
Sulfate	32.1	3.00	30.00	0	107	90	110			

Sample ID LCSD-73611	Batch ID: 73611	TestNo: E300	Units: mg/L
SampType: LCSD	Run ID: IC3_160210A	Analysis Date: 2/10/2016 10:27:14 AM	Prep Date: 2/10/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.1	1.00	10.00	0	101	90	110	4.50	20	
Fluoride	4.27	0.400	4.000	0	107	90	110	2.14	20	
Sulfate	31.8	3.00	30.00	0	106	90	110	0.859	20	

Sample ID 1602095-03DMS	Batch ID: 73611	TestNo: E300	Units: mg/L
SampType: MS	Run ID: IC3_160210A	Analysis Date: 2/10/2016 1:08:04 PM	Prep Date: 2/10/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	2220	100	2000	249.4	98.5	90	110			
Fluoride	1970	40.0	2000	0	98.3	90	110			
Sulfate	2840	300	2000	782.6	103	90	110			

Sample ID 1602095-03DMSD	Batch ID: 73611	TestNo: E300	Units: mg/L
SampType: MSD	Run ID: IC3_160210A	Analysis Date: 2/10/2016 1:31:38 PM	Prep Date: 2/10/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	2220	100	2000	249.4	98.7	90	110	0.202	20	
Fluoride	1980	40.0	2000	0	99.0	90	110	0.744	20	
Sulfate	2880	300	2000	782.6	105	90	110	1.44	20	

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC3_160210A

Sample ID: ICV-160210	Batch ID: R84106	TestNo: E300	Units: mg/L							
SampType: ICV	Run ID: IC3_160210A	Analysis Date: 2/10/2016 8:55:07 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	24.5	1.00	25.00	0	97.8	90	110			
Fluoride	10.3	0.400	10.00	0	103	90	110			
Sulfate	77.9	3.00	75.00	0	104	90	110			

Sample ID: CCV1-160210	Batch ID: R84106	TestNo: E300	Units: mg/L							
SampType: CCV	Run ID: IC3_160210A	Analysis Date: 2/10/2016 2:12:56 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.66	1.00	10.00	0	96.6	90	110			
Fluoride	4.16	0.400	4.000	0	104	90	110			
Sulfate	30.8	3.00	30.00	0	103	90	110			

LUMINANT

<p>Qualifiers:</p> <p>B Analyte detected in the associated Method Blank</p> <p>J Analyte detected between MDL and RL</p> <p>ND Not Detected at the Method Detection Limit</p> <p>RL Reporting Limit</p> <p>J Analyte detected between SDL and RL</p>	<p>DF Dilution Factor</p> <p>MDL Method Detection Limit</p> <p>R RPD outside accepted control limits</p> <p>S Spike Recovery outside control limits</p> <p>N Parameter not NELAC certified</p>
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1602095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_160210A

The QC data in batch 73612 applies to the following samples: 1602095-01D, 1602095-02D, 1602095-03D

Sample ID 1602072-01D-DUP	Batch ID: 73612	TestNo: M4500-H+ B	Units: pH Units@13.8°C							
SampType: DUP	Run ID: TITRATOR_160210A	Analysis Date: 2/10/2016 9:55:00 AM	Prep Date: 2/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	9.48	0	0	9.480				0	5	

Sample ID 1602090-07D-DUP	Batch ID: 73612	TestNo: M4500-H+ B	Units: pH Units@16.2°C							
SampType: DUP	Run ID: TITRATOR_160210A	Analysis Date: 2/10/2016 10:21:00 AM	Prep Date: 2/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	6.59	0	0	6.650				0.906	5	

LUMINANT

Qualifiers:	B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1602095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_160210A

Sample ID ICV-160210	Batch ID: R84089	TestNo: M4500-H+ B	Units: pH Units@21.3°C							
SampType: ICV	Run ID: TITRATOR_160210A	Analysis Date: 2/10/2016 9:50:00 AM	Prep Date: 2/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	10.1	0	10.00	0	101	99	101			
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Sample ID CCV1-160210	Batch ID: R84089	TestNo: M4500-H+ B	Units: pH Units@20.4°C							
SampType: CCV	Run ID: TITRATOR_160210A	Analysis Date: 2/10/2016 10:12:00 AM	Prep Date: 2/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	7.01	0	7.000	0	100	97.1	102.9			
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Sample ID CCV2-160210	Batch ID: R84089	TestNo: M4500-H+ B	Units: pH Units@20.8°C							
SampType: CCV	Run ID: TITRATOR_160210A	Analysis Date: 2/10/2016 10:27:00 AM	Prep Date: 2/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	7.01	0	7.000	0	100	97.1	102.9			
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LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1602095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: WC_160210B

The QC data in batch 73615 applies to the following samples: 1602095-01D, 1602095-02D, 1602095-03D

Sample ID MB-73615	Batch ID: 73615	TestNo: M2540C	Units: mg/L							
SampType: MBLK	Run ID: WC_160210B	Analysis Date: 2/11/2016 8:30:00 AM	Prep Date: 2/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	<10.0	10.0								

Sample ID LCS-73615	Batch ID: 73615	TestNo: M2540C	Units: mg/L							
SampType: LCS	Run ID: WC_160210B	Analysis Date: 2/11/2016 8:30:00 AM	Prep Date: 2/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	759	10.0	745.6	0	102	90	113			

Sample ID 1602090-01D-DUP	Batch ID: 73615	TestNo: M2540C	Units: mg/L							
SampType: DUP	Run ID: WC_160210B	Analysis Date: 2/11/2016 8:30:00 AM	Prep Date: 2/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	3610	50.0	0	3270				9.88	5	R

Sample ID 1602096-01C-DUP	Batch ID: 73615	TestNo: M2540C	Units: mg/L							
SampType: DUP	Run ID: WC_160210B	Analysis Date: 2/11/2016 8:30:00 AM	Prep Date: 2/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	2600	50.0	0	2525				3.12	5	

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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March 11, 2016

Mr. John DuPont
DHL Analytical
2300 Double Creek Drive
Round Rock, Texas 78664

Re: Routine Analysis
Work Order: 391388

Dear Mr. DuPont:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on February 15, 2016. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4707.

Sincerely,



Anna Day
Project Manager

Purchase Order: 14234
Enclosures



GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis Report for

DHLA002 DHL Analytical

Client SDG: 391388 GEL Work Order: 391388

The Qualifiers in this report are defined as follows:

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a Tracer compound
- ** Analyte is a surrogate compound
- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Anna Day.

Reviewed by _____

Anna C Day

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: March 11, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: AX-22R	Project: DHLA00112
Sample ID: 391388001	Client ID: DHLA002
Matrix: Water	
Collect Date: 09-FEB-16 09:35	
Receive Date: 15-FEB-16	
Collector: Client	

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	1.56	+/-1.06	1.67	3.00	pCi/L		AXM6	03/10/16	1529	1547100	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.16	+/-0.537	0.667	1.00	pCi/L		CXP3	03/11/16	0510	1545936	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			96.3	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: March 11, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: AX-25	Project: DHLA00112
Sample ID: 391388002	Client ID: DHLA002
Matrix: Water	
Collect Date: 09-FEB-16 10:35	
Receive Date: 15-FEB-16	
Collector: Client	

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time Batch	Method
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228		1.60	+/-0.810	1.12	3.00	pCi/L		AXM6	03/10/16	1529 1547100	1
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226		2.04	+/-0.715	0.767	1.00	pCi/L		CXP3	03/11/16	0510 1545936	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			93.6	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: March 11, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: AX-24	Project: DHLA00112
Sample ID: 391388003	Client ID: DHLA002
Matrix: Water	
Collect Date: 09-FEB-16 12:20	
Receive Date: 15-FEB-16	
Collector: Client	

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time Batch	Method
Rad Gas Flow Proportional Counting											
GFPC, Ra228, Liquid "As Received"											
Radium-228	U	0.126	+/-1.11	2.00	3.00	pCi/L		AXM6	03/10/16	1532 1547100	1
Rad Radium-226											
Lucas Cell, Ra226, liquid "As Received"											
Radium-226		0.648	+/-0.369	0.414	1.00	pCi/L		CXP3	03/11/16	0510 1545936	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			96.8	(15%-125%)

Notes:
Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Report Date: March 11, 2016

Page 1 of 2

DHL Analytical
2300 Double Creek Drive
Round Rock, Texas

Contact: Mr. John DuPont

Workorder: 391388

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gas Flow											
Batch	1547100										
QC1203495195	391269004	DUP									
Radium-228	U	0.911	U	-0.266	pCi/L	N/A		N/A	AXM6	03/10/16	15:32
	Uncertainty	+/-1.12		+/-1.07							
QC1203495196	LCS										
Radium-228		47.1		44.4	pCi/L		94.3	(75%-125%)		03/10/16	15:32
	Uncertainty			+/-2.95							
QC1203495194	MB										
Radium-228			U	-1.06	pCi/L					03/10/16	15:32
	Uncertainty			+/-0.650							
Rad Ra-226											
Batch	1545936										
QC1203492181	391479001	DUP									
Radium-226				1.82	pCi/L	37.2		(0% - 100%)	CXP3	03/11/16	07:00
	Uncertainty			+/-0.690							
QC1203492183	LCS										
Radium-226		24.4		23.4	pCi/L		95.9	(75%-125%)		03/11/16	07:00
	Uncertainty			+/-2.13							
QC1203492180	MB										
Radium-226			U	0.466	pCi/L					03/11/16	05:45
	Uncertainty			+/-0.340							
QC1203492182	391479001	MS									
Radium-226		122		1.82	pCi/L		118	(75%-125%)		03/11/16	07:00
	Uncertainty			+/-0.690							

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

The Qualifiers in this report are defined as follows:

- ** Analyte is a Tracer compound
- < Result is less than value reported
- > Result is greater than value reported
- BD Results are either below the MDC or tracer recovery is low
- FA Failed analysis.
- H Analytical holding time was exceeded
- J Value is estimated
- K Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- L Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- M M if above MDC and less than LLD
- M REMP Result > MDC/CL and < RDL
- N/A RPD or %Recovery limits do not apply.

GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Workorder: 391388

Page 2 of 2

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
N1											
ND											
NJ											
Q											
R											
U											
UI											
UJ											
UL											
X											
Y											
^											
h											

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

LUMINANT

There are no "Data Exception Reports" associated with this analytical report.

LUMINANT

391388

CHAIN-OF-CUSTODY RECORD

FAX: (512) 388-8229

TEL: (843) 556-8171

FAX:

Acct #:

09-Feb-16

Matrix	DHL#	Date Collected	Bottle Type	Requested Tests						
				E903.1	E904.0					
Aqueous	-01B	02/09/16 09:35 AM	500HDPEHNO3		1					
Aqueous	-01C	02/09/16 09:35 AM	500HDPEHNO3	1						
Aqueous	-02B	02/09/16 10:35 AM	500HDPEHNO3		1					
Aqueous	-02C	02/09/16 10:35 AM	500HDPEHNO3	1						
Aqueous	-03B	02/09/16 12:20 PM	500HDPEHNO3		1					
Aqueous	-03C	02/09/16 12:20 PM	500HDPEHNO3	1						

Analyze these samples with a Standard Turnaround Time.
 In DuPont if you have questions.
 Control Package Needed: Standard / _____
 Report to both cac@dhlanalytical.com & dupont@dhlanalytical.com

<u>Banks</u>	<u>2/10/16 (73)</u>	Received by:	<u>Feed up</u>	<u>2/10/16 (73)</u>
		Received by:	<u>Doree Drimball</u>	<u>2/15/16 0845</u>

SAMPLE RECEIPT & REVIEW FORM

Client: <u>DALA</u>		SDG/AR/COC/Work Order: <u>391388</u>
Received By: <u>Shanta Mack</u>		Date Received: <u>2/15/16 8:45</u>
Suspected Hazard Information	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
COC/Samples marked as radioactive?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): <u>30 cpm</u>
Classified Radioactive II or III by RSO?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, Were swipes taken of sample containers < action levels?
COC/Samples marked containing PCBs?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Package, COC, and/or Samples marked as beryllium or asbestos containing?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, samples are to be segregated as Safety Controlled Samples, and opened by the GEL Safety Group.
Shipped as a DOT Hazardous?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?	<input checked="" type="checkbox"/>			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2 Samples requiring cold preservation within (0 ≤ 6 deg. C)?*			<input checked="" type="checkbox"/>	Preservation Method: Ice bags Blue ice Dry ice None Other (describe) *all temperatures are recorded in Celsius <u>10C</u>
2a Daily check performed and passed on IR temperature gun?	<input checked="" type="checkbox"/>			Temperature Device Serial #: Secondary Temperature Device Serial # (If Applicable): <u>CS032015835</u>
3 Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>			
4 Sample containers intact and sealed?	<input checked="" type="checkbox"/>			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
5 Samples requiring chemical preservation at proper pH?	<input checked="" type="checkbox"/>			Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6 Do Low Level Perchlorate samples have headspace as required?			<input checked="" type="checkbox"/>	Sample ID's and containers affected:
7 VOA vials contain acid preservation?			<input checked="" type="checkbox"/>	(If unknown, select No)
8 VOA vials free of headspace (defined as < 6mm bubble)?			<input checked="" type="checkbox"/>	Sample ID's and containers affected:
9 Are Encore containers present?			<input checked="" type="checkbox"/>	(If yes, immediately deliver to Volatiles laboratory)
10 Samples received within holding time?	<input checked="" type="checkbox"/>			ID's and tests affected:
11 Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>			Sample ID's and containers affected:
12 Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>			Sample ID's affected:
13 Number of containers received match number indicated on COC?	<input checked="" type="checkbox"/>			Sample ID's affected:
14 Are sample containers identifiable as GEL provided?	<input checked="" type="checkbox"/>			
15 COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>			
16 Carrier and tracking number.				Circle Applicable: FedEx Air <input type="checkbox"/> FedEx Ground <input checked="" type="checkbox"/> UPS <input type="checkbox"/> Field Services <input type="checkbox"/> Courier <input type="checkbox"/> Other <u>7756 1577 8264</u>

Comments (Use Continuation Form if needed):

List of current GEL Certifications as of 11 March 2016

State	Certification
Alaska	UST-0110
Arkansas	88-0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH-0169
Delaware	SC00012
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-15-00283, P330-15-00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho Chemistry	SC00012
Idaho Radiochemistry	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana NELAP	03046 (AI33904)
Louisiana SDWA	LA160006
Maryland	270
Massachusetts	M-SC012
Michigan	9976
Mississippi	SC00012
Nebraska	NE-OS-26-13
Nevada	SC000122016-1
New Hampshire NELAP	205415
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R-158
Oklahoma	9904
Pennsylvania NELAP	68-00485
S.Carolina Radchem	10120002
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-16-11
Utah NELAP	SC000122016-20
Vermont	VT87156
Virginia NELAP	460202
Washington	C780
West Virginia	997404



June 06, 2016

Will Vienne
Pastor, Behling & Wheeler
2201 Double Creek Dr #4004
Round Rock, Texas 78664
TEL: (512) 671-3434
FAX (512) 671-3446
RE: Sandow CCR

Order No.: 1604288

Dear Will Vienne:

DHL Analytical, Inc. received 12 sample(s) on 4/26/2016 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

A handwritten signature in orange ink, appearing to read 'John DuPont'.

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-16-16



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LUMINANT



2300 Double Creek Dr. ■ Round Rock, TX 78664

Phone (512) 388-8222 ■ FAX (512) 388-8229

Web: www.dhlanalytical.com

E-Mail: login@dhlanalytical.com



CLIENT: Pastor, Behling & Wheeler
 ADDRESS: 2201 Double Creek Dr Ste 400⁺ Round Rock, TX 78664
 PHONE: (512) 671-3434 FAX/E-MAIL: _____
 DATA REPORTED TO: Will Vienne
 ADDITIONAL REPORT COPIES TO: Karla Hensen

DATE: 4/26/2016

PO #: _____ DHL WORK

PROJECT LOCATION OR NAME: Sandow

CLIENT PROJECT #: 5164E

Authorize 5% surcharge for TRRP Report? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	S=SOIL W=WATER A=AIR L=LIQUID SE=SEDIMENT	P=PAINT SL=SLUDGE O=OTHER SO=SOLID	PRESERVATION						
			# of Containers	HCl	HNO ₃	H ₂ SO ₄	NaOH	ICE	UNPRESERVED
Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type				

- ANALYSES**
- BTEX MTBE (METHOD 8021)
 - TPH 1005 TPH 1006 HOLD 1006
 - GRO (METHOD 8015) DRO (METHOD 8105)
 - VOC 8260 VOC 824 VOC 8260/5035
 - SVOC 8270 PAH 8270 HOLD PAH SVOC 8251
 - 8270 PEST 625 PEST 8082 PCB 608 PCB
 - 8271 HERB 1 PHOS. AMMONIA
 - METALS 6020 METALS 2008 DIS. METAL
 - RCRA TX 11
 - PH HEX CHROM ALKAL
 - CHLORIDE ANION
 - TCLP-SVOC
 - TCLP-PAH

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	HCl	HNO ₃	H ₂ SO ₄	NaOH	ICE	UNPRESERVED
AXMW-1	1	4/29/16	10:30	W	P	4	X	X				
AX-24	2		11:30									
AX-28	3		12:35									
AX-22R	4		13:10									
AX-25	5		14:15									
AX-26	6		16:05									
MW-1	7		-									
EB-1	8	↓	9:05									
AX-27	9	4/26/2016	14:35									
AXMW-2	10		11:45									
AX-29	11	↓	13:20									
AX-23	12	↓	14:15									

RELINQUISHED BY: (Signature) <u>Jana T...</u>	DATE/TIME <u>4/26/2016 11:35</u>	RECEIVED BY: (Signature) <u>Karla Hensen</u>	TURN AROUND TIME RUSH <input type="checkbox"/> CALL FIRST 1 DAY <input type="checkbox"/> CALL FIRST 2 DAY <input type="checkbox"/> NORMAL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	LABORATORY U... RECEIVING TEMP: CUSTODY SEALS: CARRIER: <input type="checkbox"/> LO <input type="checkbox"/> COURIER DELIV <input checked="" type="checkbox"/> HAND DELIVER
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)		
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)		

John Dupont

From: Sara Taube [Sara.Taube@pbwflc.com]
Sent: Wednesday, July 22, 2015 12:05 PM
To: John Dupont
Subject: CCR Appendix III and IV
Follow Up Flag: Follow up
Flag Status: Completed

Hi John,

Here are the Appendix III and Appendix IV constituents that we will need to have analyzed under the CCR Rule.

Appendix III

Boron
Calcium
Chloride
Fluoride
pH
sulfate
TDS

Appendix IV

Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cobalt
Fluoride
Lead
Lithium
Mercury
Molybdenum
Selenium
Thallium
Radium 226 and 228

We are looking to have approximately 74 wells sampled 8 times over the course of the next two years. Please let me know if there is any more information you might need.

Cheers,

Sara

10/26/2015

Sample Receipt Checklist

Client Name Pastor, Behling & Wheeler

Date Received: 4/26/2016

Work Order Number 1604288

Received by JB

Checklist completed by: [Signature] 4/26/2016
Signature Date

Reviewed by [Initials] 4/26/2016
Initials Date

Carrier name Hand Delivered

- 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 3.7 °C, 4.6
- Water - VOA vials have zero headspace? Yes No No VOA vials submitted
- Water - pH<2 acceptable upon receipt? Yes No NA LOT # 8086
- Adjusted? no Checked by [Signature]
- Water - pH>9 (S) or pH>12 (CN) acceptable upon receipt? Yes No NA LOT #
- Adjusted? _____ Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Lab Order: 1604288

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

- Method SW6020A - Metals Analysis
- Method SW7470A - Mercury Analysis
- Method E300 - Anions Analysis
- Method M4500-H+ B - pH of a Water Analysis
- Method M2540C - TDS Analysis

LOG IN

The samples were received and log-in performed on 4/26/16. A total of 12 samples were received. The samples arrived in good condition and were properly packaged.

METALS ANALYSIS

For Metals analysis performed on 4/28/16 and 5/9/16 the matrix spike and matrix spike duplicate recoveries were above control limits for Calcium or Boron. These are flagged accordingly in the QC summary report. The sample selected for the matrix spike and matrix spike duplicate was from this work order. The LCS was within control limits for these analytes. No further corrective actions were taken.

For Metals analysis performed on 5/9/16 the RPD for the serial dilution was above control limits for Boron. This is flagged accordingly. The PDS was within control limits for this analyte. No further corrective actions were taken.

MERCURY ANALYSIS

For Mercury analysis performed on 4/28/16 the PDS recovery was slightly below control limits. This is flagged accordingly in the QC summary report. The serial dilution was within control limits. No further corrective actions were taken.

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Lab Order: 1604288

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1604288-01	AXMW-1		04/25/16 10:30 AM	4/26/2016
1604288-02	AX-24		04/25/16 11:30 AM	4/26/2016
1604288-03	AX-28		04/25/16 12:35 PM	4/26/2016
1604288-04	AX-22R		04/25/16 01:10 PM	4/26/2016
1604288-05	AX-25		04/25/16 02:25 PM	4/26/2016
1604288-06	AX-26		04/25/16 04:05 PM	4/26/2016
1604288-07	MW-1		04/25/16	4/26/2016
1604288-08	EB-1		04/25/16 09:05 AM	4/26/2016
1604288-09	AX-27		04/26/16 02:35 PM	4/26/2016
1604288-10	AXMW-2		04/26/16 11:45 AM	4/26/2016
1604288-11	AX-29		04/26/16 01:20 PM	4/26/2016
1604288-12	AX-23		04/26/16 02:15 PM	4/26/2016

LUMINANT

PREP DATES REPORT

Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
04/25/16 10:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/27/16 08:30 AM	74809
04/25/16 10:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/27/16 08:30 AM	74809
04/25/16 10:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/27/16 08:30 AM	74809
04/25/16 10:30 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	04/27/16 12:00 PM	74829
04/25/16 10:30 AM	Aqueous	E300	Anion Preparation	04/28/16 09:22 AM	74841
04/25/16 10:30 AM	Aqueous	E300	Anion Preparation	04/28/16 09:22 AM	74841
04/25/16 10:30 AM	Aqueous	M4500-H+ B	pH Preparation	04/27/16 08:22 AM	74811
04/25/16 10:30 AM	Aqueous	M2540C	TDS Preparation	05/02/16 01:35 PM	74905
04/25/16 11:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/27/16 08:30 AM	74809
04/25/16 11:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/27/16 08:30 AM	74809
04/25/16 11:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/27/16 08:30 AM	74809
04/25/16 11:30 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	04/27/16 12:00 PM	74829
04/25/16 11:30 AM	Aqueous	E300	Anion Preparation	04/28/16 09:22 AM	74841
04/25/16 11:30 AM	Aqueous	E300	Anion Preparation	04/28/16 09:22 AM	74841
04/25/16 11:30 AM	Aqueous	M4500-H+ B	pH Preparation	04/27/16 08:22 AM	74811
04/25/16 11:30 AM	Aqueous	M2540C	TDS Preparation	05/02/16 01:35 PM	74905
04/25/16 12:35 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/27/16 08:30 AM	74809
04/25/16 12:35 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/27/16 08:30 AM	74809
04/25/16 12:35 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/27/16 08:30 AM	74809
04/25/16 12:35 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	04/27/16 12:00 PM	74829
04/25/16 12:35 PM	Aqueous	E300	Anion Preparation	04/28/16 09:22 AM	74841
04/25/16 12:35 PM	Aqueous	E300	Anion Preparation	04/28/16 09:22 AM	74841
04/25/16 12:35 PM	Aqueous	M4500-H+ B	pH Preparation	04/27/16 08:22 AM	74811
04/25/16 12:35 PM	Aqueous	M2540C	TDS Preparation	05/02/16 01:35 PM	74905
04/25/16 01:10 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/27/16 08:30 AM	74809
04/25/16 01:10 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/27/16 08:30 AM	74809
04/25/16 01:10 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/27/16 08:30 AM	74809
04/25/16 01:10 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	04/27/16 12:00 PM	74829

PREP DATES REPORT

Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
04/25/16 01:10 PM	Aqueous	E300	Anion Preparation	04/28/16 09:22 AM	74841
04/25/16 01:10 PM	Aqueous	E300	Anion Preparation	04/28/16 09:22 AM	74841
04/25/16 01:10 PM	Aqueous	M4500-H+ B	pH Preparation	04/27/16 08:22 AM	74811
04/25/16 01:10 PM	Aqueous	M2540C	TDS Preparation	05/02/16 01:35 PM	74905
04/25/16 02:25 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/27/16 08:30 AM	74809
04/25/16 02:25 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/27/16 08:30 AM	74809
04/25/16 02:25 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/27/16 08:30 AM	74809
04/25/16 02:25 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	04/27/16 12:00 PM	74829
04/25/16 02:25 PM	Aqueous	E300	Anion Preparation	04/28/16 09:22 AM	74841
04/25/16 02:25 PM	Aqueous	E300	Anion Preparation	04/28/16 09:22 AM	74841
04/25/16 02:25 PM	Aqueous	M4500-H+ B	pH Preparation	04/27/16 08:22 AM	74811
04/25/16 02:25 PM	Aqueous	M2540C	TDS Preparation	05/02/16 01:35 PM	74905
04/25/16 04:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/27/16 08:30 AM	74809
04/25/16 04:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/27/16 08:30 AM	74809
04/25/16 04:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/27/16 08:30 AM	74809
04/25/16 04:05 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	04/27/16 12:00 PM	74829
04/25/16 04:05 PM	Aqueous	E300	Anion Preparation	04/28/16 09:22 AM	74841
04/25/16 04:05 PM	Aqueous	E300	Anion Preparation	04/28/16 09:22 AM	74841
04/25/16 04:05 PM	Aqueous	M4500-H+ B	pH Preparation	04/27/16 08:22 AM	74811
04/25/16 04:05 PM	Aqueous	M2540C	TDS Preparation	05/02/16 01:35 PM	74905
04/25/16	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/27/16 08:30 AM	74809
04/25/16	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/27/16 08:30 AM	74809
04/25/16	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/27/16 08:30 AM	74809
04/25/16	Aqueous	SW7470A	Mercury Aq Prep, Total	04/27/16 12:00 PM	74829
04/25/16	Aqueous	E300	Anion Preparation	04/28/16 09:22 AM	74841
04/25/16	Aqueous	E300	Anion Preparation	04/28/16 09:22 AM	74841
04/25/16	Aqueous	M4500-H+ B	pH Preparation	04/27/16 08:22 AM	74811
04/25/16	Aqueous	M2540C	TDS Preparation	05/02/16 01:35 PM	74905

PREP DATES REPORT

Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
04/25/16 09:05 AM	Equip Blank	SW3005A	Aq Prep Metals : ICP-MS	04/27/16 08:30 AM	74809
04/25/16 09:05 AM	Equip Blank	SW3005A	Aq Prep Metals : ICP-MS	04/27/16 08:30 AM	74809
04/25/16 09:05 AM	Equip Blank	SW7470A	Mercury Aq Prep, Total	04/27/16 12:00 PM	74829
04/25/16 09:05 AM	Equip Blank	E300	Anion Preparation	04/28/16 09:22 AM	74841
04/25/16 09:05 AM	Equip Blank	E300	Anion Preparation	04/28/16 09:22 AM	74841
04/25/16 09:05 AM	Equip Blank	M4500-H+ B	pH Preparation	04/27/16 08:22 AM	74811
04/25/16 09:05 AM	Equip Blank	M2540C	TDS Preparation	05/02/16 01:35 PM	74905
04/26/16 02:35 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/27/16 08:30 AM	74809
04/26/16 02:35 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/27/16 08:30 AM	74809
04/26/16 02:35 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/27/16 08:30 AM	74809
04/26/16 02:35 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	04/27/16 12:00 PM	74829
04/26/16 02:35 PM	Aqueous	E300	Anion Preparation	04/28/16 09:22 AM	74841
04/26/16 02:35 PM	Aqueous	E300	Anion Preparation	04/28/16 09:22 AM	74841
04/26/16 02:35 PM	Aqueous	E300	Anion Preparation	04/28/16 09:22 AM	74841
04/26/16 02:35 PM	Aqueous	M4500-H+ B	pH Preparation	04/27/16 08:22 AM	74811
04/26/16 02:35 PM	Aqueous	M2540C	TDS Preparation	05/02/16 01:35 PM	74905
04/26/16 11:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/27/16 08:30 AM	74809
04/26/16 11:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/27/16 08:30 AM	74809
04/26/16 11:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/27/16 08:30 AM	74809
04/26/16 11:45 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	04/27/16 12:00 PM	74829
04/26/16 11:45 AM	Aqueous	E300	Anion Preparation	04/28/16 09:22 AM	74841
04/26/16 11:45 AM	Aqueous	E300	Anion Preparation	04/28/16 09:22 AM	74841
04/26/16 11:45 AM	Aqueous	M4500-H+ B	pH Preparation	04/27/16 08:22 AM	74811
04/26/16 11:45 AM	Aqueous	M2540C	TDS Preparation	05/02/16 01:35 PM	74905
04/26/16 01:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/27/16 08:30 AM	74809
04/26/16 01:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/27/16 08:30 AM	74809
04/26/16 01:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/27/16 08:30 AM	74809
04/26/16 01:20 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	04/27/16 12:00 PM	74829

PREP DATES REPORT

Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
04/26/16 01:20 PM	Aqueous	E300	Anion Preparation	04/28/16 09:22 AM	74841
04/26/16 01:20 PM	Aqueous	E300	Anion Preparation	04/28/16 09:22 AM	74841
04/26/16 01:20 PM	Aqueous	M4500-H+ B	pH Preparation	04/27/16 08:22 AM	74811
04/26/16 01:20 PM	Aqueous	M2540C	TDS Preparation	05/02/16 01:35 PM	74905
04/26/16 02:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/27/16 08:30 AM	74809
04/26/16 02:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/27/16 08:30 AM	74809
04/26/16 02:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/27/16 08:30 AM	74809
04/26/16 02:15 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	04/27/16 12:00 PM	74829
04/26/16 02:15 PM	Aqueous	E300	Anion Preparation	04/28/16 09:22 AM	74841
04/26/16 02:15 PM	Aqueous	E300	Anion Preparation	04/28/16 09:22 AM	74841
04/26/16 02:15 PM	Aqueous	M4500-H+ B	pH Preparation	04/27/16 08:22 AM	74811
04/26/16 02:15 PM	Aqueous	M2540C	TDS Preparation	05/02/16 01:35 PM	74905

ANALYTICAL DATES REPORT

Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
Aqueous	SW7470A	Mercury Total: Aqueous	74829	1	04/28/16 10:40 AM	CETAC2_HG_160428 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74809	1	04/28/16 07:09 PM	ICP-MS4_160428B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74809	50	05/09/16 10:55 AM	ICP-MS4_160509A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74809	1	05/09/16 11:54 AM	ICP-MS4_160509A
Aqueous	E300	Anions by IC method - Water	74841	1	04/28/16 11:04 AM	IC4_160428A
Aqueous	E300	Anions by IC method - Water	74841	100	04/28/16 03:35 PM	IC4_160428A
Aqueous	M4500-H+ B	pH	74811	1	04/27/16 09:10 AM	TITRATOR_160427A
Aqueous	M2540C	Total Dissolved Solids	74905	1	05/03/16 08:45 AM	WC_160502B
Aqueous	SW7470A	Mercury Total: Aqueous	74829	1	04/28/16 10:43 AM	CETAC2_HG_160428 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74809	1	05/09/16 12:00 PM	ICP-MS4_160509A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74809	1	04/28/16 07:17 PM	ICP-MS4_160428B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74809	50	05/09/16 10:59 AM	ICP-MS4_160509A
Aqueous	E300	Anions by IC method - Water	74841	1	04/28/16 11:19 AM	IC4_160428A
Aqueous	E300	Anions by IC method - Water	74841	100	04/28/16 03:50 PM	IC4_160428A
Aqueous	M4500-H+ B	pH	74811	1	04/27/16 09:13 AM	TITRATOR_160427A
Aqueous	M2540C	Total Dissolved Solids	74905	1	05/03/16 08:45 AM	WC_160502B
Aqueous	SW7470A	Mercury Total: Aqueous	74829	5	04/28/16 10:45 AM	CETAC2_HG_160428 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74809	1	04/28/16 07:19 PM	ICP-MS4_160428B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74809	50	05/09/16 11:01 AM	ICP-MS4_160509A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74809	1	05/09/16 12:02 PM	ICP-MS4_160509A
Aqueous	E300	Anions by IC method - Water	74841	1	04/28/16 11:34 AM	IC4_160428A
Aqueous	E300	Anions by IC method - Water	74841	100	04/28/16 04:05 PM	IC4_160428A
Aqueous	M4500-H+ B	pH	74811	1	04/27/16 09:15 AM	TITRATOR_160427A
Aqueous	M2540C	Total Dissolved Solids	74905	1	05/03/16 08:45 AM	WC_160502B
Aqueous	SW7470A	Mercury Total: Aqueous	74829	1	04/28/16 10:47 AM	CETAC2_HG_160428 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74809	1	04/28/16 07:21 PM	ICP-MS4_160428B

ANALYTICAL DATES REPORT

Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74809	10	05/09/16 11:03 AM	ICP-MS4_160509A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74809	1	05/09/16 12:04 PM	ICP-MS4_160509A
Aqueous	E300	Anions by IC method - Water	74841	1	04/28/16 11:49 AM	IC4_160428A
Aqueous	E300	Anions by IC method - Water	74841	10	04/28/16 04:50 PM	IC4_160428A
Aqueous	M4500-H+ B	pH	74811	1	04/27/16 09:17 AM	TITRATOR_160427A
Aqueous	M2540C	Total Dissolved Solids	74905	1	05/03/16 08:45 AM	WC_160502B
Aqueous	SW7470A	Mercury Total: Aqueous	74829	1	04/28/16 10:49 AM	CETAC2_HG_160428 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74809	1	05/09/16 12:06 PM	ICP-MS4_160509A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74809	1	04/28/16 07:23 PM	ICP-MS4_160428B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74809	50	05/09/16 11:05 AM	ICP-MS4_160509A
Aqueous	E300	Anions by IC method - Water	74841	1	04/28/16 12:04 PM	IC4_160428A
Aqueous	E300	Anions by IC method - Water	74841	100	04/28/16 05:35 PM	IC4_160428A
Aqueous	M4500-H+ B	pH	74811	1	04/27/16 09:19 AM	TITRATOR_160427A
Aqueous	M2540C	Total Dissolved Solids	74905	1	05/03/16 08:45 AM	WC_160502B
Aqueous	SW7470A	Mercury Total: Aqueous	74829	1	04/28/16 10:52 AM	CETAC2_HG_160428 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74809	1	04/28/16 07:25 PM	ICP-MS4_160428B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74809	50	05/09/16 11:07 AM	ICP-MS4_160509A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74809	1	05/09/16 12:08 PM	ICP-MS4_160509A
Aqueous	E300	Anions by IC method - Water	74841	1	04/28/16 12:19 PM	IC4_160428A
Aqueous	E300	Anions by IC method - Water	74841	100	04/28/16 05:50 PM	IC4_160428A
Aqueous	M4500-H+ B	pH	74811	1	04/27/16 09:20 AM	TITRATOR_160427A
Aqueous	M2540C	Total Dissolved Solids	74905	1	05/03/16 08:45 AM	WC_160502B
Aqueous	SW7470A	Mercury Total: Aqueous	74829	1	04/28/16 10:54 AM	CETAC2_HG_160428 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74809	1	04/28/16 07:27 PM	ICP-MS4_160428B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74809	50	05/09/16 11:09 AM	ICP-MS4_160509A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74809	1	05/09/16 12:10 PM	ICP-MS4_160509A

ANALYTICAL DATES REPORT

Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
Aqueous	E300	Anions by IC method - Water	74841	1	04/28/16 12:34 PM	IC4_160428A
Aqueous	E300	Anions by IC method - Water	74841	100	04/28/16 06:05 PM	IC4_160428A
Aqueous	M4500-H+ B	pH	74811	1	04/27/16 09:22 AM	TITRATOR_160427A
Aqueous	M2540C	Total Dissolved Solids	74905	1	05/03/16 08:45 AM	WC_160502B
Equip Blank	SW7470A	Mercury Total: Aqueous	74829	1	04/28/16 10:56 AM	CETAC2_HG_160428 A
Equip Blank	SW6020A	Trace Metals: ICP-MS - Water	74809	1	04/28/16 07:29 PM	ICP-MS4_160428B
Equip Blank	SW6020A	Trace Metals: ICP-MS - Water	74809	1	05/09/16 12:41 PM	ICP-MS4_160509A
Equip Blank	E300	Anions by IC method - Water	74841	1	04/28/16 12:49 PM	IC4_160428A
Equip Blank	E300	Anions by IC method - Water	74841	1	04/28/16 02:26 PM	IC4_160428A
Equip Blank	M4500-H+ B	pH	74811	1	04/27/16 09:26 AM	TITRATOR_160427A
Equip Blank	M2540C	Total Dissolved Solids	74905	1	05/03/16 08:45 AM	WC_160502B
Aqueous	SW7470A	Mercury Total: Aqueous	74829	1	04/28/16 11:03 AM	CETAC2_HG_160428 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74809	1	04/28/16 07:45 PM	ICP-MS4_160428B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74809	50	05/09/16 11:11 AM	ICP-MS4_160509A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74809	1	05/09/16 12:43 PM	ICP-MS4_160509A
Aqueous	E300	Anions by IC method - Water	74841	1	04/28/16 01:04 PM	IC4_160428A
Aqueous	E300	Anions by IC method - Water	74841	10	04/28/16 07:20 PM	IC4_160428A
Aqueous	E300	Anions by IC method - Water	74841	100	04/28/16 07:35 PM	IC4_160428A
Aqueous	M4500-H+ B	pH	74811	1	04/27/16 09:29 AM	TITRATOR_160427A
Aqueous	M2540C	Total Dissolved Solids	74905	1	05/03/16 08:45 AM	WC_160502B
Aqueous	SW7470A	Mercury Total: Aqueous	74829	1	04/28/16 11:05 AM	CETAC2_HG_160428 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74809	1	04/28/16 07:47 PM	ICP-MS4_160428B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74809	50	05/09/16 11:13 AM	ICP-MS4_160509A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74809	10	05/09/16 12:45 PM	ICP-MS4_160509A
Aqueous	E300	Anions by IC method - Water	74841	1	04/28/16 01:19 PM	IC4_160428A
Aqueous	E300	Anions by IC method - Water	74841	100	04/28/16 07:50 PM	IC4_160428A

ANALYTICAL DATES REPORT

Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
Aqueous	M4500-H+ B	pH	74811	1	04/27/16 09:31 AM	TITRATOR_160427A
Aqueous	M2540C	Total Dissolved Solids	74905	1	05/03/16 08:45 AM	WC_160502B
Aqueous	SW7470A	Mercury Total: Aqueous	74829	1	04/28/16 11:08 AM	CETAC2_HG_160428 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74809	1	05/09/16 12:47 PM	ICP-MS4_160509A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74809	1	04/28/16 07:49 PM	ICP-MS4_160428B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74809	50	05/09/16 11:15 AM	ICP-MS4_160509A
Aqueous	E300	Anions by IC method - Water	74841	1	04/28/16 02:41 PM	IC4_160428A
Aqueous	E300	Anions by IC method - Water	74841	100	04/28/16 08:20 PM	IC4_160428A
Aqueous	M4500-H+ B	pH	74811	1	04/27/16 09:32 AM	TITRATOR_160427A
Aqueous	M2540C	Total Dissolved Solids	74905	1	05/03/16 08:45 AM	WC_160502B
Aqueous	SW7470A	Mercury Total: Aqueous	74829	1	04/28/16 11:10 AM	CETAC2_HG_160428 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74809	1	04/28/16 07:51 PM	ICP-MS4_160428B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74809	50	05/09/16 11:44 AM	ICP-MS4_160509A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74809	1	05/09/16 12:49 PM	ICP-MS4_160509A
Aqueous	E300	Anions by IC method - Water	74841	1	04/28/16 02:56 PM	IC4_160428A
Aqueous	E300	Anions by IC method - Water	74841	10	04/28/16 08:35 PM	IC4_160428A
Aqueous	M4500-H+ B	pH	74811	1	04/27/16 09:35 AM	TITRATOR_160427A
Aqueous	M2540C	Total Dissolved Solids	74905	1	05/03/16 08:45 AM	WC_160502B

DHL Analytical, Inc.

Date: 06-Jun-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1604288

Client Sample ID: AXMW-1
Lab ID: 1604288-01
Collection Date: 04/25/16 10:30 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A			Analyst: KL		
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	04/28/16 10:40 AM
TRACE METALS: ICP-MS - WATER		SW6020A			Analyst: RO		
Antimony	<0.000800	0.000800	0.00250		mg/L	1	04/28/16 07:09 PM
Arsenic	0.0176	0.00200	0.00500		mg/L	1	04/28/16 07:09 PM
Barium	0.0190	0.00300	0.0100		mg/L	1	04/28/16 07:09 PM
Beryllium	0.000394	0.000300	0.00100	J	mg/L	1	04/28/16 07:09 PM
Boron	0.499	0.0100	0.0300		mg/L	1	05/09/16 11:54 AM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	04/28/16 07:09 PM
Calcium	447	5.00	15.0		mg/L	50	05/09/16 10:55 AM
Chromium	0.00284	0.00200	0.00500	J	mg/L	1	04/28/16 07:09 PM
Cobalt	0.409	0.00300	0.00500		mg/L	1	04/28/16 07:09 PM
Lead	0.000468	0.000300	0.00100	J	mg/L	1	04/28/16 07:09 PM
Lithium	0.0249	0.00500	0.0100		mg/L	1	04/28/16 07:09 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	04/28/16 07:09 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	04/28/16 07:09 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	04/28/16 07:09 PM
ANIONS BY IC METHOD - WATER		E300			Analyst: AV		
Chloride	372	30.0	100		mg/L	100	04/28/16 03:35 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	04/28/16 11:04 AM
Sulfate	2440	100	300		mg/L	100	04/28/16 03:35 PM
PH		M4500-H+ B			Analyst: BJT		
pH	6.08	0	0		pH Units@17.7°C	1	04/27/16 09:10 AM
TOTAL DISSOLVED SOLIDS		M2540C			Analyst: AJH		
Total Dissolved Solids (Residue, Filterable)	3970	50.0	50.0		mg/L	1	05/03/16 08:45 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 06-Jun-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1604288

Client Sample ID: AX-24
Lab ID: 1604288-02
Collection Date: 04/25/16 11:30 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A			Analyst: KL		
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	04/28/16 10:43 AM
TRACE METALS: ICP-MS - WATER		SW6020A			Analyst: RO		
Antimony	<0.000800	0.000800	0.00250		mg/L	1	04/28/16 07:17 PM
Arsenic	0.00403	0.00200	0.00500	J	mg/L	1	04/28/16 07:17 PM
Barium	0.0473	0.00300	0.0100		mg/L	1	04/28/16 07:17 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	04/28/16 07:17 PM
Boron	0.120	0.0100	0.0300		mg/L	1	05/09/16 12:00 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	04/28/16 07:17 PM
Calcium	232	5.00	15.0		mg/L	50	05/09/16 10:59 AM
Chromium	0.00475	0.00200	0.00500	J	mg/L	1	04/28/16 07:17 PM
Cobalt	0.00544	0.00300	0.00500		mg/L	1	04/28/16 07:17 PM
Lead	0.000620	0.000300	0.00100	J	mg/L	1	04/28/16 07:17 PM
Lithium	0.0795	0.00500	0.0100		mg/L	1	04/28/16 07:17 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	04/28/16 07:17 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	04/28/16 07:17 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	04/28/16 07:17 PM
ANIONS BY IC METHOD - WATER		E300			Analyst: AV		
Chloride	299	30.0	100		mg/L	100	04/28/16 03:50 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	04/28/16 11:19 AM
Sulfate	756	100	300		mg/L	100	04/28/16 03:50 PM
PH		M4500-H+ B			Analyst: BJT		
pH	6.49	0	0		pH Units@17.1°C	1	04/27/16 09:13 AM
TOTAL DISSOLVED SOLIDS		M2540C			Analyst: AJH		
Total Dissolved Solids (Residue, Filterable)	1820	50.0	50.0		mg/L	1	05/03/16 08:45 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 06-Jun-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1604288

Client Sample ID: AX-28
Lab ID: 1604288-03
Collection Date: 04/25/16 12:35 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: KL			
Mercury	<0.000400	0.000400	0.00100		mg/L	5	04/28/16 10:45 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	04/28/16 07:19 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	04/28/16 07:19 PM
Barium	0.0340	0.00300	0.0100		mg/L	1	04/28/16 07:19 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	04/28/16 07:19 PM
Boron	0.181	0.0100	0.0300		mg/L	1	05/09/16 12:02 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	04/28/16 07:19 PM
Calcium	480	5.00	15.0		mg/L	50	05/09/16 11:01 AM
Chromium	0.00568	0.00200	0.00500		mg/L	1	04/28/16 07:19 PM
Cobalt	0.0232	0.00300	0.00500		mg/L	1	04/28/16 07:19 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	04/28/16 07:19 PM
Lithium	0.245	0.00500	0.0100		mg/L	1	04/28/16 07:19 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	04/28/16 07:19 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	04/28/16 07:19 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	04/28/16 07:19 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	378	30.0	100		mg/L	100	04/28/16 04:05 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	04/28/16 11:34 AM
Sulfate	1450	100	300		mg/L	100	04/28/16 04:05 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.50	0	0		pH Units@17.1°C	1	04/27/16 09:15 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	2940	50.0	50.0		mg/L	1	05/03/16 08:45 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 06-Jun-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1604288

Client Sample ID: AX-22R
Lab ID: 1604288-04
Collection Date: 04/25/16 01:10 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A					Analyst: KL
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	04/28/16 10:47 AM
TRACE METALS: ICP-MS - WATER		SW6020A					Analyst: RO
Antimony	<0.000800	0.000800	0.00250		mg/L	1	04/28/16 07:21 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	04/28/16 07:21 PM
Barium	0.107	0.00300	0.0100		mg/L	1	04/28/16 07:21 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	04/28/16 07:21 PM
Boron	0.127	0.0100	0.0300		mg/L	1	05/09/16 12:04 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	04/28/16 07:21 PM
Calcium	76.6	1.00	3.00		mg/L	10	05/09/16 11:03 AM
Chromium	0.00212	0.00200	0.00500	J	mg/L	1	04/28/16 07:21 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	04/28/16 07:21 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	04/28/16 07:21 PM
Lithium	0.0536	0.00500	0.0100		mg/L	1	04/28/16 07:21 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	04/28/16 07:21 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	04/28/16 07:21 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	04/28/16 07:21 PM
ANIONS BY IC METHOD - WATER		E300					Analyst: AV
Chloride	95.2	3.00	10.0		mg/L	10	04/28/16 04:50 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	04/28/16 11:49 AM
Sulfate	54.1	1.00	3.00		mg/L	1	04/28/16 11:49 AM
PH		M4500-H+ B					Analyst: BJT
pH	7.22	0	0		pH Units@17.4°C	1	04/27/16 09:17 AM
TOTAL DISSOLVED SOLIDS		M2540C					Analyst: AJH
Total Dissolved Solids (Residue, Filterable)	488	10.0	10.0		mg/L	1	05/03/16 08:45 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 06-Jun-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1604288

Client Sample ID: AX-25
Lab ID: 1604288-05
Collection Date: 04/25/16 02:25 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: KL			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	04/28/16 10:49 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	04/28/16 07:23 PM
Arsenic	0.00372	0.00200	0.00500	J	mg/L	1	04/28/16 07:23 PM
Barium	0.140	0.00300	0.0100		mg/L	1	04/28/16 07:23 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	04/28/16 07:23 PM
Boron	0.206	0.0100	0.0300		mg/L	1	05/09/16 12:06 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	04/28/16 07:23 PM
Calcium	225	5.00	15.0		mg/L	50	05/09/16 11:05 AM
Chromium	0.00395	0.00200	0.00500	J	mg/L	1	04/28/16 07:23 PM
Cobalt	0.0244	0.00300	0.00500		mg/L	1	04/28/16 07:23 PM
Lead	0.000421	0.000300	0.00100	J	mg/L	1	04/28/16 07:23 PM
Lithium	0.0472	0.00500	0.0100		mg/L	1	04/28/16 07:23 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	04/28/16 07:23 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	04/28/16 07:23 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	04/28/16 07:23 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	526	30.0	100		mg/L	100	04/28/16 05:35 PM
Fluoride	0.250	0.100	0.400	J	mg/L	1	04/28/16 12:04 PM
Sulfate	470	100	300		mg/L	100	04/28/16 05:35 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.66	0	0		pH Units@17.5°C	1	04/27/16 09:19 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	1920	50.0	50.0		mg/L	1	05/03/16 08:45 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 06-Jun-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1604288

Client Sample ID: AX-26
Lab ID: 1604288-06
Collection Date: 04/25/16 04:05 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: KL			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	04/28/16 10:52 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	04/28/16 07:25 PM
Arsenic	0.00316	0.00200	0.00500	J	mg/L	1	04/28/16 07:25 PM
Barium	0.0495	0.00300	0.0100		mg/L	1	04/28/16 07:25 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	04/28/16 07:25 PM
Boron	0.394	0.0100	0.0300		mg/L	1	05/09/16 12:08 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	04/28/16 07:25 PM
Calcium	571	5.00	15.0		mg/L	50	05/09/16 11:07 AM
Chromium	0.00604	0.00200	0.00500		mg/L	1	04/28/16 07:25 PM
Cobalt	0.0253	0.00300	0.00500		mg/L	1	04/28/16 07:25 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	04/28/16 07:25 PM
Lithium	0.473	0.00500	0.0100		mg/L	1	04/28/16 07:25 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	04/28/16 07:25 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	04/28/16 07:25 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	04/28/16 07:25 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	1200	30.0	100		mg/L	100	04/28/16 05:50 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	04/28/16 12:19 PM
Sulfate	1020	100	300		mg/L	100	04/28/16 05:50 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.59	0	0		pH Units@17.6°C	1	04/27/16 09:20 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	4080	50.0	50.0		mg/L	1	05/03/16 08:45 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 06-Jun-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1604288

Client Sample ID: MW-1
Lab ID: 1604288-07
Collection Date: 04/25/16
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: KL			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	04/28/16 10:54 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	04/28/16 07:27 PM
Arsenic	0.0181	0.00200	0.00500		mg/L	1	04/28/16 07:27 PM
Barium	0.0173	0.00300	0.0100		mg/L	1	04/28/16 07:27 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	04/28/16 07:27 PM
Boron	0.552	0.0100	0.0300		mg/L	1	05/09/16 12:10 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	04/28/16 07:27 PM
Calcium	459	5.00	15.0		mg/L	50	05/09/16 11:09 AM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	04/28/16 07:27 PM
Cobalt	0.414	0.00300	0.00500		mg/L	1	04/28/16 07:27 PM
Lead	0.000589	0.000300	0.00100	J	mg/L	1	04/28/16 07:27 PM
Lithium	0.0248	0.00500	0.0100		mg/L	1	04/28/16 07:27 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	04/28/16 07:27 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	04/28/16 07:27 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	04/28/16 07:27 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	377	30.0	100		mg/L	100	04/28/16 06:05 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	04/28/16 12:34 PM
Sulfate	2320	100	300		mg/L	100	04/28/16 06:05 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.05	0	0		pH Units@18°C	1	04/27/16 09:22 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	4030	50.0	50.0		mg/L	1	05/03/16 08:45 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 06-Jun-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1604288

Client Sample ID: EB-1
Lab ID: 1604288-08
Collection Date: 04/25/16 09:05 AM
Matrix: EQUIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A			Analyst: KL		
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	04/28/16 10:56 AM
TRACE METALS: ICP-MS - WATER		SW6020A			Analyst: RO		
Antimony	<0.000800	0.000800	0.00250		mg/L	1	04/28/16 07:29 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	04/28/16 07:29 PM
Barium	<0.00300	0.00300	0.0100		mg/L	1	04/28/16 07:29 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	04/28/16 07:29 PM
Boron	0.0308	0.0100	0.0300		mg/L	1	05/09/16 12:41 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	04/28/16 07:29 PM
Calcium	0.207	0.100	0.300	J	mg/L	1	04/28/16 07:29 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	04/28/16 07:29 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	04/28/16 07:29 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	04/28/16 07:29 PM
Lithium	<0.00500	0.00500	0.0100		mg/L	1	04/28/16 07:29 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	04/28/16 07:29 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	04/28/16 07:29 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	04/28/16 07:29 PM
ANIONS BY IC METHOD - WATER		E300			Analyst: AV		
Chloride	<0.300	0.300	1.00		mg/L	1	04/28/16 02:26 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	04/28/16 02:26 PM
Sulfate	<1.00	1.00	3.00		mg/L	1	04/28/16 02:26 PM
PH		M4500-H+ B			Analyst: BJT		
pH	6.91	0	0		pH Units@18.5°C	1	04/27/16 09:26 AM
TOTAL DISSOLVED SOLIDS		M2540C			Analyst: AJH		
Total Dissolved Solids (Residue, Filterable)	<10.0	10.0	10.0		mg/L	1	05/03/16 08:45 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 06-Jun-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1604288

Client Sample ID: AX-27
Lab ID: 1604288-09
Collection Date: 04/26/16 02:35 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: KL			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	04/28/16 11:03 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	04/28/16 07:45 PM
Arsenic	0.00441	0.00200	0.00500	J	mg/L	1	04/28/16 07:45 PM
Barium	0.165	0.00300	0.0100		mg/L	1	04/28/16 07:45 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	04/28/16 07:45 PM
Boron	0.196	0.0100	0.0300		mg/L	1	05/09/16 12:43 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	04/28/16 07:45 PM
Calcium	295	5.00	15.0		mg/L	50	05/09/16 11:11 AM
Chromium	0.0285	0.00200	0.00500		mg/L	1	04/28/16 07:45 PM
Cobalt	0.0210	0.00300	0.00500		mg/L	1	04/28/16 07:45 PM
Lead	0.000542	0.000300	0.00100	J	mg/L	1	04/28/16 07:45 PM
Lithium	0.0719	0.00500	0.0100		mg/L	1	04/28/16 07:45 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	04/28/16 07:45 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	04/28/16 07:45 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	04/28/16 07:45 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	557	30.0	100		mg/L	100	04/28/16 07:35 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	04/28/16 01:04 PM
Sulfate	383	10.0	30.0		mg/L	10	04/28/16 07:20 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.58	0	0		pH Units@18.3°C	1	04/27/16 09:29 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	1990	50.0	50.0		mg/L	1	05/03/16 08:45 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 06-Jun-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1604288

Client Sample ID: AXMW-2
Lab ID: 1604288-10
Collection Date: 04/26/16 11:45 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A			Analyst: KL		
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	04/28/16 11:05 AM
TRACE METALS: ICP-MS - WATER		SW6020A			Analyst: RO		
Antimony	<0.000800	0.000800	0.00250		mg/L	1	04/28/16 07:47 PM
Arsenic	0.0248	0.00200	0.00500		mg/L	1	04/28/16 07:47 PM
Barium	0.0252	0.00300	0.0100		mg/L	1	04/28/16 07:47 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	04/28/16 07:47 PM
Boron	2.32	0.100	0.300		mg/L	10	05/09/16 12:45 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	04/28/16 07:47 PM
Calcium	548	5.00	15.0		mg/L	50	05/09/16 11:13 AM
Chromium	0.00227	0.00200	0.00500	J	mg/L	1	04/28/16 07:47 PM
Cobalt	0.0493	0.00300	0.00500		mg/L	1	04/28/16 07:47 PM
Lead	0.000337	0.000300	0.00100	J	mg/L	1	04/28/16 07:47 PM
Lithium	0.0850	0.00500	0.0100		mg/L	1	04/28/16 07:47 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	04/28/16 07:47 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	04/28/16 07:47 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	04/28/16 07:47 PM
ANIONS BY IC METHOD - WATER		E300			Analyst: AV		
Chloride	210	30.0	100		mg/L	100	04/28/16 07:50 PM
Fluoride	0.771	0.100	0.400		mg/L	1	04/28/16 01:19 PM
Sulfate	2130	100	300		mg/L	100	04/28/16 07:50 PM
PH		M4500-H+ B			Analyst: BJT		
pH	6.22	0	0		pH Units@18.3°C	1	04/27/16 09:31 AM
TOTAL DISSOLVED SOLIDS		M2540C			Analyst: AJH		
Total Dissolved Solids (Residue, Filterable)	3460	50.0	50.0		mg/L	1	05/03/16 08:45 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 06-Jun-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1604288

Client Sample ID: AX-29
Lab ID: 1604288-11
Collection Date: 04/26/16 01:20 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A			Analyst: KL		
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	04/28/16 11:08 AM
TRACE METALS: ICP-MS - WATER		SW6020A			Analyst: RO		
Antimony	<0.000800	0.000800	0.00250		mg/L	1	04/28/16 07:49 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	04/28/16 07:49 PM
Barium	0.0388	0.00300	0.0100		mg/L	1	04/28/16 07:49 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	04/28/16 07:49 PM
Boron	0.370	0.0100	0.0300		mg/L	1	05/09/16 12:47 PM
Cadmium	0.00334	0.000300	0.00100		mg/L	1	04/28/16 07:49 PM
Calcium	372	5.00	15.0		mg/L	50	05/09/16 11:15 AM
Chromium	0.00488	0.00200	0.00500	J	mg/L	1	04/28/16 07:49 PM
Cobalt	0.116	0.00300	0.00500		mg/L	1	04/28/16 07:49 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	04/28/16 07:49 PM
Lithium	0.0427	0.00500	0.0100		mg/L	1	04/28/16 07:49 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	04/28/16 07:49 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	04/28/16 07:49 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	04/28/16 07:49 PM
ANIONS BY IC METHOD - WATER		E300			Analyst: AV		
Chloride	301	30.0	100		mg/L	100	04/28/16 08:20 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	04/28/16 02:41 PM
Sulfate	1270	100	300		mg/L	100	04/28/16 08:20 PM
PH		M4500-H+ B			Analyst: BJT		
pH	6.39	0	0		pH Units@18.3°C	1	04/27/16 09:32 AM
TOTAL DISSOLVED SOLIDS		M2540C			Analyst: AJH		
Total Dissolved Solids (Residue, Filterable)	2590	50.0	50.0		mg/L	1	05/03/16 08:45 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 06-Jun-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1604288

Client Sample ID: AX-23
Lab ID: 1604288-12
Collection Date: 04/26/16 02:15 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A					Analyst: KL
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	04/28/16 11:10 AM
TRACE METALS: ICP-MS - WATER		SW6020A					Analyst: RO
Antimony	<0.000800	0.000800	0.00250		mg/L	1	04/28/16 07:51 PM
Arsenic	0.00919	0.00200	0.00500		mg/L	1	04/28/16 07:51 PM
Barium	0.114	0.00300	0.0100		mg/L	1	04/28/16 07:51 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	04/28/16 07:51 PM
Boron	0.300	0.0100	0.0300		mg/L	1	05/09/16 12:49 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	04/28/16 07:51 PM
Calcium	188	5.00	15.0		mg/L	50	05/09/16 11:44 AM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	04/28/16 07:51 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	04/28/16 07:51 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	04/28/16 07:51 PM
Lithium	0.00618	0.00500	0.0100	J	mg/L	1	04/28/16 07:51 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	04/28/16 07:51 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	04/28/16 07:51 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	04/28/16 07:51 PM
ANIONS BY IC METHOD - WATER		E300					Analyst: AV
Chloride	131	3.00	10.0		mg/L	10	04/28/16 08:35 PM
Fluoride	0.186	0.100	0.400	J	mg/L	1	04/28/16 02:56 PM
Sulfate	471	10.0	30.0		mg/L	10	04/28/16 08:35 PM
PH		M4500-H+ B					Analyst: BJT
pH	6.69	0	0		pH Units@18.6°C	1	04/27/16 09:35 AM
TOTAL DISSOLVED SOLIDS		M2540C					Analyst: AJH
Total Dissolved Solids (Residue, Filterable)	1200	50.0	50.0		mg/L	1	05/03/16 08:45 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT: Pastor, Behling & Wheeler
Work Order: 1604288
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_160428A

The QC data in batch 74829 applies to the following samples: 1604288-01A, 1604288-02A, 1604288-03A, 1604288-04A, 1604288-05A, 1604288-06A, 1604288-07A, 1604288-08A, 1604288-09A, 1604288-10A, 1604288-11A, 1604288-12A

Sample ID MB-74829	Batch ID: 74829	TestNo: SW7470A	Units: mg/L							
SampType: MBLK	Run ID: CETAC2_HG_160428A	Analysis Date: 4/28/2016 10:29:34 AM	Prep Date: 4/27/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	<0.0000800	0.000200								

Sample ID LCS-74829	Batch ID: 74829	TestNo: SW7470A	Units: mg/L							
SampType: LCS	Run ID: CETAC2_HG_160428A	Analysis Date: 4/28/2016 10:31:50 AM	Prep Date: 4/27/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00198	0.000200	0.00200	0	99.0	85	115			

Sample ID LCSD-74829	Batch ID: 74829	TestNo: SW7470A	Units: mg/L							
SampType: LCSD	Run ID: CETAC2_HG_160428A	Analysis Date: 4/28/2016 10:34:06 AM	Prep Date: 4/27/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00208	0.000200	0.00200	0	104	85	115	4.93	15	

Sample ID 1604304-05B SD	Batch ID: 74829	TestNo: SW7470A	Units: mg/L							
SampType: SD	Run ID: CETAC2_HG_160428A	Analysis Date: 4/28/2016 11:24:03 AM	Prep Date: 4/27/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	<0.000400	0.00100	0	0				0	10	

Sample ID 1604304-05B PDS	Batch ID: 74829	TestNo: SW7470A	Units: mg/L							
SampType: PDS	Run ID: CETAC2_HG_160428A	Analysis Date: 4/28/2016 11:26:19 AM	Prep Date: 4/27/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00210	0.000200	0.00250	0	84.0	85	115			S

Sample ID 1604304-05B MS	Batch ID: 74829	TestNo: SW7470A	Units: mg/L							
SampType: MS	Run ID: CETAC2_HG_160428A	Analysis Date: 4/28/2016 11:28:36 AM	Prep Date: 4/27/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00161	0.000200	0.00200	0	80.5	80	120			

Sample ID 1604304-05B MSD	Batch ID: 74829	TestNo: SW7470A	Units: mg/L							
SampType: MSD	Run ID: CETAC2_HG_160428A	Analysis Date: 4/28/2016 11:30:52 AM	Prep Date: 4/27/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00162	0.000200	0.00200	0	81.0	80	120	0.619	15	

- Qualifiers:**
- B Analyte detected in the associated Method Blank
 - J Analyte detected between MDL and RL
 - ND Not Detected at the Method Detection Limit
 - RL Reporting Limit
 - J Analyte detected between SDL and RL
 - DF Dilution Factor
 - MDL Method Detection Limit
 - R RPD outside accepted control limits
 - S Spike Recovery outside control limits
 - N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1604288
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_160428A

Sample ID ICV-160428	Batch ID: R85496	TestNo: SW7470A	Units: mg/L							
SampType: ICV	Run ID: CETAC2_HG_160428A	Analysis Date: 4/28/2016 10:25:00 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00393	0.000200	0.00400	0	98.2	90	110			
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Sample ID CCV1-160428	Batch ID: R85496	TestNo: SW7470A	Units: mg/L							
SampType: CCV	Run ID: CETAC2_HG_160428A	Analysis Date: 4/28/2016 10:59:03 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00199	0.000200	0.00200	0	99.5	90	110			
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Sample ID CCV2-160428	Batch ID: R85496	TestNo: SW7470A	Units: mg/L							
SampType: CCV	Run ID: CETAC2_HG_160428A	Analysis Date: 4/28/2016 11:33:10 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00198	0.000200	0.00200	0	99.0	90	110			
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LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1604288
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160428B

The QC data in batch 74809 applies to the following samples: 1604288-01A, 1604288-02A, 1604288-03A, 1604288-04A, 1604288-05A, 1604288-06A, 1604288-07A, 1604288-08A, 1604288-09A, 1604288-10A, 1604288-11A, 1604288-12A

Sample ID MB-74809	Batch ID: 74809	TestNo: SW6020A	Units: mg/L
SampType: MBLK	Run ID: ICP-MS4_160428B	Analysis Date: 4/28/2016 7:01:00 PM	Prep Date: 4/27/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.000800	0.00250								
Arsenic	<0.00200	0.00500								
Barium	<0.00300	0.0100								
Beryllium	<0.000300	0.00100								
Cadmium	<0.000300	0.00100								
Calcium	<0.100	0.300								
Chromium	<0.00200	0.00500								
Cobalt	<0.00300	0.00500								
Lead	<0.000300	0.00100								
Lithium	<0.00500	0.0100								
Molybdenum	<0.00200	0.00500								
Selenium	<0.00200	0.00500								
Thallium	<0.000500	0.00150								

Sample ID LCS-74809	Batch ID: 74809	TestNo: SW6020A	Units: mg/L
SampType: LCS	Run ID: ICP-MS4_160428B	Analysis Date: 4/28/2016 7:03:00 PM	Prep Date: 4/27/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.197	0.00250	0.200	0	98.4	80	120			
Arsenic	0.208	0.00500	0.200	0	104	80	120			
Barium	0.204	0.0100	0.200	0	102	80	120			
Beryllium	0.198	0.00100	0.200	0	99.2	80	120			
Cadmium	0.200	0.00100	0.200	0	99.9	80	120			
Calcium	5.02	0.300	5.00	0	100	80	120			
Chromium	0.206	0.00500	0.200	0	103	80	120			
Cobalt	0.207	0.00500	0.200	0	103	80	120			
Lead	0.202	0.00100	0.200	0	101	80	120			
Lithium	0.196	0.0100	0.200	0	97.8	80	120			
Molybdenum	0.196	0.00500	0.200	0	98.2	80	120			
Selenium	0.211	0.00500	0.200	0	106	80	120			
Thallium	0.198	0.00150	0.200	0	99.0	80	120			

Sample ID LCSD-74809	Batch ID: 74809	TestNo: SW6020A	Units: mg/L
SampType: LCSD	Run ID: ICP-MS4_160428B	Analysis Date: 4/28/2016 7:05:00 PM	Prep Date: 4/27/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.198	0.00250	0.200	0	98.8	80	120	0.383	15	
Arsenic	0.208	0.00500	0.200	0	104	80	120	0.063	15	
Barium	0.207	0.0100	0.200	0	103	80	120	1.47	15	

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
J Analyte detected between MDL and RL MDL Method Detection Limit
ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
RL Reporting Limit S Spike Recovery outside control limits
J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1604288
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160428B

Sample ID: LCSD-74809	Batch ID: 74809	TestNo: SW6020A	Units: mg/L
SampType: LCSD	Run ID: ICP-MS4_160428B	Analysis Date: 4/28/2016 7:05:00 PM	Prep Date: 4/27/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.198	0.00100	0.200	0	98.9	80	120	0.285	15	
Cadmium	0.202	0.00100	0.200	0	101	80	120	0.897	15	
Calcium	5.02	0.300	5.00	0	100	80	120	0.042	15	
Chromium	0.208	0.00500	0.200	0	104	80	120	1.09	15	
Cobalt	0.208	0.00500	0.200	0	104	80	120	0.780	15	
Lead	0.202	0.00100	0.200	0	101	80	120	0.365	15	
Lithium	0.201	0.0100	0.200	0	100	80	120	2.46	15	
Molybdenum	0.198	0.00500	0.200	0	98.8	80	120	0.576	15	
Selenium	0.211	0.00500	0.200	0	106	80	120	0.046	15	
Thallium	0.200	0.00150	0.200	0	100	80	120	0.994	15	

Sample ID: 1604288-01A SD	Batch ID: 74809	TestNo: SW6020A	Units: mg/L
SampType: SD	Run ID: ICP-MS4_160428B	Analysis Date: 4/28/2016 7:11:00 PM	Prep Date: 4/27/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.00400	0.0125	0	0				0	10	
Arsenic	0.0173	0.0250	0	0.0176				1.88	10	
Barium	0.0190	0.0500	0	0.0190				0.226	10	
Beryllium	<0.00150	0.00500	0	0.000394				0	10	
Cadmium	<0.00150	0.00500	0	0				0	10	
Chromium	<0.0100	0.0250	0	0.00284				0	10	
Cobalt	0.418	0.0250	0	0.409				2.32	10	
Lead	<0.00150	0.00500	0	0.000468				0	10	
Lithium	0.0255	0.0500	0	0.0249				2.23	10	
Molybdenum	<0.0100	0.0250	0	0				0	10	
Selenium	<0.0100	0.0250	0	0				0	10	
Thallium	<0.00250	0.00750	0	0				0	10	

Sample ID: 1604288-01A PDS	Batch ID: 74809	TestNo: SW6020A	Units: mg/L
SampType: PDS	Run ID: ICP-MS4_160428B	Analysis Date: 4/28/2016 7:31:00 PM	Prep Date: 4/27/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.200	0.00250	0.200	0	99.9	80	120			
Arsenic	0.224	0.00500	0.200	0.0176	103	80	120			
Barium	0.219	0.0100	0.200	0.0190	99.9	80	120			
Beryllium	0.184	0.00100	0.200	0.000394	92.0	80	120			
Cadmium	0.188	0.00100	0.200	0	93.9	80	120			
Chromium	0.206	0.00500	0.200	0.00284	102	80	120			
Cobalt	0.582	0.00500	0.200	0.409	86.8	80	120			
Lead	0.197	0.00100	0.200	0.000468	98.2	80	120			
Lithium	0.201	0.0100	0.200	0.0249	87.9	80	120			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1604288
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160428B

Sample ID 1604288-01A PDS	Batch ID: 74809	TestNo: SW6020A	Units: mg/L							
SampType: PDS	Run ID: ICP-MS4_160428B	Analysis Date: 4/28/2016 7:31:00 PM	Prep Date: 4/27/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Molybdenum	0.193	0.00500	0.200	0	96.3	80	120			
Selenium	0.218	0.00500	0.200	0	109	80	120			
Thallium	0.192	0.00150	0.200	0	95.9	80	120			

Sample ID 1604288-01A MS	Batch ID: 74809	TestNo: SW6020A	Units: mg/L							
SampType: MS	Run ID: ICP-MS4_160428B	Analysis Date: 4/28/2016 7:33:00 PM	Prep Date: 4/27/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.193	0.00250	0.200	0	96.5	80	120			
Arsenic	0.229	0.00500	0.200	0.0176	106	80	120			
Barium	0.222	0.0100	0.200	0.0190	102	80	120			
Beryllium	0.187	0.00100	0.200	0.000394	93.4	80	120			
Cadmium	0.191	0.00100	0.200	0	95.6	80	120			
Calcium	506	0.300	5.00	495	223	80	120			S
Chromium	0.203	0.00500	0.200	0.00284	100	80	120			
Cobalt	0.613	0.00500	0.200	0.409	102	80	120			
Lead	0.200	0.00100	0.200	0.000468	99.9	80	120			
Lithium	0.207	0.0100	0.200	0.0249	90.9	80	120			
Molybdenum	0.199	0.00500	0.200	0	99.3	80	120			
Selenium	0.222	0.00500	0.200	0	111	80	120			
Thallium	0.199	0.00150	0.200	0	99.3	80	120			

Sample ID 1604288-01A MSD	Batch ID: 74809	TestNo: SW6020A	Units: mg/L							
SampType: MSD	Run ID: ICP-MS4_160428B	Analysis Date: 4/28/2016 7:35:00 PM	Prep Date: 4/27/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.192	0.00250	0.200	0	95.9	80	120	0.544	15	
Arsenic	0.229	0.00500	0.200	0.0176	105	80	120	0.409	15	
Barium	0.224	0.0100	0.200	0.0190	102	80	120	0.682	15	
Beryllium	0.186	0.00100	0.200	0.000394	92.9	80	120	0.470	15	
Cadmium	0.189	0.00100	0.200	0	94.5	80	120	1.14	15	
Calcium	503	0.300	5.00	495	163	80	120	0.600	15	S
Chromium	0.204	0.00500	0.200	0.00284	101	80	120	0.425	15	
Cobalt	0.609	0.00500	0.200	0.409	100	80	120	0.658	15	
Lead	0.199	0.00100	0.200	0.000468	99.1	80	120	0.808	15	
Lithium	0.208	0.0100	0.200	0.0249	91.5	80	120	0.543	15	
Molybdenum	0.197	0.00500	0.200	0	98.5	80	120	0.762	15	
Selenium	0.216	0.00500	0.200	0	108	80	120	2.46	15	
Thallium	0.197	0.00150	0.200	0	98.3	80	120	1.06	15	

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1604288
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160428B

Sample ID ICV-160428	Batch ID: R85511	TestNo: SW6020A	Units: mg/L
SampType: ICV	Run ID: ICP-MS4_160428B	Analysis Date: 4/28/2016 12:21:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.0974	0.00250	0.100	0	97.4	90	110			
Arsenic	0.100	0.00500	0.100	0	100	90	110			
Barium	0.0986	0.0100	0.100	0	98.6	90	110			
Beryllium	0.101	0.00100	0.100	0	101	90	110			
Cadmium	0.0983	0.00100	0.100	0	98.3	90	110			
Calcium	2.37	0.300	2.50	0	94.8	90	110			
Chromium	0.103	0.00500	0.100	0	103	90	110			
Cobalt	0.105	0.00500	0.100	0	105	90	110			
Lead	0.0993	0.00100	0.100	0	99.3	90	110			
Lithium	0.101	0.0100	0.100	0	101	90	110			
Molybdenum	0.0956	0.00500	0.100	0	95.6	90	110			
Selenium	0.102	0.00500	0.100	0	102	90	110			
Thallium	0.0968	0.00150	0.100	0	96.8	90	110			

Sample ID LCVL-160428	Batch ID: R85511	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_160428B	Analysis Date: 4/28/2016 12:27:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00186	0.00250	0.00200	0	93.1	70	130			
Arsenic	0.00501	0.00500	0.00500	0	100	70	130			
Barium	0.00493	0.0100	0.00500	0	98.6	70	130			
Beryllium	0.00109	0.00100	0.00100	0	109	70	130			
Cadmium	0.000998	0.00100	0.00100	0	99.8	70	130			
Calcium	0.0949	0.300	0.100	0	94.9	70	130			
Chromium	0.00515	0.00500	0.00500	0	103	70	130			
Cobalt	0.00517	0.00500	0.00500	0	103	70	130			
Lead	0.000996	0.00100	0.00100	0	99.6	70	130			
Lithium	0.0114	0.0100	0.0100	0	114	70	130			
Molybdenum	0.00476	0.00500	0.00500	0	95.3	70	130			
Selenium	0.00508	0.00500	0.00500	0	102	70	130			
Thallium	0.000949	0.00150	0.00100	0	94.9	70	130			

Sample ID CCV8-160428	Batch ID: R85511	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_160428B	Analysis Date: 4/28/2016 6:53:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.197	0.00250	0.200	0	98.3	90	110			
Arsenic	0.203	0.00500	0.200	0	101	90	110			
Barium	0.201	0.0100	0.200	0	100	90	110			
Beryllium	0.198	0.00100	0.200	0	99.1	90	110			
Cadmium	0.198	0.00100	0.200	0	98.9	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1604288
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160428B

Sample ID CCV8-160428	Batch ID: R85511	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_160428B	Analysis Date: 4/28/2016 6:53:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	4.96	0.300	5.00	0	99.2	90	110			
Chromium	0.205	0.00500	0.200	0	102	90	110			
Cobalt	0.202	0.00500	0.200	0	101	90	110			
Lead	0.200	0.00100	0.200	0	99.9	90	110			
Lithium	0.194	0.0100	0.200	0	97.1	90	110			
Molybdenum	0.195	0.00500	0.200	0	97.3	90	110			
Selenium	0.208	0.00500	0.200	0	104	90	110			
Thallium	0.196	0.00150	0.200	0	98.0	90	110			

Sample ID LCVL8-160428	Batch ID: R85511	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_160428B	Analysis Date: 4/28/2016 6:57:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00192	0.00250	0.00200	0	96.0	70	130			
Arsenic	0.00486	0.00500	0.00500	0	97.1	70	130			
Barium	0.00499	0.0100	0.00500	0	99.8	70	130			
Beryllium	0.000964	0.00100	0.00100	0	96.4	70	130			
Cadmium	0.00103	0.00100	0.00100	0	103	70	130			
Calcium	0.104	0.300	0.100	0	104	70	130			
Chromium	0.00512	0.00500	0.00500	0	102	70	130			
Cobalt	0.00501	0.00500	0.00500	0	100	70	130			
Lead	0.000987	0.00100	0.00100	0	98.7	70	130			
Lithium	0.0108	0.0100	0.0100	0	108	70	130			
Molybdenum	0.00463	0.00500	0.00500	0	92.6	70	130			
Selenium	0.00545	0.00500	0.00500	0	109	70	130			
Thallium	0.000942	0.00150	0.00100	0	94.2	70	130			

Sample ID CCV9-160428	Batch ID: R85511	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_160428B	Analysis Date: 4/28/2016 7:37:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.197	0.00250	0.200	0	98.6	90	110			
Arsenic	0.206	0.00500	0.200	0	103	90	110			
Barium	0.202	0.0100	0.200	0	101	90	110			
Beryllium	0.189	0.00100	0.200	0	94.7	90	110			
Cadmium	0.197	0.00100	0.200	0	98.4	90	110			
Calcium	4.95	0.300	5.00	0	99.1	90	110			
Chromium	0.203	0.00500	0.200	0	102	90	110			
Cobalt	0.202	0.00500	0.200	0	101	90	110			
Lead	0.200	0.00100	0.200	0	99.8	90	110			
Lithium	0.190	0.0100	0.200	0	94.8	90	110			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1604288
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160428B

Sample ID CCV9-160428	Batch ID: R85511	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160428B	Analysis Date: 4/28/2016 7:37:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Molybdenum	0.192	0.00500	0.200	0	96.2	90	110			
Selenium	0.209	0.00500	0.200	0	105	90	110			
Thallium	0.196	0.00150	0.200	0	97.9	90	110			

Sample ID LCVL9-160428	Batch ID: R85511	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160428B	Analysis Date: 4/28/2016 7:41:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00194	0.00250	0.00200	0	96.9	70	130			
Arsenic	0.00500	0.00500	0.00500	0	100	70	130			
Barium	0.00497	0.0100	0.00500	0	99.4	70	130			
Beryllium	0.00103	0.00100	0.00100	0	103	70	130			
Cadmium	0.000929	0.00100	0.00100	0	92.9	70	130			
Calcium	0.105	0.300	0.100	0	105	70	130			
Chromium	0.00503	0.00500	0.00500	0	101	70	130			
Cobalt	0.00498	0.00500	0.00500	0	99.6	70	130			
Lead	0.000946	0.00100	0.00100	0	94.6	70	130			
Lithium	0.0106	0.0100	0.0100	0	106	70	130			
Molybdenum	0.00461	0.00500	0.00500	0	92.2	70	130			
Selenium	0.00574	0.00500	0.00500	0	115	70	130			
Thallium	0.000944	0.00150	0.00100	0	94.4	70	130			

Sample ID CCV10-160428	Batch ID: R85511	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160428B	Analysis Date: 4/28/2016 8:05:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.199	0.00250	0.200	0	99.3	90	110			
Arsenic	0.208	0.00500	0.200	0	104	90	110			
Barium	0.204	0.0100	0.200	0	102	90	110			
Beryllium	0.191	0.00100	0.200	0	95.5	90	110			
Cadmium	0.199	0.00100	0.200	0	99.3	90	110			
Chromium	0.207	0.00500	0.200	0	103	90	110			
Cobalt	0.204	0.00500	0.200	0	102	90	110			
Lead	0.199	0.00100	0.200	0	99.6	90	110			
Lithium	0.192	0.0100	0.200	0	96.2	90	110			
Molybdenum	0.195	0.00500	0.200	0	97.5	90	110			
Selenium	0.211	0.00500	0.200	0	106	90	110			
Thallium	0.196	0.00150	0.200	0	98.1	90	110			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1604288
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160428B

Sample ID: LCVL10-160428	Batch ID: R85511	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_160428B	Analysis Date: 4/28/2016 8:10:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00185	0.00250	0.00200	0	92.4	70	130			
Arsenic	0.00509	0.00500	0.00500	0	102	70	130			
Barium	0.00513	0.0100	0.00500	0	103	70	130			
Beryllium	0.000973	0.00100	0.00100	0	97.3	70	130			
Cadmium	0.000969	0.00100	0.00100	0	96.9	70	130			
Chromium	0.00522	0.00500	0.00500	0	104	70	130			
Cobalt	0.00506	0.00500	0.00500	0	101	70	130			
Lead	0.000941	0.00100	0.00100	0	94.1	70	130			
Lithium	0.0105	0.0100	0.0100	0	105	70	130			
Molybdenum	0.00463	0.00500	0.00500	0	92.5	70	130			
Selenium	0.00556	0.00500	0.00500	0	111	70	130			
Thallium	0.000955	0.00150	0.00100	0	95.5	70	130			

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1604288
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160509A

The QC data in batch 74809 applies to the following samples: 1604288-01A, 1604288-02A, 1604288-03A, 1604288-04A, 1604288-05A, 1604288-06A, 1604288-07A, 1604288-08A, 1604288-09A, 1604288-10A, 1604288-11A, 1604288-12A

Sample ID MB-74809	Batch ID: 74809	TestNo: SW6020A	Units: mg/L							
SampType: MBLK	Run ID: ICP-MS4_160509A	Analysis Date: 5/9/2016 10:46:00 AM	Prep Date: 4/27/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	<0.0100	0.0300								
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Sample ID LCS-74809	Batch ID: 74809	TestNo: SW6020A	Units: mg/L							
SampType: LCS	Run ID: ICP-MS4_160509A	Analysis Date: 5/9/2016 10:48:00 AM	Prep Date: 4/27/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.200	0.0300	0.200	0	99.8	80	120			
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Sample ID LCSD-74809	Batch ID: 74809	TestNo: SW6020A	Units: mg/L							
SampType: LCSD	Run ID: ICP-MS4_160509A	Analysis Date: 5/9/2016 10:51:00 AM	Prep Date: 4/27/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.212	0.0300	0.200	0	106	80	120	5.98	15	
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Sample ID 1604288-01A SD	Batch ID: 74809	TestNo: SW6020A	Units: mg/L							
SampType: SD	Run ID: ICP-MS4_160509A	Analysis Date: 5/9/2016 10:57:00 AM	Prep Date: 4/27/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	445	75.0	0	447				0.432	10	
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Sample ID 1604288-01A PDS	Batch ID: 74809	TestNo: SW6020A	Units: mg/L							
SampType: PDS	Run ID: ICP-MS4_160509A	Analysis Date: 5/9/2016 11:17:00 AM	Prep Date: 4/27/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	665	15.0	250	447	87.2	80	120			
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Sample ID 1604288-01A MS	Batch ID: 74809	TestNo: SW6020A	Units: mg/L							
SampType: MS	Run ID: ICP-MS4_160509A	Analysis Date: 5/9/2016 11:19:00 AM	Prep Date: 4/27/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	1.08	1.50	0.200	0.839	122	80	120			S
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Sample ID 1604288-01A MSD	Batch ID: 74809	TestNo: SW6020A	Units: mg/L							
SampType: MSD	Run ID: ICP-MS4_160509A	Analysis Date: 5/9/2016 11:21:00 AM	Prep Date: 4/27/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	1.03	1.50	0.200	0.839	96.8	80	120	4.84	15	
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Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1604288
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160509A

Sample ID 1604288-01A SD	Batch ID: 74809	TestNo: SW6020A	Units: mg/L							
SampType: SD	Run ID: ICP-MS4_160509A	Analysis Date: 5/9/2016 11:56:00 AM	Prep Date: 4/27/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.647	0.150	0	0.499				25.9	10	R

Sample ID 1604288-01A PDS	Batch ID: 74809	TestNo: SW6020A	Units: mg/L							
SampType: PDS	Run ID: ICP-MS4_160509A	Analysis Date: 5/9/2016 11:58:00 AM	Prep Date: 4/27/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.672	0.0300	0.200	0.499	86.4	80	120			

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1604288
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160509A

Sample ID ICV-160509	Batch ID: R85680	TestNo: SW6020A	Units: mg/L							
SampType: ICV	Run ID: ICP-MS4_160509A	Analysis Date: 5/9/2016 10:31:00 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.102	0.0300	0.100	0	102	90	110			
Calcium	2.27	0.300	2.50	0	90.9	90	110			

Sample ID LCVL-160509	Batch ID: R85680	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160509A	Analysis Date: 5/9/2016 10:40:00 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0234	0.0300	0.0200	0	117	70	130			
Calcium	0.0935	0.300	0.100	0	93.5	70	130			

Sample ID CCV1-160509	Batch ID: R85680	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160509A	Analysis Date: 5/9/2016 11:23:00 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.191	0.0300	0.200	0	95.6	90	110			
Calcium	4.56	0.300	5.00	0	91.2	90	110			

Sample ID LCVL1-160509	Batch ID: R85680	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160509A	Analysis Date: 5/9/2016 11:39:00 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0230	0.0300	0.0200	0	115	70	130			
Calcium	0.0972	0.300	0.100	0	97.2	70	130			

Sample ID CCV2-160509	Batch ID: R85680	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160509A	Analysis Date: 5/9/2016 12:20:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.214	0.0300	0.200	0	107	90	110			
Calcium	4.65	0.300	5.00	0	93.1	90	110			

Sample ID LCVL2-160509	Batch ID: R85680	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160509A	Analysis Date: 5/9/2016 12:37:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0249	0.0300	0.0200	0	124	70	130			
Calcium	0.0890	0.300	0.100	0	89.0	70	130			

Qualifiers:

B Analyte detected in the associated Method Blank	DF Dilution Factor
J Analyte detected between MDL and RL	MDL Method Detection Limit
ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
RL Reporting Limit	S Spike Recovery outside control limits
J Analyte detected between SDL and RL	N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1604288
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160509A

Sample ID CCV3-160509	Batch ID: R85680	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160509A	Analysis Date: 5/9/2016 12:59:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.212	0.0300	0.200	0	106	90	110			

Sample ID LCVL3-160509	Batch ID: R85680	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160509A	Analysis Date: 5/9/2016 1:13:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0254	0.0300	0.0200	0	127	70	130			

LUMINANT

Qualifiers:	B Analyte detected in the associated Method Blank	DF Dilution Factor
	J Analyte detected between MDL and RL	MDL Method Detection Limit
	ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
	RL Reporting Limit	S Spike Recovery outside control limits
	J Analyte detected between SDL and RL	N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1604288
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC4_160428A

The QC data in batch 74841 applies to the following samples: 1604288-01D, 1604288-02D, 1604288-03D, 1604288-04D, 1604288-05D, 1604288-06D, 1604288-07D, 1604288-08D, 1604288-09D, 1604288-10D, 1604288-11D, 1604288-12D

Sample ID: MB-74841	Batch ID: 74841	TestNo: E300	Units: mg/L
SampType: MBLK	Run ID: IC4_160428A	Analysis Date: 4/28/2016 10:11:49 AM	Prep Date: 4/28/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	<0.300	1.00								
Fluoride	<0.100	0.400								
Sulfate	<1.00	3.00								

Sample ID: LCS-74841	Batch ID: 74841	TestNo: E300	Units: mg/L
SampType: LCS	Run ID: IC4_160428A	Analysis Date: 4/28/2016 10:26:49 AM	Prep Date: 4/28/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.0	1.00	10.00	0	100	90	110			
Fluoride	4.15	0.400	4.000	0	104	90	110			
Sulfate	30.1	3.00	30.00	0	100	90	110			

Sample ID: LCSD-74841	Batch ID: 74841	TestNo: E300	Units: mg/L
SampType: LCSD	Run ID: IC4_160428A	Analysis Date: 4/28/2016 10:41:49 AM	Prep Date: 4/28/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.0	1.00	10.00	0	100	90	110	0.132	20	
Fluoride	4.17	0.400	4.000	0	104	90	110	0.403	20	
Sulfate	30.1	3.00	30.00	0	100	90	110	0.099	20	

Sample ID: 1604288-03DMS	Batch ID: 74841	TestNo: E300	Units: mg/L
SampType: MS	Run ID: IC4_160428A	Analysis Date: 4/28/2016 4:20:18 PM	Prep Date: 4/28/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	2450	100	2000	378.3	103	90	110			
Fluoride	2040	40.0	2000	0	102	90	110			
Sulfate	3550	300	2000	1445	105	90	110			

Sample ID: 1604288-03DMSD	Batch ID: 74841	TestNo: E300	Units: mg/L
SampType: MSD	Run ID: IC4_160428A	Analysis Date: 4/28/2016 4:35:18 PM	Prep Date: 4/28/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	2470	100	2000	378.3	104	90	110	0.727	20	
Fluoride	2060	40.0	2000	0	103	90	110	0.882	20	
Sulfate	3590	300	2000	1445	107	90	110	0.974	20	

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1604288
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC4_160428A

Sample ID: 1604288-04DMS	Batch ID: 74841	TestNo: E300	Units: mg/L
SampType: MS	Run ID: IC4_160428A	Analysis Date: 4/28/2016 5:05:18 PM	Prep Date: 4/28/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	303	10.0	200.0	95.20	104	90	110			
Fluoride	206	4.00	200.0	0	103	90	110			
Sulfate	263	30.0	200.0	50.68	106	90	110			

Sample ID: 1604288-04DMSD	Batch ID: 74841	TestNo: E300	Units: mg/L
SampType: MSD	Run ID: IC4_160428A	Analysis Date: 4/28/2016 5:20:18 PM	Prep Date: 4/28/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	303	10.0	200.0	95.20	104	90	110	0.047	20	
Fluoride	207	4.00	200.0	0	104	90	110	0.366	20	
Sulfate	262	30.0	200.0	50.68	105	90	110	0.369	20	

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1604288
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC4_160428A

Sample ID ICV-160428	Batch ID: R85525	TestNo: E300	Units: mg/L
SampType: ICV	Run ID: IC4_160428A	Analysis Date: 4/28/2016 9:24:01 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	25.2	1.00	25.00	0	101	90	110			
Fluoride	10.2	0.400	10.00	0	102	90	110			
Sulfate	75.9	3.00	75.00	0	101	90	110			

Sample ID CCV1-160428	Batch ID: R85525	TestNo: E300	Units: mg/L
SampType: CCV	Run ID: IC4_160428A	Analysis Date: 4/28/2016 1:49:07 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.3	1.00	10.00	0	103	90	110			
Fluoride	4.15	0.400	4.000	0	104	90	110			
Sulfate	32.9	3.00	30.00	0	110	90	110			

Sample ID CCV2-160428	Batch ID: R85525	TestNo: E300	Units: mg/L
SampType: CCV	Run ID: IC4_160428A	Analysis Date: 4/28/2016 6:35:18 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.2	1.00	10.00	0	102	90	110			
Fluoride	4.08	0.400	4.000	0	102	90	110			
Sulfate	30.7	3.00	30.00	0	102	90	110			

Sample ID CCV3-160428	Batch ID: R85525	TestNo: E300	Units: mg/L
SampType: CCV	Run ID: IC4_160428A	Analysis Date: 4/28/2016 9:05:18 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.3	1.00	10.00	0	103	90	110			
Fluoride	4.20	0.400	4.000	0	105	90	110			
Sulfate	30.9	3.00	30.00	0	103	90	110			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1604288
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_160427A

The QC data in batch 74811 applies to the following samples: 1604288-01D, 1604288-02D, 1604288-03D, 1604288-04D, 1604288-05D, 1604288-06D, 1604288-07D, 1604288-08D, 1604288-09D, 1604288-10D, 1604288-11D, 1604288-12D

Sample ID: 1604253-01A-DUP	Batch ID: 74811	TestNo: M4500-H+ B	Units: pH Units@17.2°C
SampType: DUP	Run ID: TITRATOR_160427A	Analysis Date: 4/27/2016 9:07:00 AM	Prep Date: 4/27/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	9.89	0	0	9.870				0.202	5	

Sample ID: 1604288-12D-DUP	Batch ID: 74811	TestNo: M4500-H+ B	Units: pH Units@18.9°C
SampType: DUP	Run ID: TITRATOR_160427A	Analysis Date: 4/27/2016 9:36:00 AM	Prep Date: 4/27/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	6.68	0	0	6.690				0.150	5	

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1604288
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_160427A

Sample ID ICV-160427	Batch ID: R85466	TestNo: M4500-H+ B	Units: pH Units@21.9°C							
SampType: ICV	Run ID: TITRATOR_160427A	Analysis Date: 4/27/2016 8:35:00 AM	Prep Date: 4/27/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	9.99	0	10.00	0	99.9	99	101			

Sample ID CCV1-160427	Batch ID: R85466	TestNo: M4500-H+ B	Units: pH Units@21.2°C							
SampType: CCV	Run ID: TITRATOR_160427A	Analysis Date: 4/27/2016 9:23:00 AM	Prep Date: 4/27/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	7.02	0	7.000	0	100	97.1	102.9			

Sample ID CCV2-160427	Batch ID: R85466	TestNo: M4500-H+ B	Units: pH Units@21.2°C							
SampType: CCV	Run ID: TITRATOR_160427A	Analysis Date: 4/27/2016 9:38:00 AM	Prep Date: 4/27/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	7.02	0	7.000	0	100	97.1	102.9			

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1604288
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: WC_160502B

The QC data in batch 74905 applies to the following samples: 1604288-01D, 1604288-02D, 1604288-03D, 1604288-04D, 1604288-05D, 1604288-06D, 1604288-07D, 1604288-08D, 1604288-09D, 1604288-10D, 1604288-11D, 1604288-12D

Sample ID MB-74905	Batch ID: 74905	TestNo: M2540C	Units: mg/L							
SampType: MBLK	Run ID: WC_160502B	Analysis Date: 5/3/2016 8:45:00 AM	Prep Date: 5/2/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	<10.0	10.0								

Sample ID LCS-74905	Batch ID: 74905	TestNo: M2540C	Units: mg/L							
SampType: LCS	Run ID: WC_160502B	Analysis Date: 5/3/2016 8:45:00 AM	Prep Date: 5/2/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	754	10.0	745.6	0	101	90	113			

Sample ID 1604288-01D-DUP	Batch ID: 74905	TestNo: M2540C	Units: mg/L							
SampType: DUP	Run ID: WC_160502B	Analysis Date: 5/3/2016 8:45:00 AM	Prep Date: 5/2/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	4060	50.0	0	3970				2.12	5	

Sample ID 1604315-01F-DUP	Batch ID: 74905	TestNo: M2540C	Units: mg/L							
SampType: DUP	Run ID: WC_160502B	Analysis Date: 5/3/2016 8:45:00 AM	Prep Date: 5/2/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	368	10.0	0	370.0				0.542	5	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

Case Narrative

Lab No: 20160401

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Observations / Nonconformances

M r r r d d r



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Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
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Lab ID 20160401-01
Client ID AXMW-1
Date Sampled 4/25/2016 10:30:00 AM
Matrix NPW

Radiochemical Analyses

d d	/	/					
d M M	/	/			//	//	
d /	/	/			//	//	

Lab ID 20160401-02
Client ID AX-24
Date Sampled 4/25/2016 11:30:00 AM
Matrix NPW

Radiochemical Analyses

d d	/	/					
d M M	/	/			//	//	
d /	/	/			//	//	

Lab ID 20160401-03
Client ID AX-28
Date Sampled 4/25/2016 12:35:00 PM
Matrix NPW

Radiochemical Analyses

d d	/	/					
d M M	/	/			//	//	
d /	/	/			//	//	

Lab ID 20160401-04
Client ID AX-22R
Date Sampled 4/25/2016 1:10:00 AM
Matrix NPW

Radiochemical Analyses

d d	/	/					
d M M	/	/			//	//	
d /	/	/			//	//	

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Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
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Lab ID 20160401-05
 Client ID AX-25
 Date Sampled 4/25/2016 2:25:00 AM
 Matrix NPW

Radiochemical Analyses

d d	/		/				
d M M	/		/		//	//	
d /	/		/		//	//	

Lab ID 20160401-06
 Client ID AX-26
 Date Sampled 4/25/2016 4:05:00 AM
 Matrix NPW

Radiochemical Analyses

d d	/		/				
d M M	/		/		//	//	
d /	/		/		//	//	

Lab ID 20160401-07
 Client ID MW-1
 Date Sampled 4/25/2016
 Matrix NPW

Radiochemical Analyses

d d	/		/				
d M M	/		/		//	//	
d /	/		/		//	//	

Lab ID 20160401-08
 Client ID EB-1
 Date Sampled 4/25/2016 9:05:00 AM
 Matrix NPW

Radiochemical Analyses

d d	/		/				
d M M	/		/		//	//	
d /	/		/		//	//	

r d r r



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Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
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Lab ID 20160401-09
Client ID AX-27
Date Sampled 4/26/2016 2:35:00 AM
Matrix NPW

Radiochemical Analyses

d d	/		/				
d M M	/		/		//	//	
d /	/		/		//	//	

Lab ID 20160401-10
Client ID AXMW-2
Date Sampled 4/26/2016 11:45:00 AM
Matrix NPW

Radiochemical Analyses

d d	/		/				
d M M	/		/		//	//	
d /	/		/		//	//	

Lab ID 20160401-11
Client ID AX-29
Date Sampled 4/26/2016 1:20:00 AM
Matrix NPW

Radiochemical Analyses

d d	/		/				
d M M	/		/		//	//	
d /	/		/		//	//	

Lab ID 20160401-12
Client ID AX-23
Date Sampled 4/26/2016 2:15:00 AM
Matrix NPW

Radiochemical Analyses

d d	/		/				
d M M	/		/		//	//	
d /	/		/		//	//	

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QC Report

Parameter	Blank	LCS %REC	LCSD %REC	RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	RPD	Date
d										//
d										//

Lab Approval: _____

LUMINANT

r d r r

DHL Analytical, Inc.
 2300 Double Creek Drive
 Round Rock, TX 78664

CHAIN-OF-CUSTODY REC

TEL: (512) 388-8222 FAX: (512) 388-8229
 Work Order: 1604288

Subcontractor:

ESC Laboratory
 311 North Aspen
 Broken Arrow, Oklahoma 74012

TEL: (918) 251-2515
 FAX:
 Acct #: DHLRRTX

Sample Id	Matrix	DHL#	Date Collected	Bottle Type	Requested Tests		
					E904.0	M7500Ra-B M	
AXMW-1	Aqueous	-01B	04/25/16 10:30 AM	500HDPEHNO3	1		
AXMW-1	Aqueous	-01C	04/25/16 10:30 AM	500HDPEHNO3		1	
AX-24	Aqueous	-02B	04/25/16 11:30 AM	500HDPEHNO3	1		
AX-24	Aqueous	-02C	04/25/16 11:30 AM	500HDPEHNO3		1	
AX-28	Aqueous	-03B	04/25/16 12:35 PM	500HDPEHNO3	1		
AX-28	Aqueous	-03C	04/25/16 12:35 PM	500HDPEHNO3		1	
AX-22R	Aqueous	-04B	04/25/16 01:10 PM	500HDPEHNO3	1		
AX-22R	Aqueous	-04C	04/25/16 01:10 PM	500HDPEHNO3		1	
AX-25	Aqueous	-05B	04/25/16 02:25 PM	500HDPEHNO3	1		
AX-25	Aqueous	-05C	04/25/16 02:25 PM	500HDPEHNO3		1	
AX-26	Aqueous	-06B	04/25/16 04:05 PM	500HDPEHNO3	1		
AX-26	Aqueous	-06C	04/25/16 04:05 PM	500HDPEHNO3		1	
MW-1	Aqueous	-07B	04/25/16	500HDPEHNO3	1		
MW-1	Aqueous	-07C	04/25/16	500HDPEHNO3		1	
EB-1	Aqueous	-08B	04/25/16 09:05 AM	500HDPEHNO3	1		
EB-1	Aqueous	-08C	04/25/16 09:05 AM	500HDPEHNO3		1	
AX-27	Aqueous	-09B	04/26/16 02:35 PM	500HDPEHNO3	1		
AX-27	Aqueous	-09C	04/26/16 02:35 PM	500HDPEHNO3		1	

General Comments:

Please analyze these samples with Normal Turnaround Time.
 Report RA-226, Ra-228 & Combined per Specs DHLRRTX033116S.
 Quality Control Package Needed: Standard - NELAC Rad Test compliant
 Email to cac@dhlanalytical.com & dupont@dhlanalytical.com

	Date/Time	
Relinquished by: <u>J. Baker</u>	<u>4/26/16 1730</u>	Received by: <u>Loestar</u>
Relinquished by: _____	_____	Received by: <u>Anthony</u>

DHL Analytical, Inc.

2300 Double Creek Drive

Round Rock, TX 78664

TEL: (512) 388-8222

FAX: (512) 388-8229

Work Order: 1604288

CHAIN-OF-CUSTODY REC

Subcontractor:

ESC Laboratory
311 North Aspen
Broken Arrow, Oklahoma 74012

TEL: (918) 251-2515
FAX:
Acct #: DHLRRTX

Sample Id	Matrix	DHL#	Date Collected	Bottle Type	Requested Tests			
					E904.0	SM7500Ra-B M		
AXMW-2	Aqueous	-10B	04/26/16 11:45 AM	500HDPEHNO3	1			
AXMW-2	Aqueous	-10C	04/26/16 11:45 AM	500HDPEHNO3		1		
AX-29	Aqueous	-11B	04/26/16 01:20 PM	500HDPEHNO3	1			
AX-29	Aqueous	-11C	04/26/16 01:20 PM	500HDPEHNO3		1		
AX-23	Aqueous	-12B	04/26/16 02:15 PM	500HDPEHNO3	1			
AX-23	Aqueous	-12C	04/26/16 02:15 PM	500HDPEHNO3		1		

IMMINANT

General Comments:

Please analyze these samples with Normal Turnaround Time.
Report RA-226, Ra-228 & Combined per Specs DHLRRTX033116S.
Quality Control Package Needed: Standard - NELAC Rad Test compliant
Email to cac@dhlanalytical.com & dupont@dhlanalytical.com

	Date/Time			
Relinquished by:	4/26/16 1730	Received by:		
Relinquished by: _____		Received by:		

SAMPLE LOGIN

Date Received: 04/28/16 08:57:54

Lab Number: 20160401

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Pre Upd
20160401-01 B	AXMW-1	NPW	04/25/16	Plastic	500 ml	HNO3, pH < 2	<input checked="" type="checkbox"/>
20160401-01 A	AXMW-1	NPW	04/25/16	Plastic	500 ml	HNO3, pH < 2	<input checked="" type="checkbox"/>
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				
20160401-02 A	AX-24	NPW	04/25/16	Plastic	500 ml	HNO3, pH < 2	<input checked="" type="checkbox"/>
20160401-02 B	AX-24	NPW	04/25/16	Plastic	500 ml	HNO3, pH < 2	<input checked="" type="checkbox"/>
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				
20160401-03 A	AX-28	NPW	04/25/16	Plastic	500 ml	HNO3, pH < 2	<input checked="" type="checkbox"/>
20160401-03 B	AX-28	NPW	04/25/16	Plastic	500 ml	HNO3, pH < 2	<input checked="" type="checkbox"/>
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				
20160401-04 A	AX-22R	NPW	04/25/16	Plastic	500 ml	HNO3, pH < 2	<input checked="" type="checkbox"/>
20160401-04 B	AX-22R	NPW	04/25/16	Plastic	500 ml	HNO3, pH < 2	<input checked="" type="checkbox"/>
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				
20160401-05 A	AX-25	NPW	04/25/16	Plastic	500 ml	HNO3, pH < 2	<input checked="" type="checkbox"/>
20160401-05 B	AX-25	NPW	04/25/16	Plastic	500 ml	HNO3, pH < 2	<input checked="" type="checkbox"/>
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				
20160401-06 B	AX-26	NPW	04/25/16	Plastic	500 ml	HNO3, pH < 2	<input checked="" type="checkbox"/>
20160401-06 A	AX-26	NPW	04/25/16	Plastic	500 ml	HNO3, pH < 2	<input checked="" type="checkbox"/>
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				
20160401-07 B	MW-1	NPW	04/25/16	Plastic	500 ml	HNO3, pH < 2	<input checked="" type="checkbox"/>
20160401-07 A	MW-1	NPW	04/25/16	Plastic	500 ml	HNO3, pH < 2	<input checked="" type="checkbox"/>
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				

20160401-08 A	EB-1	NPW	04/25/16	Plastic	500 ml	HNO3, pH < 2	<input checked="" type="checkbox"/>
20160401-08 B	EB-1	NPW	04/25/16	Plastic	500 ml	HNO3, pH < 2	<input checked="" type="checkbox"/>
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				
20160401-09 A	AX-27	NPW	04/26/16	Plastic	500 ml	HNO3, pH < 2	<input checked="" type="checkbox"/>
20160401-09 B	AX-27	NPW	04/26/16	Plastic	500 ml	HNO3, pH < 2	<input checked="" type="checkbox"/>
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				
20160401-10 A	AXMW-2	NPW	04/26/16	Plastic	500 ml	HNO3, pH < 2	<input checked="" type="checkbox"/>
20160401-10 B	AXMW-2	NPW	04/26/16	Plastic	500 ml	HNO3, pH < 2	<input checked="" type="checkbox"/>
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				
20160401-11 A	AX-29	NPW	04/26/16	Plastic	500 ml	HNO3, pH < 2	<input checked="" type="checkbox"/>
20160401-11 B	AX-29	NPW	04/26/16	Plastic	500 ml	HNO3, pH < 2	<input checked="" type="checkbox"/>
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				
20160401-12 B	AX-23	NPW	04/26/16	Plastic	500 ml	HNO3, pH < 2	<input checked="" type="checkbox"/>
20160401-12 A	AX-23	NPW	04/26/16	Plastic	500 ml	HNO3, pH < 2	<input checked="" type="checkbox"/>
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				

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CONTAINER INSPECTION

Coolers 1 Custody Seals Broken NO Temperature: C NA Ice Radiation Survey: <300 cpm NA

SAMPLE INSPECTION

Sample Seal Broken No Chain of Custody Record Labels in Tact Radiation Survey Complete

Anomalies - sample # 04, AY-22A, COC has sample time as 13:10 and container label has 13:20. 04/28/16
sample # 09, AY-27, COC has sample time as 14:35 and container label has 14:50. 1

Inspected By: [Signature] DATE 4/28/16
QA or Designee Review: [Signature] DATE 04/28/16
Sample Custodian Review: _____ DATE _____

Project Notes:

LUMINANT



August 03, 2016

Will Vienne
Pastor, Behling & Wheeler
2201 Double Creek Dr #4004
Round Rock, Texas 78664
TEL: (512) 671-3434
FAX (512) 671-3446
RE: Sandow CCR

Order No.: 1606145

Dear Will Vienne:

DHL Analytical, Inc. received 7 sample(s) on 6/14/2016 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

A handwritten signature in orange ink, appearing to read 'John DuPont'.

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-16-16



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LUMINANT



2300 Double Creek Dr. ■ Round Rock, TX 78664
 Phone (512) 388-8222 ■ FAX (512) 388-8229
 Web: www.dhlanalytical.com
 E-Mail: login@dhlanalytical.com



CLIENT: PBW
 ADDRESS: 2201 Double Creek Dr Ste 4004 Round Rock TX
 PHONE: (512) 671-3434 FAX/E-MAIL: _____
 DATA REPORTED TO: Will Vienne, Karla Henson
 ADDITIONAL REPORT COPIES TO: Jara Taube

DATE: 6/14/2010
 PO #: 5104E DHL WORK
 PROJECT LOCATION OR NAME: Sandow
 CLIENT PROJECT #: 5104E

Authorize 5% surcharge for TRRP Report?
 Yes No

S=SOIL P=PAINT
 W=WATER SL=SLUDGE
 A=AIR O=OTHER
 L=LIQUID SO=SOLID
 SE=SEDIMENT

Field Sample I.D. | DHL Lab # | Date | Time | Matrix | Container Type | # of Containers | HCl | HNO₃ | H₂SO₄ NaOH | ICE | UNPRESERVED

- ANALYSES**
- BTEX MTBE (METHOD 8021)
 - TPH 1005 TPH 1006 HOLD 1006
 - GRO (METHOD 8015) DRO (METHOD 8105)
 - VOC 8260 VOC 624 VOC 8260/5035
 - SVOC 8270 PAH 8270 HOLD PAH SVOC 625
 - 8270 PEST 625 PEST PCB 608 PCB
 - 8270 O-P PEST 8082 PCB 8270 PCB
 - 8321 HERB T PHOS AMMONIA
 - METALS 6920 METALS 2008 DISS. METALS
 - PH HEX. CHROM ALKALIN
 - CHLORIDE ANIONS
 - TCLP-SVOC TCLP-METALS

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	HCl	HNO ₃	H ₂ SO ₄ NaOH	ICE	UNPRESERVED
AX-24	1	6/14/10	10:00	W		4	X	X			
AX-26	2		11:30								
AX-27	3		12:25								
AX-25	4		13:35								
AX-22R	5		14:40								
AX-29	6		15:50								
EB-01	7		8:55								

RELINQUISHED BY: (Signature) <u>Jara Taube</u>	DATE/TIME <u>6/14/10 17:20</u>	RECEIVED BY: (Signature) <u>S. Torrey</u>	TURN AROUND TIME RUSH <input type="checkbox"/> CALL FIRST 1 DAY <input type="checkbox"/> CALL FIRST 2 DAY <input type="checkbox"/> NORMAL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/> _____	LABORATORY USE RECEIVING TEMP: _____ CUSTODY SEALS: CARRIER: <input type="checkbox"/> LOM <input type="checkbox"/> COURIER DELIV <input checked="" type="checkbox"/> HAND DELIVER
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)		
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)		

DHL DISPOSAL @ \$5.00 each Return 3

John Dupont

From: Sara Taube [Sara.Taube@pbwific.com]
Sent: Wednesday, July 22, 2015 12:05 PM
To: John Dupont
Subject: CCR Appendix III and IV
Follow Up Flag: Follow up
Flag Status: Completed

Hi John,

Here are the Appendix III and Appendix IV constituents that we will need to have analyzed under the CCR Rule.

Appendix III

Boron
Calcium
Chloride
Fluoride
pH
sulfate
TDS

Appendix IV

Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cobalt
Fluoride
Lead
Lithium
Mercury
Molybdenum
Selenium
Thallium
Radium 226 and 228

We are looking to have approximately 74 wells sampled 8 times over the course of the next two years. Please let me know if there is any more information you might need.

Cheers,

Sara

10/26/2015

Sample Receipt Checklist

Client Name Pastor, Behling & Wheeler

Date Received: 6/14/2016

Work Order Number 1606145

Received by JT

Checklist completed by: [Signature] 6/15/2016
Signature Date

Reviewed by [Initials] 6/15/2016
Initials Date

Carrier name Hand Delivered

- Shipping container/cooler in good condition? Yes [checked] No [] Not Present []
Custody seals intact on shipping container/cooler? Yes [] No [] Not Present [checked]
Custody seals intact on sample bottles? Yes [] No [] Not Present [checked]
Chain of custody present? Yes [checked] No []
Chain of custody signed when relinquished and received? Yes [checked] No []
Chain of custody agrees with sample labels? Yes [checked] No []
Samples in proper container/bottle? Yes [checked] No []
Sample containers intact? Yes [checked] No []
Sufficient sample volume for indicated test? Yes [checked] No []
All samples received within holding time? Yes [checked] No []
Container/Temp Blank temperature in compliance? Yes [checked] No [] 3.5 °C
Water - VOA vials have zero headspace? Yes [] No [] No VOA vials submitted [checked]
Water - pH<2 acceptable upon receipt? Yes [checked] No [] NA [] LOT # 8086
Adjusted? _____ Checked by _____
Water - pH>9 (S) or pH>12 (CN) acceptable upon receipt? Yes [] No [] NA [checked] LOT #
Adjusted? _____ Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Lab Order: 1606145

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Method SW6020A - Metals Analysis
Method SW7470A - Mercury Analysis
Method E300 - Anions Analysis
Method M4500-H+ B - pH of a Water Analysis
Method M2540C - TDS Analysis
Sub-contract - Radium-228 and Radium-226 analyses by methods E904/9320 and SM 7500 Ra B M.
Analyzed at ESC Lab Sciences.

LOG IN

The samples were received and log-in performed on 6/14/16. A total of 7 samples were received. The samples arrived in good condition and were properly packaged.

METALS ANALYSIS

For Metals analysis performed on 6/17/16, 6/20/16, 6/23/16 and 6/24/16 (batches 75691 & 75715) the matrix spikes and matrix spike duplicate recoveries were out of control limits for a total of four analytes. These are flagged accordingly in the QC summary report. The samples selected for the matrix spikes and matrix spike duplicates (batches 75691 & 75715) were not from this work order. The LCSs were within control limits for these analytes. No further corrective actions were taken.

For Metals analysis performed on 6/24/16 (batch 75715) the RPD for the serial dilution was above control limits for Boron. This is flagged accordingly in the QC summary report. The PDS was within control limits for this analyte. No further corrective actions were taken.

For Metals analysis performed on 6/17/16 (batch 75691) the PDS recovery was below control limits for Molybdenum. This is flagged accordingly. The serial dilution was within control limits for this analyte. No further corrective actions were taken.

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Lab Order: 1606145

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1606145-01	AX-24		06/14/16 10:00 AM	6/14/2016
1606145-02	AX-26		06/14/16 11:30 AM	6/14/2016
1606145-03	AX-27		06/14/16 12:25 PM	6/14/2016
1606145-04	AX-25		06/14/16 01:35 PM	6/14/2016
1606145-05	AX-22R		06/14/16 02:40 PM	6/14/2016
1606145-06	AX-29		06/14/16 03:50 PM	6/14/2016
1606145-07	EB-01		06/14/16 08:55 AM	6/14/2016

LUMINANT

PREP DATES REPORT

Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
06/14/16 10:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/16/16 11:00 AM	75691
06/14/16 10:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/16/16 11:00 AM	75691
06/14/16 10:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/16/16 11:00 AM	75691
06/14/16 10:00 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	06/15/16 08:44 AM	75654
06/14/16 10:00 AM	Aqueous	E300	Anion Preparation	06/21/16 09:15 AM	75766
06/14/16 10:00 AM	Aqueous	E300	Anion Preparation	06/21/16 09:15 AM	75766
06/14/16 10:00 AM	Aqueous	M4500-H+ B	pH Preparation	06/15/16 08:20 AM	75648
06/14/16 10:00 AM	Aqueous	M2540C	TDS Preparation	06/17/16 11:15 AM	75699
06/14/16 11:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/16/16 11:00 AM	75691
06/14/16 11:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/16/16 11:00 AM	75691
06/14/16 11:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/16/16 11:00 AM	75691
06/14/16 11:30 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	06/15/16 08:44 AM	75654
06/14/16 11:30 AM	Aqueous	E300	Anion Preparation	06/21/16 09:15 AM	75766
06/14/16 11:30 AM	Aqueous	E300	Anion Preparation	06/21/16 09:15 AM	75766
06/14/16 11:30 AM	Aqueous	M4500-H+ B	pH Preparation	06/15/16 08:20 AM	75648
06/14/16 11:30 AM	Aqueous	M2540C	TDS Preparation	06/17/16 11:15 AM	75699
06/14/16 12:25 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/16/16 11:00 AM	75691
06/14/16 12:25 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/16/16 11:00 AM	75691
06/14/16 12:25 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/16/16 11:00 AM	75691
06/14/16 12:25 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	06/15/16 08:44 AM	75654
06/14/16 12:25 PM	Aqueous	E300	Anion Preparation	06/21/16 09:15 AM	75766
06/14/16 12:25 PM	Aqueous	E300	Anion Preparation	06/21/16 09:15 AM	75766
06/14/16 12:25 PM	Aqueous	M4500-H+ B	pH Preparation	06/15/16 08:20 AM	75648
06/14/16 12:25 PM	Aqueous	M2540C	TDS Preparation	06/17/16 11:15 AM	75699
06/14/16 01:35 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/16/16 11:00 AM	75691
06/14/16 01:35 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/16/16 11:00 AM	75691
06/14/16 01:35 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/16/16 11:00 AM	75691
06/14/16 01:35 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	06/15/16 08:44 AM	75654

PREP DATES REPORT

Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
06/14/16 01:35 PM	Aqueous	E300	Anion Preparation	06/21/16 09:15 AM	75766
06/14/16 01:35 PM	Aqueous	E300	Anion Preparation	06/21/16 09:15 AM	75766
06/14/16 01:35 PM	Aqueous	M4500-H+ B	pH Preparation	06/15/16 08:20 AM	75648
06/14/16 01:35 PM	Aqueous	M2540C	TDS Preparation	06/17/16 11:15 AM	75699
06/14/16 02:40 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/17/16 10:42 AM	75715
06/14/16 02:40 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/17/16 10:42 AM	75715
06/14/16 02:40 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/17/16 10:42 AM	75715
06/14/16 02:40 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	06/15/16 08:44 AM	75654
06/14/16 02:40 PM	Aqueous	E300	Anion Preparation	06/21/16 09:15 AM	75766
06/14/16 02:40 PM	Aqueous	E300	Anion Preparation	06/21/16 09:15 AM	75766
06/14/16 02:40 PM	Aqueous	M4500-H+ B	pH Preparation	06/15/16 08:20 AM	75648
06/14/16 02:40 PM	Aqueous	M2540C	TDS Preparation	06/17/16 11:15 AM	75699
06/14/16 03:50 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/17/16 10:42 AM	75715
06/14/16 03:50 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/17/16 10:42 AM	75715
06/14/16 03:50 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/17/16 10:42 AM	75715
06/14/16 03:50 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	06/15/16 08:44 AM	75654
06/14/16 03:50 PM	Aqueous	E300	Anion Preparation	06/21/16 09:15 AM	75766
06/14/16 03:50 PM	Aqueous	E300	Anion Preparation	06/21/16 09:15 AM	75766
06/14/16 03:50 PM	Aqueous	M4500-H+ B	pH Preparation	06/15/16 08:20 AM	75648
06/14/16 03:50 PM	Aqueous	M2540C	TDS Preparation	06/17/16 11:15 AM	75699
06/14/16 08:55 AM	Equip Blank	SW3005A	Aq Prep Metals : ICP-MS	06/17/16 10:42 AM	75715
06/14/16 08:55 AM	Equip Blank	SW3005A	Aq Prep Metals : ICP-MS	06/17/16 10:42 AM	75715
06/14/16 08:55 AM	Equip Blank	SW7470A	Mercury Aq Prep, Total	06/15/16 08:44 AM	75654
06/14/16 08:55 AM	Equip Blank	E300	Anion Preparation	06/21/16 09:15 AM	75766
06/14/16 08:55 AM	Equip Blank	E300	Anion Preparation	06/21/16 09:15 AM	75766
06/14/16 08:55 AM	Equip Blank	M4500-H+ B	pH Preparation	06/15/16 08:20 AM	75648
06/14/16 08:55 AM	Equip Blank	M2540C	TDS Preparation	06/17/16 11:15 AM	75699

ANALYTICAL DATES REPORT

Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
Aqueous	SW7470A	Mercury Total: Aqueous	75654	1	06/23/16 11:52 AM	CETAC2_HG_160623 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75691	1	06/17/16 01:57 PM	ICP-MS4_160617B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75691	50	06/23/16 01:47 PM	ICP-MS4_160623A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75691	1	06/23/16 01:49 PM	ICP-MS4_160623A
Aqueous	E300	Anions by IC method - Water	75766	1	06/21/16 10:50 AM	IC4_160621A
Aqueous	E300	Anions by IC method - Water	75766	100	06/21/16 02:29 PM	IC4_160621A
Aqueous	M4500-H+ B	pH	75648	1	06/15/16 11:16 AM	TITRATOR_160615A
Aqueous	M2540C	Total Dissolved Solids	75699	1	06/20/16 08:45 AM	WC_160617A
Aqueous	SW7470A	Mercury Total: Aqueous	75654	1	06/23/16 11:54 AM	CETAC2_HG_160623 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75691	1	06/17/16 01:59 PM	ICP-MS4_160617B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75691	50	06/23/16 01:51 PM	ICP-MS4_160623A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75691	1	06/23/16 01:53 PM	ICP-MS4_160623A
Aqueous	E300	Anions by IC method - Water	75766	1	06/21/16 11:05 AM	IC4_160621A
Aqueous	E300	Anions by IC method - Water	75766	100	06/21/16 02:44 PM	IC4_160621A
Aqueous	M4500-H+ B	pH	75648	1	06/15/16 11:20 AM	TITRATOR_160615A
Aqueous	M2540C	Total Dissolved Solids	75699	1	06/20/16 08:45 AM	WC_160617A
Aqueous	SW7470A	Mercury Total: Aqueous	75654	1	06/23/16 12:01 PM	CETAC2_HG_160623 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75691	1	06/17/16 02:01 PM	ICP-MS4_160617B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75691	50	06/23/16 01:55 PM	ICP-MS4_160623A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75691	1	06/23/16 01:57 PM	ICP-MS4_160623A
Aqueous	E300	Anions by IC method - Water	75766	1	06/21/16 11:20 AM	IC4_160621A
Aqueous	E300	Anions by IC method - Water	75766	100	06/21/16 02:59 PM	IC4_160621A
Aqueous	M4500-H+ B	pH	75648	1	06/15/16 11:21 AM	TITRATOR_160615A
Aqueous	M2540C	Total Dissolved Solids	75699	1	06/20/16 08:45 AM	WC_160617A
Aqueous	SW7470A	Mercury Total: Aqueous	75654	1	06/23/16 12:03 PM	CETAC2_HG_160623 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75691	1	06/23/16 02:01 PM	ICP-MS4_160623A

ANALYTICAL DATES REPORT

Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75691	1	06/17/16 02:03 PM	ICP-MS4_160617B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75691	50	06/23/16 01:59 PM	ICP-MS4_160623A
Aqueous	E300	Anions by IC method - Water	75766	100	06/21/16 03:14 PM	IC4_160621A
Aqueous	E300	Anions by IC method - Water	75766	1	06/21/16 11:35 AM	IC4_160621A
Aqueous	M4500-H+ B	pH	75648	1	06/15/16 11:22 AM	TITRATOR_160615A
Aqueous	M2540C	Total Dissolved Solids	75699	1	06/20/16 08:45 AM	WC_160617A
Aqueous	SW7470A	Mercury Total: Aqueous	75654	1	06/23/16 12:05 PM	CETAC2_HG_160623 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75715	1	06/20/16 03:03 PM	ICP-MS4_160620B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75715	10	06/24/16 11:43 AM	ICP-MS4_160624A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75715	1	06/24/16 11:45 AM	ICP-MS4_160624A
Aqueous	E300	Anions by IC method - Water	75766	1	06/21/16 11:50 AM	IC4_160621A
Aqueous	E300	Anions by IC method - Water	75766	10	06/21/16 03:29 PM	IC4_160621A
Aqueous	M4500-H+ B	pH	75648	1	06/15/16 11:25 AM	TITRATOR_160615A
Aqueous	M2540C	Total Dissolved Solids	75699	1	06/20/16 08:45 AM	WC_160617A
Aqueous	SW7470A	Mercury Total: Aqueous	75654	1	06/23/16 12:08 PM	CETAC2_HG_160623 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75715	1	06/24/16 11:49 AM	ICP-MS4_160624A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75715	1	06/20/16 03:05 PM	ICP-MS4_160620B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75715	50	06/24/16 11:47 AM	ICP-MS4_160624A
Aqueous	E300	Anions by IC method - Water	75766	1	06/21/16 12:05 PM	IC4_160621A
Aqueous	E300	Anions by IC method - Water	75766	100	06/21/16 04:14 PM	IC4_160621A
Aqueous	M4500-H+ B	pH	75648	1	06/15/16 11:26 AM	TITRATOR_160615A
Aqueous	M2540C	Total Dissolved Solids	75699	1	06/20/16 08:45 AM	WC_160617A
Equip Blank	SW7470A	Mercury Total: Aqueous	75654	1	06/23/16 12:10 PM	CETAC2_HG_160623 A
Equip Blank	SW6020A	Trace Metals: ICP-MS - Water	75715	1	06/20/16 03:07 PM	ICP-MS4_160620B
Equip Blank	SW6020A	Trace Metals: ICP-MS - Water	75715	1	06/24/16 11:51 AM	ICP-MS4_160624A
Equip Blank	E300	Anions by IC method - Water	75766	1	06/21/16 12:20 PM	IC4_160621A

& Wheeler

ANALYTICAL DATES REPORT

Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
Equip Blank	E300	Anions by IC method - Water	75766	1	06/21/16 01:49 PM	IC4_160621A
Equip Blank	M4500-H+ B	pH	75648	1	06/15/16 11:29 AM	TITRATOR_160615A
Equip Blank	M2540C	Total Dissolved Solids	75699	1	06/20/16 08:45 AM	WC_160617A

LUMINANT

DHL Analytical, Inc.

Date: 03-Aug-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164-E
Lab Order: 1606145

Client Sample ID: AX-24
Lab ID: 1606145-01
Collection Date: 06/14/16 10:00 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: KL			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/23/16 11:52 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	06/17/16 01:57 PM
Arsenic	0.00434	0.00200	0.00500	J	mg/L	1	06/17/16 01:57 PM
Barium	0.0354	0.00300	0.0100		mg/L	1	06/17/16 01:57 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	06/17/16 01:57 PM
Boron	0.0945	0.0100	0.0300		mg/L	1	06/23/16 01:49 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	06/17/16 01:57 PM
Calcium	238	5.00	15.0		mg/L	50	06/23/16 01:47 PM
Chromium	0.00457	0.00200	0.00500	J	mg/L	1	06/17/16 01:57 PM
Cobalt	0.00494	0.00300	0.00500	J	mg/L	1	06/17/16 01:57 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	06/17/16 01:57 PM
Lithium	0.0841	0.00500	0.0100		mg/L	1	06/23/16 01:49 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	06/17/16 01:57 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	06/17/16 01:57 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	06/17/16 01:57 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	275	30.0	100		mg/L	100	06/21/16 02:29 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	06/21/16 10:50 AM
Sulfate	776	100	300		mg/L	100	06/21/16 02:29 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.36	0	0		pH Units@18.4°C	1	06/15/16 11:16 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	1980	50.0	50.0		mg/L	1	06/20/16 08:45 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 03-Aug-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164-E
Lab Order: 1606145

Client Sample ID: AX-26
Lab ID: 1606145-02
Collection Date: 06/14/16 11:30 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: KL			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/23/16 11:54 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	06/17/16 01:59 PM
Arsenic	0.00252	0.00200	0.00500	J	mg/L	1	06/17/16 01:59 PM
Barium	0.0442	0.00300	0.0100		mg/L	1	06/17/16 01:59 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	06/17/16 01:59 PM
Boron	0.360	0.0100	0.0300		mg/L	1	06/23/16 01:53 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	06/17/16 01:59 PM
Calcium	591	5.00	15.0		mg/L	50	06/23/16 01:51 PM
Chromium	0.0232	0.00200	0.00500		mg/L	1	06/17/16 01:59 PM
Cobalt	0.0205	0.00300	0.00500		mg/L	1	06/17/16 01:59 PM
Lead	0.000957	0.000300	0.00100	J	mg/L	1	06/17/16 01:59 PM
Lithium	0.551	0.00500	0.0100		mg/L	1	06/23/16 01:53 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	06/17/16 01:59 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	06/17/16 01:59 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	06/17/16 01:59 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	972	30.0	100		mg/L	100	06/21/16 02:44 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	06/21/16 11:05 AM
Sulfate	1020	100	300		mg/L	100	06/21/16 02:44 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.60	0	0		pH Units@18.3°C	1	06/15/16 11:20 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	3930	50.0	50.0		mg/L	1	06/20/16 08:45 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 03-Aug-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164-E
Lab Order: 1606145

Client Sample ID: AX-27
Lab ID: 1606145-03
Collection Date: 06/14/16 12:25 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A			Analyst: KL		
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/23/16 12:01 PM
TRACE METALS: ICP-MS - WATER		SW6020A			Analyst: RO		
Antimony	<0.000800	0.000800	0.00250		mg/L	1	06/17/16 02:01 PM
Arsenic	0.00299	0.00200	0.00500	J	mg/L	1	06/17/16 02:01 PM
Barium	0.116	0.00300	0.0100		mg/L	1	06/17/16 02:01 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	06/17/16 02:01 PM
Boron	0.194	0.0100	0.0300		mg/L	1	06/23/16 01:57 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	06/17/16 02:01 PM
Calcium	338	5.00	15.0		mg/L	50	06/23/16 01:55 PM
Chromium	0.0121	0.00200	0.00500		mg/L	1	06/17/16 02:01 PM
Cobalt	0.0230	0.00300	0.00500		mg/L	1	06/17/16 02:01 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	06/17/16 02:01 PM
Lithium	0.103	0.00500	0.0100		mg/L	1	06/23/16 01:57 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	06/17/16 02:01 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	06/17/16 02:01 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	06/17/16 02:01 PM
ANIONS BY IC METHOD - WATER		E300			Analyst: AV		
Chloride	610	30.0	100		mg/L	100	06/21/16 02:59 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	06/21/16 11:20 AM
Sulfate	418	100	300		mg/L	100	06/21/16 02:59 PM
PH		M4500-H+ B			Analyst: BJT		
pH	6.50	0	0		pH Units@18.3°C	1	06/15/16 11:21 AM
TOTAL DISSOLVED SOLIDS		M2540C			Analyst: AJH		
Total Dissolved Solids (Residue, Filterable)	2370	50.0	50.0		mg/L	1	06/20/16 08:45 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 03-Aug-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164-E
Lab Order: 1606145

Client Sample ID: AX-25
Lab ID: 1606145-04
Collection Date: 06/14/16 01:35 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: KL			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/23/16 12:03 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	06/17/16 02:03 PM
Arsenic	0.00452	0.00200	0.00500	J	mg/L	1	06/17/16 02:03 PM
Barium	0.0999	0.00300	0.0100		mg/L	1	06/17/16 02:03 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	06/17/16 02:03 PM
Boron	0.219	0.0100	0.0300		mg/L	1	06/23/16 02:01 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	06/17/16 02:03 PM
Calcium	252	5.00	15.0		mg/L	50	06/23/16 01:59 PM
Chromium	0.0736	0.00200	0.00500		mg/L	1	06/17/16 02:03 PM
Cobalt	0.0247	0.00300	0.00500		mg/L	1	06/17/16 02:03 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	06/17/16 02:03 PM
Lithium	0.0406	0.00500	0.0100		mg/L	1	06/23/16 02:01 PM
Molybdenum	0.00285	0.00200	0.00500	J	mg/L	1	06/17/16 02:03 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	06/17/16 02:03 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	06/17/16 02:03 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	513	30.0	100		mg/L	100	06/21/16 03:14 PM
Fluoride	0.207	0.100	0.400	J	mg/L	1	06/21/16 11:35 AM
Sulfate	474	100	300		mg/L	100	06/21/16 03:14 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.61	0	0		pH Units@18.3°C	1	06/15/16 11:22 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	2210	50.0	50.0		mg/L	1	06/20/16 08:45 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 03-Aug-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164-E
Lab Order: 1606145

Client Sample ID: AX-22R
Lab ID: 1606145-05
Collection Date: 06/14/16 02:40 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: KL			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/23/16 12:05 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	06/20/16 03:03 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	06/20/16 03:03 PM
Barium	0.0983	0.00300	0.0100		mg/L	1	06/20/16 03:03 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	06/20/16 03:03 PM
Boron	0.0870	0.0100	0.0300		mg/L	1	06/24/16 11:45 AM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	06/20/16 03:03 PM
Calcium	71.5	1.00	3.00		mg/L	10	06/24/16 11:43 AM
Chromium	0.00486	0.00200	0.00500	J	mg/L	1	06/20/16 03:03 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	06/20/16 03:03 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	06/20/16 03:03 PM
Lithium	0.0525	0.00500	0.0100		mg/L	1	06/20/16 03:03 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	06/20/16 03:03 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	06/20/16 03:03 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	06/20/16 03:03 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	90.4	3.00	10.0		mg/L	10	06/21/16 03:29 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	06/21/16 11:50 AM
Sulfate	52.4	1.00	3.00		mg/L	1	06/21/16 11:50 AM
PH		M4500-H+ B		Analyst: BJT			
pH	7.21	0	0		pH Units@18.5°C	1	06/15/16 11:25 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	495	10.0	10.0		mg/L	1	06/20/16 08:45 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 03-Aug-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164-E
Lab Order: 1606145

Client Sample ID: AX-29
Lab ID: 1606145-06
Collection Date: 06/14/16 03:50 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: KL			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/23/16 12:08 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	06/20/16 03:05 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	06/20/16 03:05 PM
Barium	0.0366	0.00300	0.0100		mg/L	1	06/20/16 03:05 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	06/20/16 03:05 PM
Boron	0.316	0.0100	0.0300		mg/L	1	06/24/16 11:49 AM
Cadmium	0.00223	0.000300	0.00100		mg/L	1	06/20/16 03:05 PM
Calcium	347	5.00	15.0		mg/L	50	06/24/16 11:47 AM
Chromium	0.0301	0.00200	0.00500		mg/L	1	06/20/16 03:05 PM
Cobalt	0.115	0.00300	0.00500		mg/L	1	06/20/16 03:05 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	06/20/16 03:05 PM
Lithium	0.0449	0.00500	0.0100		mg/L	1	06/20/16 03:05 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	06/20/16 03:05 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	06/20/16 03:05 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	06/20/16 03:05 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	288	30.0	100		mg/L	100	06/21/16 04:14 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	06/21/16 12:05 PM
Sulfate	1240	100	300		mg/L	100	06/21/16 04:14 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.37	0	0		pH Units@18.7°C	1	06/15/16 11:26 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	3000	50.0	50.0		mg/L	1	06/20/16 08:45 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 03-Aug-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164-E
Lab Order: 1606145

Client Sample ID: EB-01
Lab ID: 1606145-07
Collection Date: 06/14/16 08:55 AM
Matrix: EQUIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: KL			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/23/16 12:10 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	06/20/16 03:07 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	06/20/16 03:07 PM
Barium	<0.00300	0.00300	0.0100		mg/L	1	06/20/16 03:07 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	06/20/16 03:07 PM
Boron	0.0270	0.0100	0.0300	J	mg/L	1	06/24/16 11:51 AM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	06/20/16 03:07 PM
Calcium	0.159	0.100	0.300	J	mg/L	1	06/20/16 03:07 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	06/20/16 03:07 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	06/20/16 03:07 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	06/20/16 03:07 PM
Lithium	<0.00500	0.00500	0.0100		mg/L	1	06/20/16 03:07 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	06/20/16 03:07 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	06/20/16 03:07 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	06/20/16 03:07 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	<0.300	0.300	1.00		mg/L	1	06/21/16 01:49 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	06/21/16 01:49 PM
Sulfate	<1.00	1.00	3.00		mg/L	1	06/21/16 01:49 PM
PH		M4500-H+ B		Analyst: BJT			
pH	7.16	0	0		pH Units@20.2°C	1	06/15/16 11:29 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	<10.0	10.0	10.0		mg/L	1	06/20/16 08:45 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606145
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_160623A

The QC data in batch 75654 applies to the following samples: 1606145-01A, 1606145-02A, 1606145-03A, 1606145-04A, 1606145-05A, 1606145-06A, 1606145-07A

Sample ID MB-75654	Batch ID: 75654	TestNo: SW7470A	Units: mg/L
SampType: MBLK	Run ID: CETAC2_HG_160623A	Analysis Date: 6/23/2016 11:18:18 AM	Prep Date: 6/15/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	<0.0000800	0.000200								

Sample ID LCS-75654	Batch ID: 75654	TestNo: SW7470A	Units: mg/L
SampType: LCS	Run ID: CETAC2_HG_160623A	Analysis Date: 6/23/2016 11:20:34 AM	Prep Date: 6/15/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00202	0.000200	0.00200	0	101	85	115			

Sample ID LCSD-75654	Batch ID: 75654	TestNo: SW7470A	Units: mg/L
SampType: LCSD	Run ID: CETAC2_HG_160623A	Analysis Date: 6/23/2016 11:22:50 AM	Prep Date: 6/15/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00199	0.000200	0.00200	0	99.5	85	115	1.50	15	

Sample ID 1606121-06A SD	Batch ID: 75654	TestNo: SW7470A	Units: mg/L
SampType: SD	Run ID: CETAC2_HG_160623A	Analysis Date: 6/23/2016 11:38:42 AM	Prep Date: 6/15/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	<0.000400	0.00100	0	0				0	10	

Sample ID 1606121-06A PDS	Batch ID: 75654	TestNo: SW7470A	Units: mg/L
SampType: PDS	Run ID: CETAC2_HG_160623A	Analysis Date: 6/23/2016 11:40:57 AM	Prep Date: 6/15/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00244	0.000200	0.00250	0	97.6	85	115			

Sample ID 1606121-06A MS	Batch ID: 75654	TestNo: SW7470A	Units: mg/L
SampType: MS	Run ID: CETAC2_HG_160623A	Analysis Date: 6/23/2016 11:43:13 AM	Prep Date: 6/15/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00201	0.000200	0.00200	0	101	80	120			

Sample ID 1606121-06A MSD	Batch ID: 75654	TestNo: SW7470A	Units: mg/L
SampType: MSD	Run ID: CETAC2_HG_160623A	Analysis Date: 6/23/2016 11:45:29 AM	Prep Date: 6/15/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00200	0.000200	0.00200	0	100	80	120	0.499	15	

- Qualifiers:**
- B Analyte detected in the associated Method Blank
 - J Analyte detected between MDL and RL
 - ND Not Detected at the Method Detection Limit
 - RL Reporting Limit
 - J Analyte detected between SDL and RL
 - DF Dilution Factor
 - MDL Method Detection Limit
 - R RPD outside accepted control limits
 - S Spike Recovery outside control limits
 - N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606145
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_160623A

Sample ID ICV-160623	Batch ID: R86503	TestNo: SW7470A	Units: mg/L							
SampType: ICV	Run ID: CETAC2_HG_160623A	Analysis Date: 6/23/2016 10:03:19 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00399	0.000200	0.00400	0	99.8	90	110			
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Sample ID CCV2-160623	Batch ID: R86503	TestNo: SW7470A	Units: mg/L							
SampType: CCV	Run ID: CETAC2_HG_160623A	Analysis Date: 6/23/2016 11:13:45 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00197	0.000200	0.00200	0	98.5	90	110			
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Sample ID CCV3-160623	Batch ID: R86503	TestNo: SW7470A	Units: mg/L							
SampType: CCV	Run ID: CETAC2_HG_160623A	Analysis Date: 6/23/2016 11:56:51 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00196	0.000200	0.00200	0	98.0	90	110			
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Sample ID CCV4-160623	Batch ID: R86503	TestNo: SW7470A	Units: mg/L							
SampType: CCV	Run ID: CETAC2_HG_160623A	Analysis Date: 6/23/2016 12:24:10 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00197	0.000200	0.00200	0	98.5	90	110			
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Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1606145
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160617B

The QC data in batch 75691 applies to the following samples: 1606145-01A, 1606145-02A, 1606145-03A, 1606145-04A

Sample ID: MB-75691	Batch ID: 75691	TestNo: SW6020A	Units: mg/L
SampType: MBLK	Run ID: ICP-MS4_160617B	Analysis Date: 6/17/2016 1:01:00 PM	Prep Date: 6/16/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.000800	0.00250								
Arsenic	<0.00200	0.00500								
Barium	<0.00300	0.0100								
Beryllium	<0.000300	0.00100								
Cadmium	<0.000300	0.00100								
Calcium	<0.100	0.300								
Chromium	<0.00200	0.00500								
Cobalt	<0.00300	0.00500								
Lead	<0.000300	0.00100								
Lithium	<0.00500	0.0100								
Molybdenum	<0.00200	0.00500								
Selenium	<0.00200	0.00500								
Thallium	<0.000500	0.00150								

Sample ID: LCS-75691	Batch ID: 75691	TestNo: SW6020A	Units: mg/L
SampType: LCS	Run ID: ICP-MS4_160617B	Analysis Date: 6/17/2016 1:03:00 PM	Prep Date: 6/16/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.201	0.00250	0.200	0	100	80	120			
Arsenic	0.203	0.00500	0.200	0	101	80	120			
Barium	0.202	0.0100	0.200	0	101	80	120			
Beryllium	0.211	0.00100	0.200	0	105	80	120			
Cadmium	0.202	0.00100	0.200	0	101	80	120			
Calcium	4.79	0.300	5.00	0	95.7	80	120			
Chromium	0.207	0.00500	0.200	0	104	80	120			
Cobalt	0.210	0.00500	0.200	0	105	80	120			
Lead	0.200	0.00100	0.200	0	100	80	120			
Lithium	0.226	0.0100	0.200	0	113	80	120			
Molybdenum	0.200	0.00500	0.200	0	100	80	120			
Selenium	0.206	0.00500	0.200	0	103	80	120			
Thallium	0.205	0.00150	0.200	0	102	80	120			

Sample ID: LCSD-75691	Batch ID: 75691	TestNo: SW6020A	Units: mg/L
SampType: LCSD	Run ID: ICP-MS4_160617B	Analysis Date: 6/17/2016 1:05:00 PM	Prep Date: 6/16/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.200	0.00250	0.200	0	100	80	120	0.276	15	
Arsenic	0.202	0.00500	0.200	0	101	80	120	0.489	15	
Barium	0.202	0.0100	0.200	0	101	80	120	0.031	15	
Beryllium	0.214	0.00100	0.200	0	107	80	120	1.50	15	

Qualifiers:	<p>B Analyte detected in the associated Method Blank</p> <p>J Analyte detected between MDL and RL</p> <p>ND Not Detected at the Method Detection Limit</p> <p>RL Reporting Limit</p> <p>J Analyte detected between SDL and RL</p>	<p>DF Dilution Factor</p> <p>MDL Method Detection Limit</p> <p>R RPD outside accepted control limits</p> <p>S Spike Recovery outside control limits</p> <p>N Parameter not NELAC certified</p>
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CLIENT: Pastor, Behling & Wheeler
 Work Order: 1606145
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160617B

Sample ID: LCSD-75691	Batch ID: 75691	TestNo: SW6020A	Units: mg/L
SampType: LCSD	Run ID: ICP-MS4_160617B	Analysis Date: 6/17/2016 1:05:00 PM	Prep Date: 6/16/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.202	0.00100	0.200	0	101	80	120	0.137	15	
Calcium	4.82	0.300	5.00	0	96.5	80	120	0.815	15	
Chromium	0.205	0.00500	0.200	0	103	80	120	0.800	15	
Cobalt	0.208	0.00500	0.200	0	104	80	120	0.679	15	
Lead	0.200	0.00100	0.200	0	100	80	120	0.177	15	
Lithium	0.215	0.0100	0.200	0	107	80	120	5.18	15	
Molybdenum	0.198	0.00500	0.200	0	99.0	80	120	1.14	15	
Selenium	0.203	0.00500	0.200	0	101	80	120	1.44	15	
Thallium	0.206	0.00150	0.200	0	103	80	120	0.579	15	

Sample ID: 1606142-07A SD	Batch ID: 75691	TestNo: SW6020A	Units: mg/L
SampType: SD	Run ID: ICP-MS4_160617B	Analysis Date: 6/17/2016 1:11:00 PM	Prep Date: 6/16/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.00400	0.0125	0	0				0	10	
Arsenic	0.0147	0.0250	0	0.0148				1.02	10	
Barium	0.0245	0.0500	0	0.0247				0.963	10	
Beryllium	<0.00150	0.00500	0	0				0	10	
Cadmium	<0.00150	0.00500	0	0.000432				0	10	
Chromium	<0.0100	0.0250	0	0				0	10	
Cobalt	0.0449	0.0250	0	0.0423				5.90	10	
Lead	<0.00150	0.00500	0	0				0	10	
Molybdenum	0.809	0.0250	0	0.813				0.480	10	
Selenium	<0.0100	0.0250	0	0.00263				0	10	
Thallium	<0.00250	0.00750	0	0				0	10	

Sample ID: 1606142-07A PDS	Batch ID: 75691	TestNo: SW6020A	Units: mg/L
SampType: PDS	Run ID: ICP-MS4_160617B	Analysis Date: 6/17/2016 1:31:00 PM	Prep Date: 6/16/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.194	0.00250	0.200	0	97.1	80	120			
Arsenic	0.218	0.00500	0.200	0.0148	102	80	120			
Barium	0.214	0.0100	0.200	0.0247	94.8	80	120			
Beryllium	0.163	0.00100	0.200	0	81.6	80	120			
Cadmium	0.176	0.00100	0.200	0.000432	87.8	80	120			
Chromium	0.183	0.00500	0.200	0	91.3	80	120			
Cobalt	0.232	0.00500	0.200	0.0423	94.8	80	120			
Lead	0.202	0.00100	0.200	0	101	80	120			
Molybdenum	0.942	0.00500	0.200	0.813	64.6	80	120			S
Selenium	0.235	0.00500	0.200	0.00263	116	80	120			
Thallium	0.202	0.00150	0.200	0	101	80	120			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1606145
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160617B

Sample ID	Batch ID:	TestNo:	Units:
1606142-07A MS	75691	SW6020A	mg/L
SampType: MS	Run ID: ICP-MS4_160617B	Analysis Date: 6/17/2016 1:33:00 PM	Prep Date: 6/16/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.191	0.00250	0.200	0	95.6	80	120			
Arsenic	0.219	0.00500	0.200	0.0148	102	80	120			
Barium	0.217	0.0100	0.200	0.0247	96.0	80	120			
Beryllium	0.155	0.00100	0.200	0	77.6	80	120			S
Cadmium	0.177	0.00100	0.200	0.000432	88.4	80	120			
Calcium	378	0.300	5.00	368	211	80	120			S
Chromium	0.176	0.00500	0.200	0	87.9	80	120			
Cobalt	0.230	0.00500	0.200	0.0423	94.0	80	120			
Lead	0.198	0.00100	0.200	0	99.0	80	120			
Lithium	0.212	0.0100	0.200	0.0731	69.4	80	120			S
Molybdenum	0.997	0.00500	0.200	0.813	92.0	80	120			
Selenium	0.238	0.00500	0.200	0.00263	118	80	120			
Thallium	0.202	0.00150	0.200	0	101	80	120			

Sample ID	Batch ID:	TestNo:	Units:
1606142-07A MSD	75691	SW6020A	mg/L
SampType: MSD	Run ID: ICP-MS4_160617B	Analysis Date: 6/17/2016 1:35:00 PM	Prep Date: 6/16/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.196	0.00250	0.200	0	97.9	80	120	2.33	15	
Arsenic	0.219	0.00500	0.200	0.0148	102	80	120	0.093	15	
Barium	0.220	0.0100	0.200	0.0247	97.7	80	120	1.56	15	
Beryllium	0.156	0.00100	0.200	0	77.9	80	120	0.395	15	S
Cadmium	0.179	0.00100	0.200	0.000432	89.3	80	120	0.962	15	
Calcium	376	0.300	5.00	368	158	80	120	0.702	15	S
Chromium	0.177	0.00500	0.200	0	88.6	80	120	0.876	15	
Cobalt	0.230	0.00500	0.200	0.0423	93.7	80	120	0.257	15	
Lead	0.202	0.00100	0.200	0	101	80	120	2.10	15	
Lithium	0.205	0.0100	0.200	0.0731	66.0	80	120	3.27	15	S
Molybdenum	1.01	0.00500	0.200	0.813	96.4	80	120	0.878	15	
Selenium	0.242	0.00500	0.200	0.00263	120	80	120	1.68	15	
Thallium	0.204	0.00150	0.200	0	102	80	120	0.915	15	

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606145
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160617B

Sample ID: ICV-160617	Batch ID: R86404	TestNo: SW6020A	Units: mg/L
SampType: ICV	Run ID: ICP-MS4_160617B	Analysis Date: 6/17/2016 10:43:00 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.101	0.00250	0.100	0	101	90	110			
Arsenic	0.0990	0.00500	0.100	0	99.0	90	110			
Barium	0.0982	0.0100	0.100	0	98.2	90	110			
Beryllium	0.0990	0.00100	0.100	0	99.0	90	110			
Cadmium	0.0981	0.00100	0.100	0	98.1	90	110			
Calcium	2.33	0.300	2.50	0	93.3	90	110			
Chromium	0.103	0.00500	0.100	0	103	90	110			
Cobalt	0.102	0.00500	0.100	0	102	90	110			
Lead	0.0976	0.00100	0.100	0	97.6	90	110			
Lithium	0.0940	0.0100	0.100	0	94.0	90	110			
Molybdenum	0.0945	0.00500	0.100	0	94.5	90	110			
Selenium	0.102	0.00500	0.100	0	102	90	110			
Thallium	0.0979	0.00150	0.100	0	97.9	90	110			

Sample ID: LCVL-160617	Batch ID: R86404	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_160617B	Analysis Date: 6/17/2016 10:47:00 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00199	0.00250	0.00200	0	99.6	70	130			
Arsenic	0.00512	0.00500	0.00500	0	102	70	130			
Barium	0.00522	0.0100	0.00500	0	104	70	130			
Beryllium	0.000870	0.00100	0.00100	0	87.0	70	130			
Cadmium	0.00100	0.00100	0.00100	0	100	70	130			
Calcium	0.110	0.300	0.100	0	110	70	130			
Chromium	0.00533	0.00500	0.00500	0	107	70	130			
Cobalt	0.00519	0.00500	0.00500	0	104	70	130			
Lead	0.000918	0.00100	0.00100	0	91.8	70	130			
Lithium	0.0100	0.0100	0.0100	0	100	70	130			
Molybdenum	0.00500	0.00500	0.00500	0	100	70	130			
Selenium	0.00530	0.00500	0.00500	0	106	70	130			
Thallium	0.00103	0.00150	0.00100	0	103	70	130			

Sample ID: CCV2-160617	Batch ID: R86404	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_160617B	Analysis Date: 6/17/2016 12:42:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.198	0.00250	0.200	0	99.2	90	110			
Arsenic	0.201	0.00500	0.200	0	101	90	110			
Barium	0.196	0.0100	0.200	0	98.0	90	110			
Beryllium	0.214	0.00100	0.200	0	107	90	110			
Cadmium	0.195	0.00100	0.200	0	97.5	90	110			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1606145
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160617B

Sample ID CCV2-160617	Batch ID: R86404	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_160617B	Analysis Date: 6/17/2016 12:42:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	4.72	0.300	5.00	0	94.5	90	110			
Chromium	0.203	0.00500	0.200	0	101	90	110			
Cobalt	0.208	0.00500	0.200	0	104	90	110			
Lead	0.200	0.00100	0.200	0	100	90	110			
Lithium	0.216	0.0100	0.200	0	108	90	110			
Molybdenum	0.193	0.00500	0.200	0	96.5	90	110			
Selenium	0.204	0.00500	0.200	0	102	90	110			
Thallium	0.204	0.00150	0.200	0	102	90	110			

Sample ID LCVL2-160617	Batch ID: R86404	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_160617B	Analysis Date: 6/17/2016 12:47:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00200	0.00250	0.00200	0	99.8	70	130			
Arsenic	0.00529	0.00500	0.00500	0	106	70	130			
Barium	0.00505	0.0100	0.00500	0	101	70	130			
Beryllium	0.000756	0.00100	0.00100	0	75.6	70	130			
Cadmium	0.00102	0.00100	0.00100	0	102	70	130			
Calcium	0.107	0.300	0.100	0	107	70	130			
Chromium	0.00525	0.00500	0.00500	0	105	70	130			
Cobalt	0.00528	0.00500	0.00500	0	106	70	130			
Lead	0.000861	0.00100	0.00100	0	86.1	70	130			
Lithium	0.0129	0.0100	0.0100	0	129	70	130			
Molybdenum	0.00499	0.00500	0.00500	0	99.7	70	130			
Selenium	0.00573	0.00500	0.00500	0	115	70	130			
Thallium	0.00102	0.00150	0.00100	0	102	70	130			

Sample ID CCV3-160617	Batch ID: R86404	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_160617B	Analysis Date: 6/17/2016 1:37:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.204	0.00250	0.200	0	102	90	110			
Arsenic	0.201	0.00500	0.200	0	101	90	110			
Barium	0.199	0.0100	0.200	0	99.7	90	110			
Beryllium	0.197	0.00100	0.200	0	98.5	90	110			
Cadmium	0.199	0.00100	0.200	0	99.7	90	110			
Calcium	5.10	0.300	5.00	0	102	90	110			
Chromium	0.196	0.00500	0.200	0	98.1	90	110			
Cobalt	0.202	0.00500	0.200	0	101	90	110			
Lead	0.200	0.00100	0.200	0	100	90	110			
Lithium	0.198	0.0100	0.200	0	98.8	90	110			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1606145
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160617B

Sample ID CCV3-160617	Batch ID: R86404	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160617B	Analysis Date: 6/17/2016 1:37:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Molybdenum	0.197	0.00500	0.200	0	98.6	90	110			
Selenium	0.210	0.00500	0.200	0	105	90	110			
Thallium	0.206	0.00150	0.200	0	103	90	110			

Sample ID LCVL3-160617	Batch ID: R86404	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160617B	Analysis Date: 6/17/2016 1:41:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00207	0.00250	0.00200	0	104	70	130			
Arsenic	0.00526	0.00500	0.00500	0	105	70	130			
Barium	0.00527	0.0100	0.00500	0	105	70	130			
Beryllium	0.00116	0.00100	0.00100	0	116	70	130			
Cadmium	0.00100	0.00100	0.00100	0	100	70	130			
Calcium	0.112	0.300	0.100	0	112	70	130			
Chromium	0.00526	0.00500	0.00500	0	105	70	130			
Cobalt	0.00534	0.00500	0.00500	0	107	70	130			
Lead	0.000882	0.00100	0.00100	0	88.2	70	130			
Lithium	0.0113	0.0100	0.0100	0	113	70	130			
Molybdenum	0.00514	0.00500	0.00500	0	103	70	130			
Selenium	0.00562	0.00500	0.00500	0	112	70	130			
Thallium	0.00104	0.00150	0.00100	0	104	70	130			

Sample ID CCV4-160617	Batch ID: R86404	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160617B	Analysis Date: 6/17/2016 2:05:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.200	0.00250	0.200	0	99.9	90	110			
Arsenic	0.200	0.00500	0.200	0	100	90	110			
Barium	0.197	0.0100	0.200	0	98.7	90	110			
Beryllium	0.211	0.00100	0.200	0	106	90	110			
Cadmium	0.197	0.00100	0.200	0	98.6	90	110			
Chromium	0.201	0.00500	0.200	0	100	90	110			
Cobalt	0.205	0.00500	0.200	0	102	90	110			
Lead	0.198	0.00100	0.200	0	99.2	90	110			
Molybdenum	0.193	0.00500	0.200	0	96.3	90	110			
Selenium	0.206	0.00500	0.200	0	103	90	110			
Thallium	0.204	0.00150	0.200	0	102	90	110			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606145
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160617B

Sample ID	LCVL4-160617	Batch ID:	R86404	TestNo:	SW6020A	Units:	mg/L
SampType:	LCVL	Run ID:	ICP-MS4_160617B	Analysis Date:	6/17/2016 2:09:00 PM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00201	0.00250	0.00200	0	101	70	130			
Arsenic	0.00529	0.00500	0.00500	0	106	70	130			
Barium	0.00510	0.0100	0.00500	0	102	70	130			
Beryllium	0.00101	0.00100	0.00100	0	101	70	130			
Cadmium	0.000909	0.00100	0.00100	0	90.9	70	130			
Chromium	0.00530	0.00500	0.00500	0	106	70	130			
Cobalt	0.00536	0.00500	0.00500	0	107	70	130			
Lead	0.000862	0.00100	0.00100	0	86.2	70	130			
Molybdenum	0.00493	0.00500	0.00500	0	98.5	70	130			
Selenium	0.00535	0.00500	0.00500	0	107	70	130			
Thallium	0.00102	0.00150	0.00100	0	102	70	130			

LUMINANT

Qualifiers:	B Analyte detected in the associated Method Blank	DF Dilution Factor
	J Analyte detected between MDL and RL	MDL Method Detection Limit
	ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
	RL Reporting Limit	S Spike Recovery outside control limits
	J Analyte detected between SDL and RL	N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606145
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160620B

The QC data in batch 75715 applies to the following samples: 1606145-05A, 1606145-06A, 1606145-07A

Sample ID: MB-75715	Batch ID: 75715	TestNo: SW6020A	Units: mg/L
SampType: MBLK	Run ID: ICP-MS4_160620B	Analysis Date: 6/20/2016 2:51:00 PM	Prep Date: 6/17/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.000800	0.00250								
Arsenic	<0.00200	0.00500								
Barium	<0.00300	0.0100								
Beryllium	<0.000300	0.00100								
Cadmium	<0.000300	0.00100								
Calcium	<0.100	0.300								
Chromium	<0.00200	0.00500								
Cobalt	<0.00300	0.00500								
Lead	<0.000300	0.00100								
Lithium	<0.00500	0.0100								
Molybdenum	<0.00200	0.00500								
Selenium	<0.00200	0.00500								
Thallium	<0.000500	0.00150								

Sample ID: LCS-75715	Batch ID: 75715	TestNo: SW6020A	Units: mg/L
SampType: LCS	Run ID: ICP-MS4_160620B	Analysis Date: 6/20/2016 2:53:00 PM	Prep Date: 6/17/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.192	0.00250	0.200	0	96.0	80	120			
Arsenic	0.201	0.00500	0.200	0	100	80	120			
Barium	0.196	0.0100	0.200	0	98.0	80	120			
Beryllium	0.196	0.00100	0.200	0	98.1	80	120			
Cadmium	0.195	0.00100	0.200	0	97.4	80	120			
Calcium	4.73	0.300	5.00	0	94.5	80	120			
Chromium	0.199	0.00500	0.200	0	99.5	80	120			
Cobalt	0.209	0.00500	0.200	0	105	80	120			
Lead	0.195	0.00100	0.200	0	97.6	80	120			
Lithium	0.205	0.0100	0.200	0	102	80	120			
Molybdenum	0.188	0.00500	0.200	0	94.2	80	120			
Selenium	0.206	0.00500	0.200	0	103	80	120			
Thallium	0.196	0.00150	0.200	0	98.2	80	120			

Sample ID: LCSD-75715	Batch ID: 75715	TestNo: SW6020A	Units: mg/L
SampType: LCSD	Run ID: ICP-MS4_160620B	Analysis Date: 6/20/2016 2:55:00 PM	Prep Date: 6/17/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.192	0.00250	0.200	0	95.8	80	120	0.217	15	
Arsenic	0.199	0.00500	0.200	0	99.4	80	120	0.835	15	
Barium	0.193	0.0100	0.200	0	96.7	80	120	1.32	15	
Beryllium	0.199	0.00100	0.200	0	99.3	80	120	1.18	15	

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
J Analyte detected between MDL and RL MDL Method Detection Limit
ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
RL Reporting Limit S Spike Recovery outside control limits
J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1606145
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160620B

Sample ID: LCSD-75715	Batch ID: 75715	TestNo: SW6020A	Units: mg/L
SampType: LCSD	Run ID: ICP-MS4_160620B	Analysis Date: 6/20/2016 2:55:00 PM	Prep Date: 6/17/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.195	0.00100	0.200	0	97.6	80	120	0.161	15	
Calcium	4.72	0.300	5.00	0	94.5	80	120	0.015	15	
Chromium	0.200	0.00500	0.200	0	99.8	80	120	0.305	15	
Cobalt	0.207	0.00500	0.200	0	103	80	120	1.17	15	
Lead	0.195	0.00100	0.200	0	97.5	80	120	0.124	15	
Lithium	0.199	0.0100	0.200	0	99.3	80	120	3.03	15	
Molybdenum	0.189	0.00500	0.200	0	94.6	80	120	0.372	15	
Selenium	0.203	0.00500	0.200	0	102	80	120	1.45	15	
Thallium	0.195	0.00150	0.200	0	97.5	80	120	0.713	15	

Sample ID: 1606160-02A SD	Batch ID: 75715	TestNo: SW6020A	Units: mg/L
SampType: SD	Run ID: ICP-MS4_160620B	Analysis Date: 6/20/2016 3:01:00 PM	Prep Date: 6/17/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.00400	0.0125	0	0				0	10	
Arsenic	<0.0100	0.0250	0	0				0	10	
Barium	0.0639	0.0500	0	0.0652				2.09	10	
Beryllium	<0.00150	0.00500	0	0				0	10	
Cadmium	<0.00150	0.00500	0	0.000386				0	10	
Chromium	<0.0100	0.0250	0	0				0	10	
Cobalt	<0.0150	0.0250	0	0				0	10	
Lead	<0.00150	0.00500	0	0				0	10	
Lithium	0.0421	0.0500	0	0.0451				6.82	10	
Molybdenum	<0.0100	0.0250	0	0.00481				0	10	
Selenium	0.0475	0.0250	0	0.0462				2.77	10	
Thallium	<0.00250	0.00750	0	0				0	10	

Sample ID: 1606160-02A PDS	Batch ID: 75715	TestNo: SW6020A	Units: mg/L
SampType: PDS	Run ID: ICP-MS4_160620B	Analysis Date: 6/20/2016 3:21:00 PM	Prep Date: 6/17/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.187	0.00250	0.200	0	93.6	80	120			
Arsenic	0.199	0.00500	0.200	0	99.6	80	120			
Barium	0.259	0.0100	0.200	0.0652	97.0	80	120			
Beryllium	0.190	0.00100	0.200	0	94.9	80	120			
Cadmium	0.192	0.00100	0.200	0.000386	95.7	80	120			
Chromium	0.201	0.00500	0.200	0	100	80	120			
Cobalt	0.205	0.00500	0.200	0	102	80	120			
Lead	0.197	0.00100	0.200	0	98.7	80	120			
Lithium	0.238	0.0100	0.200	0.0451	96.7	80	120			
Molybdenum	0.195	0.00500	0.200	0.00481	95.2	80	120			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1606145
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160620B

Sample ID 1606160-02A PDS	Batch ID: 75715	TestNo: SW6020A	Units: mg/L							
SampType: PDS	Run ID: ICP-MS4_160620B	Analysis Date: 6/20/2016 3:21:00 PM	Prep Date: 6/17/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.243	0.00500	0.200	0.0462	98.5	80	120			
Thallium	0.198	0.00150	0.200	0	98.8	80	120			

Sample ID 1606160-02A MS	Batch ID: 75715	TestNo: SW6020A	Units: mg/L							
SampType: MS	Run ID: ICP-MS4_160620B	Analysis Date: 6/20/2016 3:23:00 PM	Prep Date: 6/17/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.198	0.00250	0.200	0	99.2	80	120			
Arsenic	0.198	0.00500	0.200	0	99.2	80	120			
Barium	0.262	0.0100	0.200	0.0652	98.4	80	120			
Beryllium	0.189	0.00100	0.200	0	94.5	80	120			
Cadmium	0.193	0.00100	0.200	0.000386	96.4	80	120			
Calcium	95.0	0.300	5.00	91.5	69.3	80	120			S
Chromium	0.195	0.00500	0.200	0	97.3	80	120			
Cobalt	0.202	0.00500	0.200	0	101	80	120			
Lead	0.192	0.00100	0.200	0	96.1	80	120			
Lithium	0.236	0.0100	0.200	0.0451	95.6	80	120			
Molybdenum	0.198	0.00500	0.200	0.00481	96.8	80	120			
Selenium	0.240	0.00500	0.200	0.0462	96.9	80	120			
Thallium	0.194	0.00150	0.200	0	97.0	80	120			

Sample ID 1606160-02A MSD	Batch ID: 75715	TestNo: SW6020A	Units: mg/L							
SampType: MSD	Run ID: ICP-MS4_160620B	Analysis Date: 6/20/2016 3:25:00 PM	Prep Date: 6/17/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.197	0.00250	0.200	0	98.6	80	120	0.627	15	
Arsenic	0.202	0.00500	0.200	0	101	80	120	1.88	15	
Barium	0.265	0.0100	0.200	0.0652	100	80	120	1.25	15	
Beryllium	0.194	0.00100	0.200	0	96.9	80	120	2.57	15	
Cadmium	0.194	0.00100	0.200	0.000386	96.6	80	120	0.193	15	
Calcium	98.3	0.300	5.00	91.5	136	80	120	3.45	15	S
Chromium	0.198	0.00500	0.200	0	99.0	80	120	1.74	15	
Cobalt	0.203	0.00500	0.200	0	102	80	120	0.702	15	
Lead	0.198	0.00100	0.200	0	98.9	80	120	2.90	15	
Lithium	0.244	0.0100	0.200	0.0451	99.4	80	120	3.21	15	
Molybdenum	0.199	0.00500	0.200	0.00481	97.3	80	120	0.497	15	
Selenium	0.246	0.00500	0.200	0.0462	99.8	80	120	2.38	15	
Thallium	0.201	0.00150	0.200	0	100	80	120	3.46	15	

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606145
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160620B

Sample ID ICV-160620	Batch ID: R86427	TestNo: SW6020A	Units: mg/L
SampType: ICV	Run ID: ICP-MS4_160620B	Analysis Date: 6/20/2016 11:40:00 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.100	0.00250	0.100	0	100	90	110			
Arsenic	0.0988	0.00500	0.100	0	98.8	90	110			
Barium	0.0988	0.0100	0.100	0	98.8	90	110			
Beryllium	0.100	0.00100	0.100	0	100	90	110			
Cadmium	0.0978	0.00100	0.100	0	97.8	90	110			
Calcium	2.30	0.300	2.50	0	92.2	90	110			
Chromium	0.101	0.00500	0.100	0	101	90	110			
Cobalt	0.105	0.00500	0.100	0	105	90	110			
Lead	0.0982	0.00100	0.100	0	98.2	90	110			
Lithium	0.0971	0.0100	0.100	0	97.1	90	110			
Molybdenum	0.0936	0.00500	0.100	0	93.6	90	110			
Selenium	0.102	0.00500	0.100	0	102	90	110			
Thallium	0.0973	0.00150	0.100	0	97.3	90	110			

Sample ID LCVL-160620	Batch ID: R86427	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_160620B	Analysis Date: 6/20/2016 11:48:00 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00198	0.00250	0.00200	0	99.2	70	130			
Arsenic	0.00512	0.00500	0.00500	0	102	70	130			
Barium	0.00512	0.0100	0.00500	0	102	70	130			
Beryllium	0.000973	0.00100	0.00100	0	97.3	70	130			
Cadmium	0.000984	0.00100	0.00100	0	98.4	70	130			
Calcium	0.101	0.300	0.100	0	101	70	130			
Chromium	0.00518	0.00500	0.00500	0	104	70	130			
Cobalt	0.00529	0.00500	0.00500	0	106	70	130			
Lead	0.000914	0.00100	0.00100	0	91.4	70	130			
Lithium	0.0101	0.0100	0.0100	0	101	70	130			
Molybdenum	0.00477	0.00500	0.00500	0	95.4	70	130			
Selenium	0.00562	0.00500	0.00500	0	112	70	130			
Thallium	0.000990	0.00150	0.00100	0	99.0	70	130			

Sample ID CCV4-160620	Batch ID: R86427	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_160620B	Analysis Date: 6/20/2016 2:35:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.197	0.00250	0.200	0	98.6	90	110			
Arsenic	0.201	0.00500	0.200	0	100	90	110			
Barium	0.196	0.0100	0.200	0	98.1	90	110			
Beryllium	0.193	0.00100	0.200	0	96.7	90	110			
Cadmium	0.198	0.00100	0.200	0	98.8	90	110			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606145
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160620B

Sample ID CCV4-160620	Batch ID: R86427	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_160620B	Analysis Date: 6/20/2016 2:35:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	4.72	0.300	5.00	0	94.5	90	110			
Chromium	0.199	0.00500	0.200	0	99.3	90	110			
Cobalt	0.209	0.00500	0.200	0	104	90	110			
Lead	0.197	0.00100	0.200	0	98.6	90	110			
Lithium	0.197	0.0100	0.200	0	98.3	90	110			
Molybdenum	0.188	0.00500	0.200	0	94.2	90	110			
Selenium	0.203	0.00500	0.200	0	101	90	110			
Thallium	0.199	0.00150	0.200	0	99.4	90	110			

Sample ID LCVL4-160620	Batch ID: R86427	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_160620B	Analysis Date: 6/20/2016 2:47:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00191	0.00250	0.00200	0	95.7	70	130			
Arsenic	0.00508	0.00500	0.00500	0	102	70	130			
Barium	0.00495	0.0100	0.00500	0	99.0	70	130			
Beryllium	0.000827	0.00100	0.00100	0	82.7	70	130			
Cadmium	0.000970	0.00100	0.00100	0	97.0	70	130			
Calcium	0.101	0.300	0.100	0	101	70	130			
Chromium	0.00513	0.00500	0.00500	0	103	70	130			
Cobalt	0.00533	0.00500	0.00500	0	107	70	130			
Lead	0.000880	0.00100	0.00100	0	88.0	70	130			
Lithium	0.00907	0.0100	0.0100	0	90.7	70	130			
Molybdenum	0.00472	0.00500	0.00500	0	94.4	70	130			
Selenium	0.00573	0.00500	0.00500	0	115	70	130			
Thallium	0.000975	0.00150	0.00100	0	97.5	70	130			

Sample ID CCV5-160620	Batch ID: R86427	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_160620B	Analysis Date: 6/20/2016 3:27:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.194	0.00250	0.200	0	96.8	90	110			
Arsenic	0.200	0.00500	0.200	0	99.8	90	110			
Barium	0.194	0.0100	0.200	0	97.0	90	110			
Beryllium	0.194	0.00100	0.200	0	96.9	90	110			
Cadmium	0.193	0.00100	0.200	0	96.6	90	110			
Calcium	4.74	0.300	5.00	0	94.9	90	110			
Chromium	0.199	0.00500	0.200	0	99.3	90	110			
Cobalt	0.207	0.00500	0.200	0	103	90	110			
Lead	0.194	0.00100	0.200	0	97.2	90	110			
Lithium	0.199	0.0100	0.200	0	99.7	90	110			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606145
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160620B

Sample ID: CCV5-160620	Batch ID: R86427	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160620B	Analysis Date: 6/20/2016 3:27:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Molybdenum	0.188	0.00500	0.200	0	94.2	90	110			
Selenium	0.202	0.00500	0.200	0	101	90	110			
Thallium	0.197	0.00150	0.200	0	98.6	90	110			

Sample ID: LCVL5-160620	Batch ID: R86427	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160620B	Analysis Date: 6/20/2016 3:37:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00205	0.00250	0.00200	0	102	70	130			
Arsenic	0.00507	0.00500	0.00500	0	101	70	130			
Barium	0.00495	0.0100	0.00500	0	99.0	70	130			
Beryllium	0.00103	0.00100	0.00100	0	103	70	130			
Cadmium	0.000972	0.00100	0.00100	0	97.2	70	130			
Calcium	0.0956	0.300	0.100	0	95.6	70	130			
Chromium	0.00514	0.00500	0.00500	0	103	70	130			
Cobalt	0.00531	0.00500	0.00500	0	106	70	130			
Lead	0.000882	0.00100	0.00100	0	88.2	70	130			
Lithium	0.0105	0.0100	0.0100	0	105	70	130			
Molybdenum	0.00475	0.00500	0.00500	0	95.1	70	130			
Selenium	0.00515	0.00500	0.00500	0	103	70	130			
Thallium	0.000981	0.00150	0.00100	0	98.1	70	130			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606145
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160623A

The QC data in batch 75691 applies to the following samples: 1606145-01A, 1606145-02A, 1606145-03A, 1606145-04A

Sample ID MB-75691	Batch ID: 75691	TestNo: SW6020A	Units: mg/L							
SampType: MBLK	Run ID: ICP-MS4_160623A	Analysis Date: 6/23/2016 12:23:00 PM	Prep Date: 6/16/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron <0.0100 0.0300

Sample ID LCS-75691	Batch ID: 75691	TestNo: SW6020A	Units: mg/L							
SampType: LCS	Run ID: ICP-MS4_160623A	Analysis Date: 6/23/2016 12:25:00 PM	Prep Date: 6/16/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 0.211 0.0300 0.200 0 105 80 120

Sample ID LCSD-75691	Batch ID: 75691	TestNo: SW6020A	Units: mg/L							
SampType: LCSD	Run ID: ICP-MS4_160623A	Analysis Date: 6/23/2016 12:27:00 PM	Prep Date: 6/16/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 0.211 0.0300 0.200 0 106 80 120 0.445 15

Sample ID 1606142-07A SD	Batch ID: 75691	TestNo: SW6020A	Units: mg/L							
SampType: SD	Run ID: ICP-MS4_160623A	Analysis Date: 6/23/2016 12:33:00 PM	Prep Date: 6/16/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 1.91 1.50 0 1.79 6.67 10

Sample ID 1606142-07A PDS	Batch ID: 75691	TestNo: SW6020A	Units: mg/L							
SampType: PDS	Run ID: ICP-MS4_160623A	Analysis Date: 6/23/2016 12:53:00 PM	Prep Date: 6/16/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 3.87 0.300 2.00 1.79 104 80 120

Sample ID 1606142-07A MS	Batch ID: 75691	TestNo: SW6020A	Units: mg/L							
SampType: MS	Run ID: ICP-MS4_160623A	Analysis Date: 6/23/2016 12:55:00 PM	Prep Date: 6/16/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 2.16 0.300 0.200 1.79 183 80 120 S

Sample ID 1606142-07A MSD	Batch ID: 75691	TestNo: SW6020A	Units: mg/L							
SampType: MSD	Run ID: ICP-MS4_160623A	Analysis Date: 6/23/2016 12:57:00 PM	Prep Date: 6/16/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 2.09 0.300 0.200 1.79 149 80 120 3.18 15 S

Qualifiers: B Analyte detected in the associated Method Blank
 J Analyte detected between MDL and RL
 ND Not Detected at the Method Detection Limit
 RL Reporting Limit
 J Analyte detected between SDL and RL
 DF Dilution Factor
 MDL Method Detection Limit
 R RPD outside accepted control limits
 S Spike Recovery outside control limits
 N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606145
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160623A

Sample ID 1606142-07A SD	Batch ID: 75691	TestNo: SW6020A	Units: mg/L							
SampType: SD	Run ID: ICP-MS4_160623A	Analysis Date: 6/23/2016 1:43:00 PM	Prep Date: 6/16/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	376	75.0	0	369				1.91	10	

Sample ID 1606142-07A PDS	Batch ID: 75691	TestNo: SW6020A	Units: mg/L							
SampType: PDS	Run ID: ICP-MS4_160623A	Analysis Date: 6/23/2016 1:45:00 PM	Prep Date: 6/16/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	608	15.0	250	369	95.6	80	120			

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1606145
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160623A

Sample ID ICV-160623	Batch ID: R86514	TestNo: SW6020A	Units: mg/L
SampType: ICV	Run ID: ICP-MS4_160623A	Analysis Date: 6/23/2016 11:37:00 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.107	0.0300	0.100	0	107	90	110			
Calcium	2.37	0.300	2.50	0	94.6	90	110			
Lithium	0.104	0.0100	0.100	0	104	90	110			

Sample ID LCVL-160623	Batch ID: R86514	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_160623A	Analysis Date: 6/23/2016 11:48:00 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0213	0.0300	0.0200	0	107	70	130			
Calcium	0.0946	0.300	0.100	0	94.6	70	130			
Lithium	0.0114	0.0100	0.0100	0	114	70	130			

Sample ID CCV1-160623	Batch ID: R86514	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_160623A	Analysis Date: 6/23/2016 12:12:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.196	0.0300	0.200	0	97.8	90	110			

Sample ID LCVL1-160623	Batch ID: R86514	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_160623A	Analysis Date: 6/23/2016 12:19:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0234	0.0300	0.0200	0	117	70	130			

Sample ID CCV2-160623	Batch ID: R86514	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_160623A	Analysis Date: 6/23/2016 12:59:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.211	0.0300	0.200	0	105	90	110			
Calcium	4.81	0.300	5.00	0	96.1	90	110			
Lithium	0.202	0.0100	0.200	0	101	90	110			

Sample ID LCVL2-160623	Batch ID: R86514	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_160623A	Analysis Date: 6/23/2016 1:37:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0184	0.0300	0.0200	0	92.2	70	130			
Calcium	0.0925	0.300	0.100	0	92.5	70	130			
Lithium	0.00975	0.0100	0.0100	0	97.5	70	130			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606145
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160623A

Sample ID: CCV3-160623	Batch ID: R86514	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160623A	Analysis Date: 6/23/2016 2:03:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.216	0.0300	0.200	0	108	90	110			
Calcium	4.90	0.300	5.00	0	97.9	90	110			
Lithium	0.214	0.0100	0.200	0	107	90	110			

Sample ID: LCVL3-160623	Batch ID: R86514	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160623A	Analysis Date: 6/23/2016 2:22:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0198	0.0300	0.0200	0	98.8	70	130			
Calcium	0.0933	0.300	0.100	0	93.3	70	130			
Lithium	0.0110	0.0100	0.0100	0	110	70	130			

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1606145
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160624A

The QC data in batch 75715 applies to the following samples: 1606145-05A, 1606145-06A, 1606145-07A

Sample ID MB-75715	Batch ID: 75715	TestNo: SW6020A	Units: mg/L							
SampType: MBLK	Run ID: ICP-MS4_160624A	Analysis Date: 6/24/2016 11:31:00 AM	Prep Date: 6/17/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	<0.0100	0.0300								
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Sample ID LCS-75715	Batch ID: 75715	TestNo: SW6020A	Units: mg/L							
SampType: LCS	Run ID: ICP-MS4_160624A	Analysis Date: 6/24/2016 11:33:00 AM	Prep Date: 6/17/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.192	0.0300	0.200	0	96.0	80	120			
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Sample ID LCSD-75715	Batch ID: 75715	TestNo: SW6020A	Units: mg/L							
SampType: LCSD	Run ID: ICP-MS4_160624A	Analysis Date: 6/24/2016 11:35:00 AM	Prep Date: 6/17/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.194	0.0300	0.200	0	96.8	80	120	0.797	15	
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Sample ID 1606160-02A SD	Batch ID: 75715	TestNo: SW6020A	Units: mg/L							
SampType: SD	Run ID: ICP-MS4_160624A	Analysis Date: 6/24/2016 11:41:00 AM	Prep Date: 6/17/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	1.83	1.50	0	1.45				23.3	10	R
Calcium	87.1	15.0	0	87.0				0.137	10	

Sample ID 1606160-02A PDS	Batch ID: 75715	TestNo: SW6020A	Units: mg/L							
SampType: PDS	Run ID: ICP-MS4_160624A	Analysis Date: 6/24/2016 12:01:00 PM	Prep Date: 6/17/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	3.52	0.300	2.00	1.45	103	80	120			
Calcium	129	3.00	50.0	87.0	83.4	80	120			

Sample ID 1606160-02A MS	Batch ID: 75715	TestNo: SW6020A	Units: mg/L							
SampType: MS	Run ID: ICP-MS4_160624A	Analysis Date: 6/24/2016 12:03:00 PM	Prep Date: 6/17/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	1.85	0.300	0.200	1.45	199	80	120			S
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Sample ID 1606160-02A MSD	Batch ID: 75715	TestNo: SW6020A	Units: mg/L							
SampType: MSD	Run ID: ICP-MS4_160624A	Analysis Date: 6/24/2016 12:05:00 PM	Prep Date: 6/17/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	1.77	0.300	0.200	1.45	161	80	120	4.14	15	S
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Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1606145
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160624A

Sample ID ICV-160624	Batch ID: R86541	TestNo: SW6020A	Units: mg/L							
SampType: ICV	Run ID: ICP-MS4_160624A	Analysis Date: 6/24/2016 10:57:00 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.101	0.0300	0.100	0	101	90	110			
Calcium	2.26	0.300	2.50	0	90.3	90	110			

Sample ID LCVL-160624	Batch ID: R86541	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160624A	Analysis Date: 6/24/2016 11:16:00 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0208	0.0300	0.0200	0	104	70	130			
Calcium	0.0919	0.300	0.100	0	91.9	70	130			

Sample ID CCV1-160624	Batch ID: R86541	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160624A	Analysis Date: 6/24/2016 12:27:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.200	0.0300	0.200	0	100	90	110			
Calcium	4.56	0.300	5.00	0	91.2	90	110			

Sample ID LCVL1-160624	Batch ID: R86541	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160624A	Analysis Date: 6/24/2016 12:33:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0193	0.0300	0.0200	0	96.6	70	130			
Calcium	0.0946	0.300	0.100	0	94.6	70	130			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606145
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC4_160621A

The QC data in batch 75766 applies to the following samples: 1606145-01D, 1606145-02D, 1606145-03D, 1606145-04D, 1606145-05D, 1606145-06D, 1606145-07D

Sample ID: MB-75766	Batch ID: 75766	TestNo: E300	Units: mg/L
SampType: MBLK	Run ID: IC4_160621A	Analysis Date: 6/21/2016 9:53:23 AM	Prep Date: 6/21/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	<0.300	1.00								
Fluoride	<0.100	0.400								
Sulfate	<1.00	3.00								

Sample ID: LCS-75766	Batch ID: 75766	TestNo: E300	Units: mg/L
SampType: LCS	Run ID: IC4_160621A	Analysis Date: 6/21/2016 10:08:22 AM	Prep Date: 6/21/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.1	1.00	10.00	0	101	90	110			
Fluoride	3.91	0.400	4.000	0	97.8	90	110			
Sulfate	31.1	3.00	30.00	0	104	90	110			

Sample ID: LCSD-75766	Batch ID: 75766	TestNo: E300	Units: mg/L
SampType: LCSD	Run ID: IC4_160621A	Analysis Date: 6/21/2016 10:23:22 AM	Prep Date: 6/21/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.1	1.00	10.00	0	101	90	110	0.146	20	
Fluoride	3.91	0.400	4.000	0	97.7	90	110	0.178	20	
Sulfate	31.1	3.00	30.00	0	104	90	110	0.137	20	

Sample ID: 1606145-05DMS	Batch ID: 75766	TestNo: E300	Units: mg/L
SampType: MS	Run ID: IC4_160621A	Analysis Date: 6/21/2016 3:44:23 PM	Prep Date: 6/21/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	299	10.0	200.0	90.45	105	90	110			
Fluoride	203	4.00	200.0	0	102	90	110			
Sulfate	265	30.0	200.0	51.23	107	90	110			

Sample ID: 1606145-05DMSD	Batch ID: 75766	TestNo: E300	Units: mg/L
SampType: MSD	Run ID: IC4_160621A	Analysis Date: 6/21/2016 3:59:23 PM	Prep Date: 6/21/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	299	10.0	200.0	90.45	104	90	110	0.297	20	
Fluoride	203	4.00	200.0	0	101	90	110	0.184	20	
Sulfate	264	30.0	200.0	51.23	107	90	110	0.164	20	

<p>Qualifiers:</p> <p>B Analyte detected in the associated Method Blank</p> <p>J Analyte detected between MDL and RL</p> <p>ND Not Detected at the Method Detection Limit</p> <p>RL Reporting Limit</p> <p>J Analyte detected between SDL and RL</p>	<p>DF Dilution Factor</p> <p>MDL Method Detection Limit</p> <p>R RPD outside accepted control limits</p> <p>S Spike Recovery outside control limits</p> <p>N Parameter not NELAC certified</p>
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1606145
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC4_160621A

Sample ID ICV-160621	Batch ID: R86467	TestNo: E300	Units: mg/L
SampType: ICV	Run ID: IC4_160621A	Analysis Date: 6/21/2016 9:02:55 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	25.5	1.00	25.00	0	102	90	110			
Fluoride	9.91	0.400	10.00	0	99.1	90	110			
Sulfate	78.6	3.00	75.00	0	105	90	110			

Sample ID CCV1-160621	Batch ID: R86467	TestNo: E300	Units: mg/L
SampType: CCV	Run ID: IC4_160621A	Analysis Date: 6/21/2016 1:05:30 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.2	1.00	10.00	0	102	90	110			
Fluoride	3.92	0.400	4.000	0	97.9	90	110			
Sulfate	31.3	3.00	30.00	0	104	90	110			

Sample ID CCV2-160621	Batch ID: R86467	TestNo: E300	Units: mg/L
SampType: CCV	Run ID: IC4_160621A	Analysis Date: 6/21/2016 4:44:23 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.4	1.00	10.00	0	104	90	110			
Fluoride	4.04	0.400	4.000	0	101	90	110			
Sulfate	31.6	3.00	30.00	0	105	90	110			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606145
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_160615A

The QC data in batch 75648 applies to the following samples: 1606145-01D, 1606145-02D, 1606145-03D, 1606145-04D, 1606145-05D, 1606145-06D, 1606145-07D

Sample ID: 1606145-01D-DUP	Batch ID: 75648	TestNo: M4500-H+ B	Units: pH Units@17.9°C
SampType: DUP	Run ID: TITRATOR_160615A	Analysis Date: 6/15/2016 11:17:00 AM	Prep Date: 6/15/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	6.35	0	0	6.360				0.157	5	

Sample ID: 1606160-01D-DUP	Batch ID: 75648	TestNo: M4500-H+ B	Units: pH Units@18°C
SampType: DUP	Run ID: TITRATOR_160615A	Analysis Date: 6/15/2016 2:10:00 PM	Prep Date: 6/15/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	6.74	0	0	6.710				0.446	5	

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
--	---

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606145
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_160615A

Sample ID ICV-160615	Batch ID: R86335	TestNo: M4500-H+ B	Units: pH Units@22.2°C							
SampType: ICV	Run ID: TITRATOR_160615A	Analysis Date: 6/15/2016 8:24:00 AM	Prep Date: 6/15/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	9.93	0	10.00	0	99.3	99	101			
----	------	---	-------	---	------	----	-----	--	--	--

Sample ID CCV1-160615	Batch ID: R86335	TestNo: M4500-H+ B	Units: pH Units@22.2°C							
SampType: CCV	Run ID: TITRATOR_160615A	Analysis Date: 6/15/2016 11:30:00 AM	Prep Date: 6/15/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	6.98	0	7.000	0	99.7	97.1	102.9			
----	------	---	-------	---	------	------	-------	--	--	--

Sample ID CCV2-160615	Batch ID: R86335	TestNo: M4500-H+ B	Units: pH Units@21.9°C							
SampType: CCV	Run ID: TITRATOR_160615A	Analysis Date: 6/15/2016 2:32:00 PM	Prep Date: 6/15/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	6.98	0	7.000	0	99.7	97.1	102.9			
----	------	---	-------	---	------	------	-------	--	--	--

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
--	---

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606145
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: WC_160617A

The QC data in batch 75699 applies to the following samples: 1606145-01D, 1606145-02D, 1606145-03D, 1606145-04D, 1606145-05D, 1606145-06D, 1606145-07D

Sample ID MB-75699	Batch ID: 75699	TestNo: M2540C	Units: mg/L							
SampType: MBLK	Run ID: WC_160617A	Analysis Date: 6/20/2016 8:45:00 AM	Prep Date: 6/17/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	<10.0	10.0								

Sample ID LCS-75699	Batch ID: 75699	TestNo: M2540C	Units: mg/L							
SampType: LCS	Run ID: WC_160617A	Analysis Date: 6/20/2016 8:45:00 AM	Prep Date: 6/17/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	760	10.0	745.6	0	102	90	113			

Sample ID 1606145-04D-DUP	Batch ID: 75699	TestNo: M2540C	Units: mg/L							
SampType: DUP	Run ID: WC_160617A	Analysis Date: 6/20/2016 8:45:00 AM	Prep Date: 6/17/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	2300	50.0	0	2205				4.00	5	

Sample ID 1606168-01D-DUP	Batch ID: 75699	TestNo: M2540C	Units: mg/L							
SampType: DUP	Run ID: WC_160617A	Analysis Date: 6/20/2016 8:45:00 AM	Prep Date: 6/17/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	3850	50.0	0	3780				1.83	5	

Qualifiers:	B Analyte detected in the associated Method Blank	DF Dilution Factor
	J Analyte detected between MDL and RL	MDL Method Detection Limit
	ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
	RL Reporting Limit	S Spike Recovery outside control limits
	J Analyte detected between SDL and RL	N Parameter not NELAC certified

Case Narrative

Lab No: 20160582

This report contains the analytical results for the 7 sample(s) received under chain of custody by ESC Lab Sciences on 6/17/2016 11:29:38 AM. These samples are associated with your 1606145 project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted below:

The test results in this report meet all NELAC requirements unless noted below:

This report shall not be reproduced, except in full, without the written approval of ESC Lab Sciences.

All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client.

Results have been reviewed by the Director of Radiochemistry or their designees and is approved for release.

Observations / Nonconformances



Client : DHL Analytical, Inc.
 Client Project : 1606145
 Lab Number : 20160582
 Date Reported : 07/29/16
 Date Received : 06/17/16
 Page Number : 2 of 4

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
--------	--------	----	-------	------	-----------	---------------	---------

Lab ID : 20160582-01
Client ID : AX-24
Date Sampled : 6/14/2016 10:00:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium	1.96 +/- 0.775	0.899	pCi/l				
Radium-226	SM 7500 Ra B M*	0.383 +/- 0.144	0.093	pCi/l	07/06/16	07/08/16	AK
Radium-228	EPA 904*/9320*	1.58 +/- 0.631	0.806	pCi/l	07/19/16	07/22/16	JR

Lab ID : 20160582-02
Client ID : AX-26
Date Sampled : 6/14/2016 11:30:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium	2.04 +/- 1.02	1.21	pCi/l				
Radium-226	SM 7500 Ra B M*	0.545 +/- 0.180	0.148	pCi/l	07/06/16	07/08/16	AK
Radium-228	EPA 904*/9320*	1.49 +/- 0.836	1.06	pCi/l	07/19/16	07/22/16	JR

Lab ID : 20160582-03
Client ID : AX-27
Date Sampled : 6/14/2016 12:25:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium	2.79 +/- 1.13	1.19	pCi/l				
Radium-226	SM 7500 Ra B M*	0.703 +/- 0.214	0.156	pCi/l	07/06/16	07/08/16	AK
Radium-228	EPA 904*/9320*	2.09 +/- 0.915	1.07	pCi/l	07/19/16	07/25/16	JR

Lab ID : 20160582-04
Client ID : AX-25
Date Sampled : 6/14/2016 1:35:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium	1.28 +/- 0.855	0.967	pCi/l				
Radium-226	SM 7500 Ra B M*	0.283 +/- 0.136	0.123	pCi/l	07/06/16	07/11/16	AK
Radium-228	EPA 904*/9320*	0.999 +/- 0.719	0.844	pCi/l	07/19/16	07/25/16	JR



Client : DHL Analytical, Inc.
 Client Project : 1606145
 Lab Number : 20160582
 Date Reported : 07/29/16
 Date Received : 06/17/16
 Page Number : 3 of 4

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
--	--------	--------	----	-------	------	-----------	---------------	---------

Lab ID : 20160582-05
Client ID : AX-22R
Date Sampled : 6/14/2016 2:40:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.970 +/- 0.778	0.954	pCi/l				
Radium-226	SM 7500 Ra B M*	0.263 +/- 0.135	0.133	pCi/l		07/06/16	07/11/16	AK
Radium-228	EPA 904*/9320*	0.707 +/- 0.642	0.821	pCi/l		07/19/16	07/25/16	JR

Lab ID : 20160582-06
Client ID : AX-29
Date Sampled : 6/14/2016 3:50:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		2.56 +/- 1.08	1.14	pCi/l				
Radium-226	SM 7500 Ra B M*	0.719 +/- 0.196	0.119	pCi/l		07/06/16	07/11/16	AK
Radium-228	EPA 904*/9320*	1.84 +/- 0.888	1.06	pCi/l		07/19/16	07/25/16	JR

Lab ID : 20160582-07
Client ID : EB-01
Date Sampled : 6/14/2016 8:55:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.663 +/- 0.787	1.03	pCi/l				
Radium-226	SM 7500 Ra B M*	0.089 +/- 0.132	0.209	pCi/l		07/06/16	07/11/16	AK
Radium-228	EPA 904*/9320*	0.574 +/- 0.655	0.818	pCi/l		07/19/16	07/25/16	JR



Client : DHL Analytical, Inc.
Client Project : 1606145
Lab Number : 20160582
Date Reported : 07/29/16
Date Received : 06/17/16
Page Number : 4 of 4

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	RPD	Batch ID
Radium-226	-0.001	102.0			NC	0.605	87.3	103.0	16.1	R1107
Radium-228	0.163	88.3			NC	0.469	96.2	99.8	3.6	R3832

Lab Approval: _____

LUMINANT

DHL Analytical, Inc.
 2300 Double Creek Drive
 Round Rock, TX 78664

CHAIN-OF-CUSTODY REC

TEL: (512) 388-8222 FAX: (512) 388-8229
 Work Order: 1606145

Subcontractor:

ESC Laboratory
 311 North Aspen
 Broken Arrow, Oklahoma 74012

TEL: (918) 251-2515
 FAX:
 Acct #: DHLRRTX

Sample Id	Matrix	DHL#	Date Collected	Bottle Type	Requested Tests		
					E904.0	SM7500Ra-B M	
AX-24	Aqueous	-01B	06/14/16 10:00 AM	500HDPEHNO3	1		
AX-24	Aqueous	-01C	06/14/16 10:00 AM	500HDPEHNO3		1	
AX-26	Aqueous	-02B	06/14/16 11:30 AM	500HDPEHNO3	1		
AX-26	Aqueous	-02C	06/14/16 11:30 AM	500HDPEHNO3		1	
AX-27	Aqueous	-03B	06/14/16 12:25 PM	500HDPEHNO3	1		
AX-27	Aqueous	-03C	06/14/16 12:25 PM	500HDPEHNO3		1	
AX-25	Aqueous	-04B	06/14/16 01:35 PM	500HDPEHNO3	1		
AX-25	Aqueous	-04C	06/14/16 01:35 PM	500HDPEHNO3		1	
AX-22R	Aqueous	-05B	06/14/16 02:40 PM	500HDPEHNO3	1		
AX-22R	Aqueous	-05C	06/14/16 02:40 PM	500HDPEHNO3		1	
AX-29	Aqueous	-06B	06/14/16 03:50 PM	500HDPEHNO3	1		
AX-29	Aqueous	-06C	06/14/16 03:50 PM	500HDPEHNO3		1	
EB-01	Equip Blank	-07B	06/14/16 08:55 AM	500HDPEHNO3	1		
EB-01	Equip Blank	-07C	06/14/16 08:55 AM	500HDPEHNO3		1	

General Comments:

Please analyze these samples with Normal Turnaround Time.
 Report RA-226, Ra-228 & Combined per Specs DHLRRTX033116S.
 Quality Control Package Needed: Standard - NELAC Rad Test compliant
 Email to cac@dhlanalytical.com & dupont@dhlanalytical.com

UPG
2016

Relinquished by: <u><i>[Signature]</i></u>	Date/Time: <u>6/15/16 1730</u>	Received by: <u><i>[Signature]</i></u>
Relinquished by: _____	Received by: <u><i>[Signature]</i></u>	

SAMPLE LOGIN

Date Received: 6/17/2016 11:29:3

Lab Number: 20160582

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Pre Up
20160582-01 B	AX-24	NPW	06/14/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
20160582-01 A	AX-24	NPW	06/14/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
Radium-226			SM 7500 Ra B M*				
Radium-228			EPA 904*/9320*				
20160582-02 B	AX-26	NPW	06/14/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
20160582-02 A	AX-26	NPW	06/14/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
Radium-226			SM 7500 Ra B M*				
Radium-228			EPA 904*/9320*				
20160582-03 B	AX-27	NPW	06/14/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
20160582-03 A	AX-27	NPW	06/14/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
Radium-226			SM 7500 Ra B M*				
Radium-228			EPA 904*/9320*				
20160582-04 B	AX-25	NPW	06/14/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
20160582-04 A	AX-25	NPW	06/14/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
Radium-226			SM 7500 Ra B M*				
Radium-228			EPA 904*/9320*				
20160582-05 B	AX-22R	NPW	06/14/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
20160582-05 A	AX-22R	NPW	06/14/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
Radium-226			SM 7500 Ra B M*				
Radium-228			EPA 904*/9320*				
20160582-06 B	AX-29	NPW	06/14/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
20160582-06 A	AX-29	NPW	06/14/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
Radium-226			SM 7500 Ra B M*				
Radium-228			EPA 904*/9320*				
20160582-07 B	EB-01	NPW	06/14/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
20160582-07 A	EB-01	NPW	06/14/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
Radium-226			SM 7500 Ra B M*				
Radium-228			EPA 904*/9320*				

CONTAINER INSPECTION

Coolers 1

Custody Seals Broken

Temperature: NA

C

Ice

Radiation Survey: <300 cpm

SAMPLE INSPECTION

Sample Seal Broken

Chain of Custody Record

Labels in Tact

Radiation Survey Complete

NA

Anomalles

Inspected By: CTJ

DATE

6-17-16

QA or Designee Review: Raymond Thomas

DATE

06/17/16

Sample Custodian Review:

DATE

Project Notes:

LUMINANT



July 22, 2016

Will Vienne
Pastor, Behling & Wheeler
2201 Double Creek Dr #4004
Round Rock, Texas 78664
TEL: (512) 671-3434
FAX (512) 671-3446
RE: Sandow CCR

Order No.: 1606168

Dear Will Vienne:

DHL Analytical, Inc. received 5 sample(s) on 6/15/2016 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

A handwritten signature in orange ink, appearing to read "John DuPont".

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-16-16



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LUMINANT

John Dupont

From: Sara Taube [Sara.Taube@pbw/fo.com]
Sent: Wednesday, July 22, 2015 12:05 PM
To: John Dupont
Subject: CCR Appendix III and IV
Follow Up Flag: Follow up
Flag Status: Completed

Hi John,

Here are the Appendix III and Appendix IV constituents that we will need to have analyzed under the CCR Rule.

Appendix III

Boron
Calcium
Chloride
Fluoride
pH
sulfate
TDS

Appendix IV

Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cobalt
Fluoride
Lead
Lithium
Mercury
Molybdenum
Selenium
Thallium
Radium 226 and 228

We are looking to have approximately 74 wells sampled 8 times over the course of the next two years. Please let me know if there is any more information you might need.

Cheers,

Sara

10/26/2015

Sample Receipt Checklist

Client Name Pastor, Behling & Wheeler

Date Received: 6/15/2016

Work Order Number 1606168

Received by JB

Checklist completed by: *J. Moran* 6/15/2016
Signature Date

Reviewed by: *JB* 6/15/2016
Initials Date

Carrier name Hand Delivered

- 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 1.1 °C
- Water - VOA vials have zero headspace? Yes No No VOA vials submitted
- Water - pH<2 acceptable upon receipt? Yes No NA LOT # 8086
- Adjusted? no Checked by *JB*
- Water - pH>9 (S) or pH>12 (CN) acceptable upon receipt? Yes No NA LOT #
- Adjusted? _____ Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Lab Order: 1606168

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

- Method SW6020A - Metals Analysis
- Method SW7470A - Mercury Analysis
- Method E300 - Anions Analysis
- Method M4500-H+ B - pH of a Water Analysis
- Method M2540C - TDS Analysis
- Sub-contract - Radium-228 and Radium-226 analyses by methods E904/9320 and SM 7500 Ra B M. Analyzed at ESC Lab Sciences.

LOG IN

The samples were received and log-in performed on 6/15/16. A total of 5 samples were received. The samples arrived in good condition and were properly packaged.

METALS ANALYSIS

For Metals analysis performed on 6/21/16 and 6/27/16 the matrix spike and matrix spike duplicate recoveries were out of control limits for Calcium or Boron. These are flagged accordingly in the QC summary report. The sample selected for the matrix spike and matrix spike duplicate was not from this work order. The LCS was within control limits for these analytes. No further corrective actions were taken.

For Metals analysis performed on 6/28/16 the RPD for the serial dilution was slightly above control limits for Boron. This is flagged accordingly. The PDS was within control limits for this analyte. No further corrective actions were taken.

For Metals analysis performed on 6/28/16 the PDS recovery was slightly below control limits for Calcium. This is flagged accordingly. The serial dilution was within control limits for this analyte. No further corrective actions were taken.

ANIONS ANALYSIS

For Anions analysis performed on 6/22/16 the matrix spike recovery was slightly above control limits for Sulfate. This is flagged accordingly in the QC summary report. The sample selected for the matrix spike and matrix spike duplicate was from this work order. The LCS was within control limits for this analyte. No further corrective actions were taken.

TDS ANALYSIS

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Lab Order: 1606168

CASE NARRATIVE

For TDS analysis performed on 6/21/16 (batch 75770) the sample and sample duplicate (1606193-05 & 1606193-05 DUP) had the RPD above control limits. This was due to the sample selected for duplicate being silty. No further corrective actions were taken.

LUMINANT

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Lab Order: 1606168

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1606168-01	AXMW-2		06/15/16 09:10 AM	6/15/2016
1606168-02	AX-23		06/15/16 09:55 AM	6/15/2016
1606168-03	AX-28		06/15/16 11:00 AM	6/15/2016
1606168-04	AXMW-1		06/15/16 01:05 PM	6/15/2016
1606168-05	MW-1		06/15/16	6/15/2016

LUMINANT

PREP DATES REPORT

Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
06/15/16 09:10 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/21/16 04:30 AM	75756
06/15/16 09:10 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/21/16 04:30 AM	75756
06/15/16 09:10 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/21/16 04:30 AM	75756
06/15/16 09:10 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/21/16 04:30 AM	75756
06/15/16 09:10 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	06/21/16 09:19 AM	75769
06/15/16 09:10 AM	Aqueous	E300	Anion Preparation	06/22/16 09:31 AM	75795
06/15/16 09:10 AM	Aqueous	E300	Anion Preparation	06/22/16 09:31 AM	75795
06/15/16 09:10 AM	Aqueous	M4500-H+ B	pH Preparation	06/17/16 12:32 PM	75719
06/15/16 09:10 AM	Aqueous	M2540C	TDS Preparation	06/17/16 11:15 AM	75699
06/15/16 09:55 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/21/16 04:30 AM	75756
06/15/16 09:55 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/21/16 04:30 AM	75756
06/15/16 09:55 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/21/16 04:30 AM	75756
06/15/16 09:55 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	06/21/16 09:19 AM	75769
06/15/16 09:55 AM	Aqueous	E300	Anion Preparation	06/22/16 09:31 AM	75795
06/15/16 09:55 AM	Aqueous	E300	Anion Preparation	06/22/16 09:31 AM	75795
06/15/16 09:55 AM	Aqueous	M4500-H+ B	pH Preparation	06/17/16 12:32 PM	75719
06/15/16 09:55 AM	Aqueous	M2540C	TDS Preparation	06/21/16 09:45 AM	75770
06/15/16 11:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/21/16 04:30 AM	75756
06/15/16 11:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/21/16 04:30 AM	75756
06/15/16 11:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/21/16 04:30 AM	75756
06/15/16 11:00 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	06/21/16 09:19 AM	75769
06/15/16 11:00 AM	Aqueous	E300	Anion Preparation	06/22/16 09:31 AM	75795
06/15/16 11:00 AM	Aqueous	E300	Anion Preparation	06/22/16 09:31 AM	75795
06/15/16 11:00 AM	Aqueous	M4500-H+ B	pH Preparation	06/17/16 12:32 PM	75719
06/15/16 11:00 AM	Aqueous	M2540C	TDS Preparation	06/21/16 09:45 AM	75770
06/15/16 01:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/21/16 04:30 AM	75756
06/15/16 01:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/21/16 04:30 AM	75756
06/15/16 01:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/21/16 04:30 AM	75756

PREP DATES REPORT

Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
06/15/16 01:05 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	06/21/16 09:19 AM	75769
06/15/16 01:05 PM	Aqueous	E300	Anion Preparation	06/22/16 09:31 AM	75795
06/15/16 01:05 PM	Aqueous	E300	Anion Preparation	06/22/16 09:31 AM	75795
06/15/16 01:05 PM	Aqueous	M4500-H+ B	pH Preparation	06/17/16 12:32 PM	75719
06/15/16 01:05 PM	Aqueous	M2540C	TDS Preparation	06/21/16 09:45 AM	75770
06/15/16	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/21/16 04:30 AM	75756
06/15/16	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/21/16 04:30 AM	75756
06/15/16	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/21/16 04:30 AM	75756
06/15/16	Aqueous	SW7470A	Mercury Aq Prep, Total	06/21/16 09:19 AM	75769
06/15/16	Aqueous	E300	Anion Preparation	06/22/16 09:31 AM	75795
06/15/16	Aqueous	E300	Anion Preparation	06/22/16 09:31 AM	75795
06/15/16	Aqueous	M4500-H+ B	pH Preparation	06/17/16 12:32 PM	75719
06/15/16	Aqueous	M2540C	TDS Preparation	06/21/16 09:45 AM	75770

ANALYTICAL DATES REPORT

Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
Aqueous	SW7470A	Mercury Total: Aqueous	75769	1	06/23/16 01:05 PM	CETAC2_HG_160623 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75756	1	06/21/16 03:45 PM	ICP-MS4_160621D
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75756	50	06/23/16 03:59 PM	ICP-MS4_160623A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75756	10	06/23/16 04:01 PM	ICP-MS4_160623A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75756	10	06/27/16 02:03 PM	ICP-MS4_160627A
Aqueous	E300	Anions by IC method - Water	75795	1	06/22/16 11:59 AM	IC2_160622A
Aqueous	E300	Anions by IC method - Water	75795	100	06/22/16 01:59 PM	IC2_160622A
Aqueous	M4500-H+ B	pH	75719	1	06/17/16 12:59 PM	TITRATOR_160617A
Aqueous	M2540C	Total Dissolved Solids	75699	1	06/20/16 08:45 AM	WC_160617A
Aqueous	SW7470A	Mercury Total: Aqueous	75769	1	06/23/16 01:07 PM	CETAC2_HG_160623 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75756	1	06/27/16 02:05 PM	ICP-MS4_160627A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75756	1	06/21/16 03:47 PM	ICP-MS4_160621D
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75756	50	06/23/16 04:03 PM	ICP-MS4_160623A
Aqueous	E300	Anions by IC method - Water	75795	1	06/22/16 12:14 PM	IC2_160622A
Aqueous	E300	Anions by IC method - Water	75795	10	06/22/16 02:14 PM	IC2_160622A
Aqueous	M4500-H+ B	pH	75719	1	06/17/16 01:02 PM	TITRATOR_160617A
Aqueous	M2540C	Total Dissolved Solids	75770	1	06/22/16 08:36 AM	WC_160621C
Aqueous	SW7470A	Mercury Total: Aqueous	75769	1	06/23/16 01:09 PM	CETAC2_HG_160623 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75756	1	06/27/16 02:07 PM	ICP-MS4_160627A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75756	1	06/21/16 03:49 PM	ICP-MS4_160621D
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75756	50	06/23/16 04:05 PM	ICP-MS4_160623A
Aqueous	E300	Anions by IC method - Water	75795	1	06/22/16 12:28 PM	IC2_160622A
Aqueous	E300	Anions by IC method - Water	75795	100	06/22/16 02:58 PM	IC2_160622A
Aqueous	M4500-H+ B	pH	75719	1	06/17/16 01:03 PM	TITRATOR_160617A
Aqueous	M2540C	Total Dissolved Solids	75770	1	06/22/16 08:36 AM	WC_160621C
Aqueous	SW7470A	Mercury Total: Aqueous	75769	1	06/23/16 01:16 PM	CETAC2_HG_160623 A

ANALYTICAL DATES REPORT

Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75756	1	06/21/16 03:51 PM	ICP-MS4_160621D
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75756	50	06/23/16 04:07 PM	ICP-MS4_160623A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75756	1	06/27/16 02:09 PM	ICP-MS4_160627A
Aqueous	E300	Anions by IC method - Water	75795	1	06/22/16 12:43 PM	IC2_160622A
Aqueous	E300	Anions by IC method - Water	75795	100	06/22/16 03:12 PM	IC2_160622A
Aqueous	M4500-H+ B	pH	75719	1	06/17/16 01:05 PM	TITRATOR_160617A
Aqueous	M2540C	Total Dissolved Solids	75770	1	06/22/16 08:36 AM	WC_160621C
Aqueous	SW7470A	Mercury Total: Aqueous	75769	1	06/23/16 01:19 PM	CETAC2_HG_160623 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75756	1	06/21/16 03:53 PM	ICP-MS4_160621D
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75756	50	06/23/16 04:09 PM	ICP-MS4_160623A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75756	1	06/27/16 02:11 PM	ICP-MS4_160627A
Aqueous	E300	Anions by IC method - Water	75795	1	06/22/16 12:58 PM	IC2_160622A
Aqueous	E300	Anions by IC method - Water	75795	100	06/22/16 03:27 PM	IC2_160622A
Aqueous	M4500-H+ B	pH	75719	1	06/17/16 01:07 PM	TITRATOR_160617A
Aqueous	M2540C	Total Dissolved Solids	75770	1	06/22/16 08:36 AM	WC_160621C

DHL Analytical, Inc.

Date: 22-Jul-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1606168

Client Sample ID: AXMW-2
Lab ID: 1606168-01
Collection Date: 06/15/16 09:10 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: KL			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/23/16 01:05 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	06/21/16 03:45 PM
Arsenic	0.0249	0.00200	0.00500		mg/L	1	06/21/16 03:45 PM
Barium	0.0229	0.00300	0.0100		mg/L	1	06/21/16 03:45 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	06/21/16 03:45 PM
Boron	2.33	0.100	0.300		mg/L	10	06/27/16 02:03 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	06/21/16 03:45 PM
Calcium	570	5.00	15.0		mg/L	50	06/23/16 03:59 PM
Chromium	0.00257	0.00200	0.00500	J	mg/L	1	06/21/16 03:45 PM
Cobalt	0.0464	0.00300	0.00500		mg/L	1	06/21/16 03:45 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	06/21/16 03:45 PM
Lithium	0.0946	0.00500	0.0100		mg/L	1	06/21/16 03:45 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	06/21/16 03:45 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	06/21/16 03:45 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	06/21/16 03:45 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	199	30.0	100		mg/L	100	06/22/16 01:59 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	06/22/16 11:59 AM
Sulfate	1970	100	300		mg/L	100	06/22/16 01:59 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.29	0	0		pH Units@18.8°C	1	06/17/16 12:59 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	3780	50.0	50.0		mg/L	1	06/20/16 08:45 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 22-Jul-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1606168

Client Sample ID: AX-23
Lab ID: 1606168-02
Collection Date: 06/15/16 09:55 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A			Analyst: KL		
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/23/16 01:07 PM
TRACE METALS: ICP-MS - WATER		SW6020A			Analyst: RO		
Antimony	<0.000800	0.000800	0.00250		mg/L	1	06/21/16 03:47 PM
Arsenic	0.00887	0.00200	0.00500		mg/L	1	06/21/16 03:47 PM
Barium	0.0954	0.00300	0.0100		mg/L	1	06/21/16 03:47 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	06/21/16 03:47 PM
Boron	0.0509	0.0100	0.0300		mg/L	1	06/27/16 02:05 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	06/21/16 03:47 PM
Calcium	218	5.00	15.0		mg/L	50	06/23/16 04:03 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	06/21/16 03:47 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	06/21/16 03:47 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	06/21/16 03:47 PM
Lithium	0.00617	0.00500	0.0100	J	mg/L	1	06/21/16 03:47 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	06/21/16 03:47 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	06/21/16 03:47 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	06/21/16 03:47 PM
ANIONS BY IC METHOD - WATER		E300			Analyst: AV		
Chloride	141	3.00	10.0		mg/L	10	06/22/16 02:14 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	06/22/16 12:14 PM
Sulfate	502	10.0	30.0		mg/L	10	06/22/16 02:14 PM
PH		M4500-H+ B			Analyst: BJT		
pH	6.75	0	0		pH Units@15.6°C	1	06/17/16 01:02 PM
TOTAL DISSOLVED SOLIDS		M2540C			Analyst: AJH		
Total Dissolved Solids (Residue, Filterable)	1730	50.0	50.0		mg/L	1	06/22/16 08:36 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 22-Jul-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1606168

Client Sample ID: AX-28
Lab ID: 1606168-03
Collection Date: 06/15/16 11:00 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: KL			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/23/16 01:09 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	06/21/16 03:49 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	06/21/16 03:49 PM
Barium	0.0305	0.00300	0.0100		mg/L	1	06/21/16 03:49 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	06/21/16 03:49 PM
Boron	0.239	0.0100	0.0300		mg/L	1	06/27/16 02:07 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	06/21/16 03:49 PM
Calcium	500	5.00	15.0		mg/L	50	06/23/16 04:05 PM
Chromium	0.0570	0.00200	0.00500		mg/L	1	06/21/16 03:49 PM
Cobalt	0.0239	0.00300	0.00500		mg/L	1	06/21/16 03:49 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	06/21/16 03:49 PM
Lithium	0.268	0.00500	0.0100		mg/L	1	06/21/16 03:49 PM
Molybdenum	0.00236	0.00200	0.00500	J	mg/L	1	06/21/16 03:49 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	06/21/16 03:49 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	06/21/16 03:49 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	412	30.0	100		mg/L	100	06/22/16 02:58 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	06/22/16 12:28 PM
Sulfate	1460	100	300		mg/L	100	06/22/16 02:58 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.64	0	0		pH Units@15.3°C	1	06/17/16 01:03 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	2790	50.0	50.0		mg/L	1	06/22/16 08:36 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 22-Jul-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1606168

Client Sample ID: AXMW-1
Lab ID: 1606168-04
Collection Date: 06/15/16 01:05 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A					Analyst: KL
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/23/16 01:16 PM
TRACE METALS: ICP-MS - WATER		SW6020A					Analyst: RO
Antimony	<0.000800	0.000800	0.00250		mg/L	1	06/21/16 03:51 PM
Arsenic	0.0159	0.00200	0.00500		mg/L	1	06/21/16 03:51 PM
Barium	0.0173	0.00300	0.0100		mg/L	1	06/21/16 03:51 PM
Beryllium	0.000404	0.000300	0.00100	J	mg/L	1	06/21/16 03:51 PM
Boron	0.549	0.0100	0.0300		mg/L	1	06/27/16 02:09 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	06/21/16 03:51 PM
Calcium	472	5.00	15.0		mg/L	50	06/23/16 04:07 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	06/21/16 03:51 PM
Cobalt	0.418	0.00300	0.00500		mg/L	1	06/21/16 03:51 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	06/21/16 03:51 PM
Lithium	0.0229	0.00500	0.0100		mg/L	1	06/21/16 03:51 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	06/21/16 03:51 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	06/21/16 03:51 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	06/21/16 03:51 PM
ANIONS BY IC METHOD - WATER		E300					Analyst: AV
Chloride	353	30.0	100		mg/L	100	06/22/16 03:12 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	06/22/16 12:43 PM
Sulfate	2280	100	300		mg/L	100	06/22/16 03:12 PM
PH		M4500-H+ B					Analyst: BJT
pH	5.96	0	0		pH Units@15.7°C	1	06/17/16 01:05 PM
TOTAL DISSOLVED SOLIDS		M2540C					Analyst: AJH
Total Dissolved Solids (Residue, Filterable)	5150	50.0	50.0		mg/L	1	06/22/16 08:36 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 22-Jul-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1606168

Client Sample ID: MW-1
Lab ID: 1606168-05
Collection Date: 06/15/16
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: KL			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/23/16 01:19 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	06/21/16 03:53 PM
Arsenic	0.0161	0.00200	0.00500		mg/L	1	06/21/16 03:53 PM
Barium	0.0168	0.00300	0.0100		mg/L	1	06/21/16 03:53 PM
Beryllium	0.000305	0.000300	0.00100	J	mg/L	1	06/21/16 03:53 PM
Boron	0.560	0.0100	0.0300		mg/L	1	06/27/16 02:11 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	06/21/16 03:53 PM
Calcium	474	5.00	15.0		mg/L	50	06/23/16 04:09 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	06/21/16 03:53 PM
Cobalt	0.421	0.00300	0.00500		mg/L	1	06/21/16 03:53 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	06/21/16 03:53 PM
Lithium	0.0247	0.00500	0.0100		mg/L	1	06/21/16 03:53 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	06/21/16 03:53 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	06/21/16 03:53 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	06/21/16 03:53 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	351	30.0	100		mg/L	100	06/22/16 03:27 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	06/22/16 12:58 PM
Sulfate	2220	100	300		mg/L	100	06/22/16 03:27 PM
PH		M4500-H+ B		Analyst: BJT			
pH	5.98	0	0		pH Units@15.2°C	1	06/17/16 01:07 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	4160	50.0	50.0		mg/L	1	06/22/16 08:36 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606168
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_160623A

The QC data in batch 75769 applies to the following samples: 1606168-01A, 1606168-02A, 1606168-03A, 1606168-04A, 1606168-05A

Sample ID MB-75769	Batch ID: 75769	TestNo: SW7470A	Units: mg/L							
SampType: MBLK	Run ID: CETAC2_HG_160623A	Analysis Date: 6/23/2016 12:33:39 PM	Prep Date: 6/21/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	<0.0000800	0.000200								

Sample ID LCS-75769	Batch ID: 75769	TestNo: SW7470A	Units: mg/L							
SampType: LCS	Run ID: CETAC2_HG_160623A	Analysis Date: 6/23/2016 12:35:55 PM	Prep Date: 6/21/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00196	0.000200	0.00200	0	98.0	85	115			

Sample ID LCSD-75769	Batch ID: 75769	TestNo: SW7470A	Units: mg/L							
SampType: LCSD	Run ID: CETAC2_HG_160623A	Analysis Date: 6/23/2016 12:38:11 PM	Prep Date: 6/21/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00201	0.000200	0.00200	0	101	85	115	2.52	15	

Sample ID 1606160-06A SD	Batch ID: 75769	TestNo: SW7470A	Units: mg/L							
SampType: SD	Run ID: CETAC2_HG_160623A	Analysis Date: 6/23/2016 12:42:44 PM	Prep Date: 6/21/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	<0.000400	0.00100	0	0				0	10	

Sample ID 1606160-06A PDS	Batch ID: 75769	TestNo: SW7470A	Units: mg/L							
SampType: PDS	Run ID: CETAC2_HG_160623A	Analysis Date: 6/23/2016 12:44:59 PM	Prep Date: 6/21/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00243	0.000200	0.00250	0	97.2	85	115			

Sample ID 1606160-06A MS	Batch ID: 75769	TestNo: SW7470A	Units: mg/L							
SampType: MS	Run ID: CETAC2_HG_160623A	Analysis Date: 6/23/2016 12:47:15 PM	Prep Date: 6/21/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00206	0.000200	0.00200	0	103	80	120			

Sample ID 1606160-06A MSD	Batch ID: 75769	TestNo: SW7470A	Units: mg/L							
SampType: MSD	Run ID: CETAC2_HG_160623A	Analysis Date: 6/23/2016 12:49:30 PM	Prep Date: 6/21/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00205	0.000200	0.00200	0	103	80	120	0.487	15	

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606168
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_160623A

Sample ID ICV-160623	Batch ID: R86503	TestNo: SW7470A	Units: mg/L							
SampType: ICV	Run ID: CETAC2_HG_160623A	Analysis Date: 6/23/2016 10:03:19 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00399	0.000200	0.00400	0	99.8	90	110			
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Sample ID CCV4-160623	Batch ID: R86503	TestNo: SW7470A	Units: mg/L							
SampType: CCV	Run ID: CETAC2_HG_160623A	Analysis Date: 6/23/2016 12:24:10 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00197	0.000200	0.00200	0	98.5	90	110			
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Sample ID CCV5-160623	Batch ID: R86503	TestNo: SW7470A	Units: mg/L							
SampType: CCV	Run ID: CETAC2_HG_160623A	Analysis Date: 6/23/2016 1:12:12 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00198	0.000200	0.00200	0	99.0	90	110			
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Sample ID CCV6-160623	Batch ID: R86503	TestNo: SW7470A	Units: mg/L							
SampType: CCV	Run ID: CETAC2_HG_160623A	Analysis Date: 6/23/2016 1:39:31 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00198	0.000200	0.00200	0	99.0	90	110			
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Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1606168
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160621D

The QC data in batch 75756 applies to the following samples: 1606168-01A, 1606168-02A, 1606168-03A, 1606168-04A, 1606168-05A

Sample ID MB-75756	Batch ID: 75756	TestNo: SW6020A	Units: mg/L
SampType: MBLK	Run ID: ICP-MS4_160621D	Analysis Date: 6/21/2016 2:40:00 PM	Prep Date: 6/21/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.000800	0.00250								
Arsenic	<0.00200	0.00500								
Barium	<0.00300	0.0100								
Beryllium	<0.000300	0.00100								
Cadmium	<0.000300	0.00100								
Calcium	<0.100	0.300								
Chromium	<0.00200	0.00500								
Cobalt	<0.00300	0.00500								
Lead	<0.000300	0.00100								
Lithium	<0.00500	0.0100								
Molybdenum	<0.00200	0.00500								
Selenium	<0.00200	0.00500								
Thallium	<0.000500	0.00150								

Sample ID LCS-75756	Batch ID: 75756	TestNo: SW6020A	Units: mg/L
SampType: LCS	Run ID: ICP-MS4_160621D	Analysis Date: 6/21/2016 2:42:00 PM	Prep Date: 6/21/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.195	0.00250	0.200	0	97.5	80	120			
Arsenic	0.200	0.00500	0.200	0	100	80	120			
Barium	0.199	0.0100	0.200	0	99.3	80	120			
Beryllium	0.202	0.00100	0.200	0	101	80	120			
Cadmium	0.198	0.00100	0.200	0	99.0	80	120			
Calcium	4.65	0.300	5.00	0	93.0	80	120			
Chromium	0.201	0.00500	0.200	0	100	80	120			
Cobalt	0.207	0.00500	0.200	0	103	80	120			
Lead	0.198	0.00100	0.200	0	99.1	80	120			
Lithium	0.203	0.0100	0.200	0	101	80	120			
Molybdenum	0.190	0.00500	0.200	0	95.0	80	120			
Selenium	0.203	0.00500	0.200	0	101	80	120			
Thallium	0.197	0.00150	0.200	0	98.4	80	120			

Sample ID LCSD-75756	Batch ID: 75756	TestNo: SW6020A	Units: mg/L
SampType: LCSD	Run ID: ICP-MS4_160621D	Analysis Date: 6/21/2016 2:44:00 PM	Prep Date: 6/21/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.195	0.00250	0.200	0	97.4	80	120	0.032	15	
Arsenic	0.197	0.00500	0.200	0	98.7	80	120	1.33	15	
Barium	0.196	0.0100	0.200	0	98.2	80	120	1.14	15	
Beryllium	0.201	0.00100	0.200	0	100	80	120	0.639	15	

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
J Analyte detected between MDL and RL MDL Method Detection Limit
ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
RL Reporting Limit S Spike Recovery outside control limits
J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606168
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160621D

Sample ID: LCSD-75756	Batch ID: 75756	TestNo: SW6020A	Units: mg/L
SampType: LCSD	Run ID: ICP-MS4_160621D	Analysis Date: 6/21/2016 2:44:00 PM	Prep Date: 6/21/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.197	0.00100	0.200	0	98.3	80	120	0.737	15	
Calcium	4.82	0.300	5.00	0	96.3	80	120	3.58	15	
Chromium	0.201	0.00500	0.200	0	100	80	120	0.020	15	
Cobalt	0.204	0.00500	0.200	0	102	80	120	1.12	15	
Lead	0.197	0.00100	0.200	0	98.3	80	120	0.796	15	
Lithium	0.203	0.0100	0.200	0	102	80	120	0.364	15	
Molybdenum	0.191	0.00500	0.200	0	95.7	80	120	0.717	15	
Selenium	0.202	0.00500	0.200	0	101	80	120	0.492	15	
Thallium	0.196	0.00150	0.200	0	97.8	80	120	0.622	15	

Sample ID: 1606207-16A SD	Batch ID: 75756	TestNo: SW6020A	Units: mg/L
SampType: SD	Run ID: ICP-MS4_160621D	Analysis Date: 6/21/2016 2:50:00 PM	Prep Date: 6/21/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.00400	0.0125	0	0				0	10	
Arsenic	<0.0100	0.0250	0	0				0	10	
Barium	0.0296	0.0500	0	0.0303				2.34	10	
Beryllium	<0.00150	0.00500	0	0				0	10	
Cadmium	<0.00150	0.00500	0	0				0	10	
Chromium	<0.0100	0.0250	0	0				0	10	
Cobalt	<0.0150	0.0250	0	0				0	10	
Lead	<0.00150	0.00500	0	0				0	10	
Lithium	0.161	0.0500	0	0.153				5.06	10	
Molybdenum	<0.0100	0.0250	0	0.00392				0	10	
Selenium	<0.0100	0.0250	0	0				0	10	
Thallium	<0.00250	0.00750	0	0				0	10	

Sample ID: 1606207-16A PDS	Batch ID: 75756	TestNo: SW6020A	Units: mg/L
SampType: PDS	Run ID: ICP-MS4_160621D	Analysis Date: 6/21/2016 3:10:00 PM	Prep Date: 6/21/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.199	0.00250	0.200	0	99.3	80	120			
Arsenic	0.198	0.00500	0.200	0	99.2	80	120			
Barium	0.227	0.0100	0.200	0.0303	98.3	80	120			
Beryllium	0.187	0.00100	0.200	0	93.5	80	120			
Cadmium	0.185	0.00100	0.200	0	92.5	80	120			
Chromium	0.197	0.00500	0.200	0	98.3	80	120			
Cobalt	0.195	0.00500	0.200	0	97.5	80	120			
Lead	0.200	0.00100	0.200	0	100	80	120			
Lithium	0.331	0.0100	0.200	0.153	89.1	80	120			
Molybdenum	0.197	0.00500	0.200	0.00392	96.7	80	120			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1606168
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160621D

Sample ID 1606207-16A PDS	Batch ID: 75756	TestNo: SW6020A	Units: mg/L							
SampType: PDS	Run ID: ICP-MS4_160621D	Analysis Date: 6/21/2016 3:10:00 PM	Prep Date: 6/21/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.202	0.00500	0.200	0	101	80	120			
Thallium	0.200	0.00150	0.200	0	100	80	120			

Sample ID 1606207-16A MS	Batch ID: 75756	TestNo: SW6020A	Units: mg/L							
SampType: MS	Run ID: ICP-MS4_160621D	Analysis Date: 6/21/2016 3:12:00 PM	Prep Date: 6/21/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.199	0.00250	0.200	0	99.7	80	120			
Arsenic	0.202	0.00500	0.200	0	101	80	120			
Barium	0.233	0.0100	0.200	0.0303	101	80	120			
Beryllium	0.182	0.00100	0.200	0	91.0	80	120			
Cadmium	0.189	0.00100	0.200	0	94.3	80	120			
Calcium	348	0.300	5.00	345	63.5	80	120			S
Chromium	0.191	0.00500	0.200	0	95.5	80	120			
Cobalt	0.195	0.00500	0.200	0	97.6	80	120			
Lead	0.201	0.00100	0.200	0	101	80	120			
Lithium	0.333	0.0100	0.200	0.153	90.0	80	120			
Molybdenum	0.203	0.00500	0.200	0.00392	99.8	80	120			
Selenium	0.204	0.00500	0.200	0	102	80	120			
Thallium	0.202	0.00150	0.200	0	101	80	120			

Sample ID 1606207-16A MSD	Batch ID: 75756	TestNo: SW6020A	Units: mg/L							
SampType: MSD	Run ID: ICP-MS4_160621D	Analysis Date: 6/21/2016 3:14:00 PM	Prep Date: 6/21/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.195	0.00250	0.200	0	97.6	80	120	2.12	15	
Arsenic	0.200	0.00500	0.200	0	100	80	120	0.933	15	
Barium	0.229	0.0100	0.200	0.0303	99.4	80	120	1.77	15	
Beryllium	0.181	0.00100	0.200	0	90.3	80	120	0.798	15	
Cadmium	0.186	0.00100	0.200	0	92.9	80	120	1.48	15	
Calcium	354	0.300	5.00	345	181	80	120	1.67	15	S
Chromium	0.188	0.00500	0.200	0	93.9	80	120	1.63	15	
Cobalt	0.192	0.00500	0.200	0	95.9	80	120	1.82	15	
Lead	0.200	0.00100	0.200	0	100	80	120	0.416	15	
Lithium	0.327	0.0100	0.200	0.153	87.2	80	120	1.71	15	
Molybdenum	0.201	0.00500	0.200	0.00392	98.5	80	120	1.22	15	
Selenium	0.203	0.00500	0.200	0	101	80	120	0.872	15	
Thallium	0.201	0.00150	0.200	0	101	80	120	0.414	15	

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1606168
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160621D

Sample ID	ICV-160621	Batch ID:	R86455	TestNo:	SW6020A	Units:	mg/L
SampType:	ICV	Run ID:	ICP-MS4_160621D	Analysis Date:	6/21/2016 10:36:00 AM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.101	0.00250	0.100	0	101	90	110			
Arsenic	0.101	0.00500	0.100	0	101	90	110			
Barium	0.100	0.0100	0.100	0	100	90	110			
Beryllium	0.0975	0.00100	0.100	0	97.5	90	110			
Cadmium	0.0998	0.00100	0.100	0	99.8	90	110			
Calcium	2.38	0.300	2.50	0	95.1	90	110			
Chromium	0.104	0.00500	0.100	0	104	90	110			
Cobalt	0.104	0.00500	0.100	0	104	90	110			
Lead	0.0998	0.00100	0.100	0	99.8	90	110			
Lithium	0.100	0.0100	0.100	0	100	90	110			
Molybdenum	0.0962	0.00500	0.100	0	96.2	90	110			
Selenium	0.101	0.00500	0.100	0	101	90	110			
Thallium	0.0978	0.00150	0.100	0	97.8	90	110			

Sample ID	LCVL-160621	Batch ID:	R86455	TestNo:	SW6020A	Units:	mg/L
SampType:	LCVL	Run ID:	ICP-MS4_160621D	Analysis Date:	6/21/2016 10:42:00 AM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00199	0.00250	0.00200	0	99.3	70	130			
Arsenic	0.00508	0.00500	0.00500	0	102	70	130			
Barium	0.00486	0.0100	0.00500	0	97.2	70	130			
Beryllium	0.000997	0.00100	0.00100	0	99.7	70	130			
Cadmium	0.000965	0.00100	0.00100	0	96.5	70	130			
Calcium	0.0939	0.300	0.100	0	93.9	70	130			
Chromium	0.00524	0.00500	0.00500	0	105	70	130			
Cobalt	0.00503	0.00500	0.00500	0	101	70	130			
Lead	0.000989	0.00100	0.00100	0	98.9	70	130			
Lithium	0.00984	0.0100	0.0100	0	98.4	70	130			
Molybdenum	0.00488	0.00500	0.00500	0	97.6	70	130			
Selenium	0.00541	0.00500	0.00500	0	108	70	130			
Thallium	0.000991	0.00150	0.00100	0	99.1	70	130			

Sample ID	CCV5-160621	Batch ID:	R86455	TestNo:	SW6020A	Units:	mg/L
SampType:	CCV	Run ID:	ICP-MS4_160621D	Analysis Date:	6/21/2016 2:24:00 PM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.194	0.00250	0.200	0	97.0	90	110			
Arsenic	0.199	0.00500	0.200	0	99.4	90	110			
Barium	0.197	0.0100	0.200	0	98.5	90	110			
Beryllium	0.200	0.00100	0.200	0	99.8	90	110			
Cadmium	0.197	0.00100	0.200	0	98.7	90	110			

- Qualifiers:**
- B Analyte detected in the associated Method Blank
 - J Analyte detected between MDL and RL
 - ND Not Detected at the Method Detection Limit
 - RL Reporting Limit
 - J Analyte detected between SDL and RL
 - DF Dilution Factor
 - MDL Method Detection Limit
 - R RPD outside accepted control limits
 - S Spike Recovery outside control limits
 - N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606168
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160621D

Sample ID CCV5-160621	Batch ID: R86455	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_160621D	Analysis Date: 6/21/2016 2:24:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	4.88	0.300	5.00	0	97.6	90	110			
Chromium	0.203	0.00500	0.200	0	101	90	110			
Cobalt	0.203	0.00500	0.200	0	101	90	110			
Lead	0.200	0.00100	0.200	0	100	90	110			
Lithium	0.208	0.0100	0.200	0	104	90	110			
Molybdenum	0.189	0.00500	0.200	0	94.5	90	110			
Selenium	0.201	0.00500	0.200	0	100	90	110			
Thallium	0.200	0.00150	0.200	0	99.8	90	110			

Sample ID LCVL5-160621	Batch ID: R86455	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_160621D	Analysis Date: 6/21/2016 2:32:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00200	0.00250	0.00200	0	100	70	130			
Arsenic	0.00500	0.00500	0.00500	0	100	70	130			
Barium	0.00499	0.0100	0.00500	0	99.7	70	130			
Beryllium	0.000961	0.00100	0.00100	0	96.1	70	130			
Cadmium	0.00102	0.00100	0.00100	0	102	70	130			
Calcium	0.100	0.300	0.100	0	100	70	130			
Chromium	0.00516	0.00500	0.00500	0	103	70	130			
Cobalt	0.00508	0.00500	0.00500	0	102	70	130			
Lead	0.000899	0.00100	0.00100	0	89.9	70	130			
Lithium	0.00957	0.0100	0.0100	0	95.7	70	130			
Molybdenum	0.00475	0.00500	0.00500	0	95.1	70	130			
Selenium	0.00537	0.00500	0.00500	0	107	70	130			
Thallium	0.000973	0.00150	0.00100	0	97.3	70	130			

Sample ID CCV6-160621	Batch ID: R86455	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_160621D	Analysis Date: 6/21/2016 3:18:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.196	0.00250	0.200	0	98.0	90	110			
Arsenic	0.198	0.00500	0.200	0	99.1	90	110			
Barium	0.199	0.0100	0.200	0	99.5	90	110			
Beryllium	0.207	0.00100	0.200	0	103	90	110			
Cadmium	0.196	0.00100	0.200	0	97.9	90	110			
Calcium	4.93	0.300	5.00	0	98.6	90	110			
Chromium	0.201	0.00500	0.200	0	101	90	110			
Cobalt	0.206	0.00500	0.200	0	103	90	110			
Lead	0.200	0.00100	0.200	0	100	90	110			
Lithium	0.210	0.0100	0.200	0	105	90	110			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1606168
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160621D

Sample ID CCV6-160621	Batch ID: R86455	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160621D	Analysis Date: 6/21/2016 3:18:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Molybdenum	0.192	0.00500	0.200	0	96.0	90	110			
Selenium	0.204	0.00500	0.200	0	102	90	110			
Thallium	0.198	0.00150	0.200	0	98.8	90	110			

Sample ID LCVL6-160621	Batch ID: R86455	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160621D	Analysis Date: 6/21/2016 3:32:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00196	0.00250	0.00200	0	98.0	70	130			
Arsenic	0.00499	0.00500	0.00500	0	99.8	70	130			
Barium	0.00492	0.0100	0.00500	0	98.3	70	130			
Beryllium	0.000919	0.00100	0.00100	0	91.9	70	130			
Cadmium	0.00103	0.00100	0.00100	0	103	70	130			
Calcium	0.0979	0.300	0.100	0	97.9	70	130			
Chromium	0.00511	0.00500	0.00500	0	102	70	130			
Cobalt	0.00510	0.00500	0.00500	0	102	70	130			
Lead	0.000916	0.00100	0.00100	0	91.6	70	130			
Lithium	0.0117	0.0100	0.0100	0	117	70	130			
Molybdenum	0.00462	0.00500	0.00500	0	92.5	70	130			
Selenium	0.00506	0.00500	0.00500	0	101	70	130			
Thallium	0.000988	0.00150	0.00100	0	98.8	70	130			

Sample ID CCV7-160621	Batch ID: R86455	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160621D	Analysis Date: 6/21/2016 3:59:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.195	0.00250	0.200	0	97.3	90	110			
Arsenic	0.200	0.00500	0.200	0	100	90	110			
Barium	0.199	0.0100	0.200	0	99.3	90	110			
Beryllium	0.197	0.00100	0.200	0	98.6	90	110			
Cadmium	0.198	0.00100	0.200	0	99.1	90	110			
Chromium	0.202	0.00500	0.200	0	101	90	110			
Cobalt	0.208	0.00500	0.200	0	104	90	110			
Lead	0.203	0.00100	0.200	0	102	90	110			
Lithium	0.203	0.0100	0.200	0	102	90	110			
Molybdenum	0.191	0.00500	0.200	0	95.4	90	110			
Selenium	0.203	0.00500	0.200	0	102	90	110			
Thallium	0.202	0.00150	0.200	0	101	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606168
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160621D

Sample ID: LCVL7-160621	Batch ID: R86455	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_160621D	Analysis Date: 6/21/2016 4:10:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00197	0.00250	0.00200	0	98.4	70	130			
Arsenic	0.00496	0.00500	0.00500	0	99.3	70	130			
Barium	0.00505	0.0100	0.00500	0	101	70	130			
Beryllium	0.00102	0.00100	0.00100	0	102	70	130			
Cadmium	0.000977	0.00100	0.00100	0	97.7	70	130			
Chromium	0.00505	0.00500	0.00500	0	101	70	130			
Cobalt	0.00518	0.00500	0.00500	0	104	70	130			
Lead	0.000890	0.00100	0.00100	0	89.0	70	130			
Lithium	0.0105	0.0100	0.0100	0	105	70	130			
Molybdenum	0.00477	0.00500	0.00500	0	95.5	70	130			
Selenium	0.00518	0.00500	0.00500	0	104	70	130			
Thallium	0.000962	0.00150	0.00100	0	96.2	70	130			

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1606168
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160623A

The QC data in batch 75756 applies to the following samples: 1606168-01A, 1606168-02A, 1606168-03A, 1606168-04A, 1606168-05A

Sample ID 1606207-16A SD	Batch ID: 75756	TestNo: SW6020A	Units: mg/L							
SampType: SD	Run ID: ICP-MS4_160623A	Analysis Date: 6/23/2016 3:10:00 PM	Prep Date: 6/21/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	338	7.50	0	336				0.533	10	

Sample ID 1606207-16A PDS	Batch ID: 75756	TestNo: SW6020A	Units: mg/L							
SampType: PDS	Run ID: ICP-MS4_160623A	Analysis Date: 6/23/2016 3:30:00 PM	Prep Date: 6/21/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	354	1.50	25.0	337	70.1	80	120			S

LUMINANT

Qualifiers:	B Analyte detected in the associated Method Blank	DF Dilution Factor
	J Analyte detected between MDL and RL	MDL Method Detection Limit
	ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
	RL Reporting Limit	S Spike Recovery outside control limits
	J Analyte detected between SDL and RL	N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606168
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160623A

Sample ID ICV-160623	Batch ID: R86514	TestNo: SW6020A	Units: mg/L							
SampType: ICV	Run ID: ICP-MS4_160623A	Analysis Date: 6/23/2016 11:37:00 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	2.37	0.300	2.50	0	94.6	90	110			
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Sample ID LCVL-160623	Batch ID: R86514	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160623A	Analysis Date: 6/23/2016 11:48:00 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	0.0946	0.300	0.100	0	94.6	70	130			
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Sample ID CCV4-160623	Batch ID: R86514	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160623A	Analysis Date: 6/23/2016 2:48:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	4.79	0.300	5.00	0	95.8	90	110			
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Sample ID LCVL4-160623	Batch ID: R86514	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160623A	Analysis Date: 6/23/2016 2:55:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	0.107	0.300	0.100	0	107	70	130			
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Sample ID CCV5-160623	Batch ID: R86514	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160623A	Analysis Date: 6/23/2016 3:36:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	4.86	0.300	5.00	0	97.2	90	110			
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Sample ID LCVL5-160623	Batch ID: R86514	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160623A	Analysis Date: 6/23/2016 3:43:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	0.0995	0.300	0.100	0	99.5	70	130			
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Sample ID CCV6-160623	Batch ID: R86514	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160623A	Analysis Date: 6/23/2016 4:11:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	4.78	0.300	5.00	0	95.6	90	110			
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Qualifiers: B Analyte detected in the associated Method Blank
 J Analyte detected between MDL and RL
 ND Not Detected at the Method Detection Limit
 RL Reporting Limit
 J Analyte detected between SDL and RL
 DF Dilution Factor
 MDL Method Detection Limit
 R RPD outside accepted control limits
 S Spike Recovery outside control limits
 N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606168
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160623A

Sample ID	LCVL6-160623	Batch ID:	R86514	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160623A	Analysis Date:	6/23/2016 4:31:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.0980	0.300	0.100	0	98.0	70	130			

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1606168
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160627A

The QC data in batch 75756 applies to the following samples: 1606168-01A, 1606168-02A, 1606168-03A, 1606168-04A, 1606168-05A

Sample ID MB-75756	Batch ID: 75756	TestNo: SW6020A	Units: mg/L							
SampType: MBLK	Run ID: ICP-MS4_160627A	Analysis Date: 6/27/2016 12:39:00 PM	Prep Date: 6/21/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	<0.0100	0.0300								

Sample ID LCS-75756	Batch ID: 75756	TestNo: SW6020A	Units: mg/L							
SampType: LCS	Run ID: ICP-MS4_160627A	Analysis Date: 6/27/2016 12:41:00 PM	Prep Date: 6/21/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.208	0.0300	0.200	0	104	80	120			

Sample ID LCSD-75756	Batch ID: 75756	TestNo: SW6020A	Units: mg/L							
SampType: LCSD	Run ID: ICP-MS4_160627A	Analysis Date: 6/27/2016 12:43:00 PM	Prep Date: 6/21/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.205	0.0300	0.200	0	102	80	120	1.45	15	

Sample ID 1606207-16A MS	Batch ID: 75756	TestNo: SW6020A	Units: mg/L							
SampType: MS	Run ID: ICP-MS4_160627A	Analysis Date: 6/27/2016 1:11:00 PM	Prep Date: 6/21/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	2.01	0.150	0.200	1.70	157	80	120			S

Sample ID 1606207-16A MSD	Batch ID: 75756	TestNo: SW6020A	Units: mg/L							
SampType: MSD	Run ID: ICP-MS4_160627A	Analysis Date: 6/27/2016 1:13:00 PM	Prep Date: 6/21/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	1.97	0.150	0.200	1.70	137	80	120	2.03	15	S

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1606168
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160627A

Sample ID ICV-160627	Batch ID: R86563	TestNo: SW6020A	Units: mg/L							
SampType: ICV	Run ID: ICP-MS4_160627A	Analysis Date: 6/27/2016 12:26:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.0994	0.0300	0.100	0	99.4	90	110			
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Sample ID LCVL-160627	Batch ID: R86563	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160627A	Analysis Date: 6/27/2016 12:32:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.0231	0.0300	0.0200	0	115	70	130			
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Sample ID CCV1-160627	Batch ID: R86563	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160627A	Analysis Date: 6/27/2016 1:27:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.213	0.0300	0.200	0	107	90	110			
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Sample ID LCVL1-160627	Batch ID: R86563	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160627A	Analysis Date: 6/27/2016 1:45:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.0244	0.0300	0.0200	0	122	70	130			
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Sample ID CCV2-160627	Batch ID: R86563	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160627A	Analysis Date: 6/27/2016 2:23:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.212	0.0300	0.200	0	106	90	110			
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Sample ID LCVL2-160627	Batch ID: R86563	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160627A	Analysis Date: 6/27/2016 2:41:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.0208	0.0300	0.0200	0	104	70	130			
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Sample ID CCV3-160627	Batch ID: R86563	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160627A	Analysis Date: 6/27/2016 3:20:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.212	0.0300	0.200	0	106	90	110			
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Qualifiers: B Analyte detected in the associated Method Blank
 J Analyte detected between MDL and RL
 ND Not Detected at the Method Detection Limit
 RL Reporting Limit
 J Analyte detected between SDL and RL
 DF Dilution Factor
 MDL Method Detection Limit
 R RPD outside accepted control limits
 S Spike Recovery outside control limits
 N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606168
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160627A

Sample ID	LCVL3-160627	Batch ID:	R86563	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160627A	Analysis Date:	6/27/2016 3:36:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0219	0.0300	0.0200	0	109	70	130			

LUMINANT

Qualifiers:	B Analyte detected in the associated Method Blank	DF Dilution Factor	
	J Analyte detected between MDL and RL	MDL Method Detection Limit	
	ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits	
	RL Reporting Limit	S Spike Recovery outside control limits	
	J Analyte detected between SDL and RL	N Parameter not NELAC certified	

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606168
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160628A

The QC data in batch 75756 applies to the following samples: 1606168-01A, 1606168-02A, 1606168-03A, 1606168-04A, 1606168-05A

Sample ID 1606207-16A SD	Batch ID: 75756	TestNo: SW6020A	Units: mg/L							
SampType: SD	Run ID: ICP-MS4_160628A	Analysis Date: 6/28/2016 11:43:00 AM	Prep Date: 6/21/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	1.75	0.750	0	1.54				13.1	10	R

Sample ID 1606207-16A PDS	Batch ID: 75756	TestNo: SW6020A	Units: mg/L							
SampType: PDS	Run ID: ICP-MS4_160628A	Analysis Date: 6/28/2016 11:47:00 AM	Prep Date: 6/21/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	2.53	0.150	1.00	1.54	99.5	80	120			

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1606168
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160628A

Sample ID ICV-160628	Batch ID: R86587	TestNo: SW6020A	Units: mg/L
SampType: ICV	Run ID: ICP-MS4_160628A	Analysis Date: 6/28/2016 11:22:00 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Boron	0.0991	0.0300	0.100	0	99.1	90	110			
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Sample ID LCVL-160628	Batch ID: R86587	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_160628A	Analysis Date: 6/28/2016 11:33:00 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Boron	0.0251	0.0300	0.0200	0	125	70	130			
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Sample ID CCV1-160628	Batch ID: R86587	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_160628A	Analysis Date: 6/28/2016 12:03:00 PM	Prep Date:

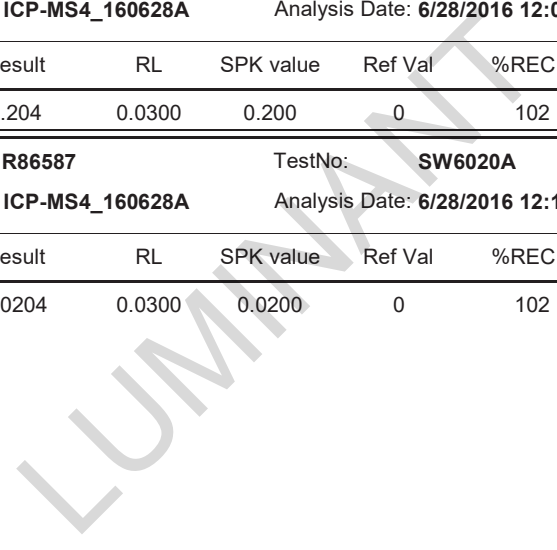
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Boron	0.204	0.0300	0.200	0	102	90	110			
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Sample ID LCVL1-160628	Batch ID: R86587	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_160628A	Analysis Date: 6/28/2016 12:18:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Boron	0.0204	0.0300	0.0200	0	102	70	130			
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Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606168
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_160622A

The QC data in batch 75795 applies to the following samples: 1606168-01D, 1606168-02D, 1606168-03D, 1606168-04D, 1606168-05D

Sample ID MB-75795	Batch ID: 75795	TestNo: E300	Units: mg/L							
SampType: MBLK	Run ID: IC2_160622A	Analysis Date: 6/22/2016 10:06:32 AM	Prep Date: 6/22/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	<0.300	1.00								
Fluoride	<0.100	0.400								
Sulfate	<1.00	3.00								

Sample ID LCS-75795	Batch ID: 75795	TestNo: E300	Units: mg/L							
SampType: LCS	Run ID: IC2_160622A	Analysis Date: 6/22/2016 10:21:09 AM	Prep Date: 6/22/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.56	1.00	10.00	0	95.6	90	110			
Fluoride	3.70	0.400	4.000	0	92.6	90	110			
Sulfate	29.4	3.00	30.00	0	97.9	90	110			

Sample ID LCSD-75795	Batch ID: 75795	TestNo: E300	Units: mg/L							
SampType: LCSD	Run ID: IC2_160622A	Analysis Date: 6/22/2016 10:35:45 AM	Prep Date: 6/22/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.57	1.00	10.00	0	95.7	90	110	0.095	20	
Fluoride	3.76	0.400	4.000	0	94.1	90	110	1.67	20	
Sulfate	29.3	3.00	30.00	0	97.7	90	110	0.290	20	

Sample ID 1606168-02DMS	Batch ID: 75795	TestNo: E300	Units: mg/L							
SampType: MS	Run ID: IC2_160622A	Analysis Date: 6/22/2016 2:28:47 PM	Prep Date: 6/22/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	328	10.0	200.0	141.0	93.4	90	110			
Fluoride	198	4.00	200.0	0	99.0	90	110			
Sulfate	730	30.0	200.0	502.2	114	90	110			S

Sample ID 1606168-02DMSD	Batch ID: 75795	TestNo: E300	Units: mg/L							
SampType: MSD	Run ID: IC2_160622A	Analysis Date: 6/22/2016 2:43:24 PM	Prep Date: 6/22/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	328	10.0	200.0	141.0	93.5	90	110	0.077	20	
Fluoride	199	4.00	200.0	0	99.4	90	110	0.408	20	
Sulfate	723	30.0	200.0	502.2	110	90	110	1.01	20	

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
J Analyte detected between MDL and RL MDL Method Detection Limit
ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
RL Reporting Limit S Spike Recovery outside control limits
J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606168
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_160622A

Sample ID ICV-160622	Batch ID: R86509	TestNo: E300	Units: mg/L
SampType: ICV	Run ID: IC2_160622A	Analysis Date: 6/22/2016 9:30:50 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	23.8	1.00	25.00	0	95.4	90	110			
Fluoride	9.55	0.400	10.00	0	95.5	90	110			
Sulfate	74.8	3.00	75.00	0	99.7	90	110			

Sample ID CCV1-160622	Batch ID: R86509	TestNo: E300	Units: mg/L
SampType: CCV	Run ID: IC2_160622A	Analysis Date: 6/22/2016 1:27:24 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.61	1.00	10.00	0	96.1	90	110			
Fluoride	3.93	0.400	4.000	0	98.1	90	110			
Sulfate	29.9	3.00	30.00	0	99.6	90	110			

Sample ID CCV2-160622	Batch ID: R86509	TestNo: E300	Units: mg/L
SampType: CCV	Run ID: IC2_160622A	Analysis Date: 6/22/2016 3:55:42 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.68	1.00	10.00	0	96.8	90	110			
Fluoride	3.97	0.400	4.000	0	99.3	90	110			
Sulfate	30.1	3.00	30.00	0	100	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606168
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_160617A

The QC data in batch 75719 applies to the following samples: 1606168-01D, 1606168-02D, 1606168-03D, 1606168-04D, 1606168-05D

Sample ID 1606168-01D-DUP	Batch ID: 75719	TestNo: M4500-H+ B	Units: pH Units@18.1°C							
SampType: DUP	Run ID: TITRATOR_160617A	Analysis Date: 6/17/2016 1:00:00 PM	Prep Date: 6/17/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	6.26	0	0	6.290				0.478	5	

Sample ID 1606193-04D-DUP	Batch ID: 75719	TestNo: M4500-H+ B	Units: pH Units@17.3°C							
SampType: DUP	Run ID: TITRATOR_160617A	Analysis Date: 6/17/2016 1:20:00 PM	Prep Date: 6/17/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	6.95	0	0	6.890				0.867	5	

LUMINANT

Qualifiers:	B Analyte detected in the associated Method Blank	DF Dilution Factor
	J Analyte detected between MDL and RL	MDL Method Detection Limit
	ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
	RL Reporting Limit	S Spike Recovery outside control limits
	J Analyte detected between SDL and RL	N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606168
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_160617A

Sample ID ICV-160617	Batch ID: R86391	TestNo: M4500-H+ B	Units: pH Units@21.9°C							
SampType: ICV	Run ID: TITRATOR_160617A	Analysis Date: 6/17/2016 12:36:00 PM	Prep Date: 6/17/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	9.97	0	10.00	0	99.7	99	101			

Sample ID CCV1-160617	Batch ID: R86391	TestNo: M4500-H+ B	Units: pH Units@21.2°C							
SampType: CCV	Run ID: TITRATOR_160617A	Analysis Date: 6/17/2016 1:15:00 PM	Prep Date: 6/17/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	7.01	0	7.000	0	100	97.1	102.9			

Sample ID CCV2-160617	Batch ID: R86391	TestNo: M4500-H+ B	Units: pH Units@21.2°C							
SampType: CCV	Run ID: TITRATOR_160617A	Analysis Date: 6/17/2016 1:44:00 PM	Prep Date: 6/17/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	7.00	0	7.000	0	100	97.1	102.9			

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
--	---

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606168
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: WC_160617A

The QC data in batch 75699 applies to the following samples: 1606168-01D

Sample ID MB-75699	Batch ID: 75699	TestNo: M2540C	Units: mg/L								
SampType: MBLK	Run ID: WC_160617A	Analysis Date: 6/20/2016 8:45:00 AM	Prep Date: 6/17/2016								
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Dissolved Solids (Residue, Filtera		<10.0	10.0								

Sample ID LCS-75699	Batch ID: 75699	TestNo: M2540C	Units: mg/L							
SampType: LCS	Run ID: WC_160617A	Analysis Date: 6/20/2016 8:45:00 AM	Prep Date: 6/17/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera		760	10.0	745.6	0	102	90	113		

Sample ID 1606145-04D-DUP	Batch ID: 75699	TestNo: M2540C	Units: mg/L							
SampType: DUP	Run ID: WC_160617A	Analysis Date: 6/20/2016 8:45:00 AM	Prep Date: 6/17/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera		2300	50.0	0	2205			4.00	5	

Sample ID 1606168-01D-DUP	Batch ID: 75699	TestNo: M2540C	Units: mg/L							
SampType: DUP	Run ID: WC_160617A	Analysis Date: 6/20/2016 8:45:00 AM	Prep Date: 6/17/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera		3850	50.0	0	3780			1.83	5	

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
--	---

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606168
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: WC_160621C

The QC data in batch 75770 applies to the following samples: 1606168-02D, 1606168-03D, 1606168-04D, 1606168-05D

Sample ID MB-75770	Batch ID: 75770	TestNo: M2540C	Units: mg/L							
SampType: MBLK	Run ID: WC_160621C	Analysis Date: 6/22/2016 8:36:00 AM	Prep Date: 6/21/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	<10.0	10.0								

Sample ID LCS-75770	Batch ID: 75770	TestNo: M2540C	Units: mg/L							
SampType: LCS	Run ID: WC_160621C	Analysis Date: 6/22/2016 8:36:00 AM	Prep Date: 6/21/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	770	10.0	745.6	0	103	90	113			

Sample ID 1606168-02D-DUP	Batch ID: 75770	TestNo: M2540C	Units: mg/L							
SampType: DUP	Run ID: WC_160621C	Analysis Date: 6/22/2016 8:36:00 AM	Prep Date: 6/21/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	1800	50.0	0	1725				4.26	5	

Sample ID 1606193-05D-DUP	Batch ID: 75770	TestNo: M2540C	Units: mg/L							
SampType: DUP	Run ID: WC_160621C	Analysis Date: 6/22/2016 8:36:00 AM	Prep Date: 6/21/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	3920	50.0	0	6135				44.1	5	R

Qualifiers: B Analyte detected in the associated Method Blank
 J Analyte detected between MDL and RL
 ND Not Detected at the Method Detection Limit
 RL Reporting Limit
 J Analyte detected between SDL and RL
 DF Dilution Factor
 MDL Method Detection Limit
 R RPD outside accepted control limits
 S Spike Recovery outside control limits
 N Parameter not NELAC certified

Case Narrative

Lab No: 20160580

/ / M r r d r d d r d
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 r r r r r r d
 r r r r d d r r r r d dr r r d
 r d r d r d
 r d r r d r r r d d r d r r

Observations / Nonconformances

LUMINANT



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Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
--------	--------	----	-------	------	-----------	---------------	---------

Lab ID 20160580-01
Client ID AXMW-2
Date Sampled 6/15/2016 9:10:00 AM
Matrix NPW

Radiochemical Analyses

d d	/		/				
d M M	/		/		//	//	
d /	/		/		//	//	

Lab ID 20160580-02
Client ID AX-23
Date Sampled 6/15/2016 9:55:00 AM
Matrix NPW

Radiochemical Analyses

d d	/		/				
d M M	/		/		//	//	
d /	/		/		//	//	

Lab ID 20160580-03
Client ID AX-28
Date Sampled 6/15/2016 11:00:00 AM
Matrix NPW

Radiochemical Analyses

d d	/		/				
d M M	/		/		//	//	
d /	/		/		//	//	

Lab ID 20160580-04
Client ID AXMW-1
Date Sampled 6/15/2016 1:05:00 PM
Matrix NPW

Radiochemical Analyses

d d	/		/				
d M M	/		/		//	//	
d /	/		/		//	//	

r d r r



r
r
r d // /
d // /
r

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID	20160580-05						
Client ID	MW-1						
Date Sampled	6/15/2016						
Matrix	NPW						

Radiochemical Analyses

d d	/	/				
d M M	/	/			//	//
d /	/	/			//	//

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	RPD	Batch ID
d										
d										

Lab Approval:

r d r r

DHL Analytical, Inc.

2300 Double Creek Drive

Round Rock, TX 78664

TEL: (512) 388-8222

FAX: (512) 388-8229

Work Order: 1606168

CHAIN-OF-CUSTODY REC

Subcontractor:

ESC Laboratory
311 North Aspen
Broken Arrow, Oklahoma 74012

TEL: (918) 251-2515
FAX:
Acct #: DHLRRTX

20160520
01
02
03
04
05

Sample Id	Matrix	DHL#	Date Collected	Bottle Type	Requested Tests		
					E904.0	SM7500Ra-B M	
AXMW-2	Aqueous	-01B	06/15/16 09:10 AM	500HDPEHNO3	1		
AXMW-2	Aqueous	-01C	06/15/16 09:10 AM	500HDPEHNO3		1	
AX-23	Aqueous	-02B	06/15/16 09:55 AM	500HDPEHNO3	1		
AX-23	Aqueous	-02C	06/15/16 09:55 AM	500HDPEHNO3		1	
AX-28	Aqueous	-03B	06/15/16 11:00 AM	500HDPEHNO3	1		
AX-28	Aqueous	-03C	06/15/16 11:00 AM	500HDPEHNO3		1	
AXMW-1	Aqueous	-04B	06/15/16 01:05 PM	500HDPEHNO3	1		
AXMW-1	Aqueous	-04C	06/15/16 01:05 PM	500HDPEHNO3		1	
MW-1	Aqueous	-05B	06/15/16	500HDPEHNO3	1		
MW-1	Aqueous	-05C	06/15/16	500HDPEHNO3		1	

General Comments:

Please analyze these samples with a standard Turnaround Time.
Call John DuPont if you have questions.
Quality Control Package Needed: Standard
EMAIL report to both cac@dhlanalytical.com & dupont@dhlanalytical.com

	Date/Time	
Relinquished by: <u>[Signature]</u>	<u>6/15/16 17:30</u>	Received by: <u>[Signature]</u>
Relinquished by: _____	_____	Received by: <u>[Signature]</u>

SAMPLE LOGIN

Date Received: 6/17/2016 11:12:5

Lab Number: 20160580

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Pr Up
20160580-01 B	AXMW-2	NPW	06/15/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
20160580-01 A	AXMW-2	NPW	06/15/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				
20160580-02 B	AX-23	NPW	06/15/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
20160580-02 A	AX-23	NPW	06/15/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				
20160580-03 B	AX-28	NPW	06/15/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
20160580-03 A	AX-28	NPW	06/15/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				
20160580-04 B	AXMW-1	NPW	06/15/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
20160580-04 A	AXMW-1	NPW	06/15/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				
20160580-05 B	MW-1	NPW	06/15/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
20160580-05 A	MW-1	NPW	06/15/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				

CONTAINER INSPECTION

Coolers 1 Custody Seals Broken Temperature: NA C Ice Radiation Survey: <300 cpm

SAMPLE INSPECTION

Sample Seal Broken Chain of Custody Record Labels in Tact Radiation Survey Complete NA

Anomalles

Inspected By: [Signature] DATE 6/17/16

QA or Designee Review: Raymond Thomas DATE 06/17/16

Sample Custodian Review: _____ DATE _____

Project Notes:

LUMINANT



September 08, 2016

Will Vienne
Pastor, Behling & Wheeler
2201 Double Creek Dr #4004
Round Rock, Texas 78664
TEL: (512) 671-3434
FAX (512) 671-3446
RE: Sandow CCR

Order No.: 1608095

Dear Will Vienne:

DHL Analytical, Inc. received 12 sample(s) on 8/9/2016 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

A handwritten signature in orange ink, appearing to read "John DuPont".

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-16-16



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LUMINANT



2300 Double Creek Dr. ■ Round Rock, TX 78664
 Phone (512) 388-8222 ■ FAX (512) 388-8229
 Web: www.dhlanalytical.com
 E-Mail: login@dhlanalytical.com



CLIENT: Pastor Behling & Wheeler
 ADDRESS: 5201 Double Creek Dr Ste 4004
 PHONE: 512-671-3434 FAX/E-MAIL: will.vienne@pbwillie.com
 DATA REPORTED TO: Will Vienne
 ADDITIONAL REPORT COPIES TO: Karla Henson

DATE: 8/9/2016
 PO #: _____
 PROJECT LOCATION OR NAME: Sar
 CLIENT PROJECT #: 5164E

Authorize 5% surcharge for TRRP Report?
 Yes No

S=SOIL
 W=WATER
 A=AIR
 L=LIQUID
 SE=SEDIMENT
 P=PAINT
 SL=SLUDGE
 O=OTHER
 SO=SOLID

PRESERVATION

HCl
 HNO₃
 H₂SO₄ NaOH
 ICE
 UNPRESERVED

ANALYSES

BTX MTBE (METHOD 8021)
 TPH 1005 TPH 1006 HOLD 1006
 GRO (METHOD 8015) VOC 624 VOC 8260/5035
 VOC 8260 VOC 8270 HOLD PAH SVOC 625
 8270 PEST 625 PEST/PCB 6082 PCB 8270 PCB
 8321 HERB T PHOS. AMMONIA
 METALS 6020 METALS 200.8
 PCRA TX11
 PH HEX CHROM
 CHLORIDE
 TCLP

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	HCl	HNO ₃	H ₂ SO ₄ NaOH	ICE	UNPRESERVED
AX-24	01	8/9/16	9:35	W		4	X	X			
AX-22R	02	8/9/16	10:30								
AX-28	03		11:35								
AX-MW-1	04		12:20								
AX-27	05		14:15								
AX-23	06		15:15								
AX-MW-01	07										
EB-01	08	8/9/16	8:30	W		4	X	X			

RELINQUISHED BY: (Signature) [Signature]

DATE/TIME

8/9/16/16:35

RECEIVED BY: (Signature) [Signature]

RELINQUISHED BY: (Signature) _____

DATE/TIME

RECEIVED BY: (Signature) _____

RELINQUISHED BY: (Signature) _____

DATE/TIME

RECEIVED BY: (Signature) _____

TURN AROUND TIME

RUSH CALL FIRST
 1 DAY CALL FIRST
 2 DAY
 NORMAL
 OTHER

LABORATORY

RECEIVING TE
 CUSTODY SEA
 CARRIER:
 COURIER D
 HAND DELI

DHL DISPOSAL @ \$5.00 each

Return

John Dupont

From: Sara Taube [Sara.Taube@pbwfc.com]
Sent: Wednesday, July 22, 2015 12:05 PM
To: John Dupont
Subject: CCR Appendix III and IV
Follow Up Flag: Follow up
Flag Status: Completed

Hi John,

Here are the Appendix III and Appendix IV constituents that we will need to have analyzed under the CCR Rule.

Appendix III

Boron
Calcium
Chloride
Fluoride
pH
sulfate
TDS

Appendix IV

Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cobalt
Fluoride
Lead
Lithium
Mercury
Molybdenum
Selenium
Thallium
Radium 226 and 228

We are looking to have approximately 74 wells sampled 3 times over the course of the next two years. Please let me know if there is any more information you might need.

Cheers,

Sara

10/26/2015

Sample Receipt Checklist

Client Name Pastor, Behling & Wheeler

Date Received: 8/9/2016

Work Order Number 1608095

Received by JB

Checklist completed by: Bawia 8/9/2016
Signature Date

Reviewed by: PL 8/9/2016
Initials Date

Carrier name Hand Delivered

- 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 5.1 °C 3.1
- Water - VOA vials have zero headspace? Yes No No VOA vials submitted
- Water - pH<2 acceptable upon receipt? Yes No NA LOT # 8086
Adjusted? 100 Checked by [Signature]
- Water - pH>9 (S) or pH>12 (CN) acceptable upon receipt? Yes No NA LOT #
Adjusted? _____ Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Lab Order: 1608095

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

- Method SW6020A - Metals Analysis
- Method SW7470A - Mercury Analysis
- Method E300 - Anions Analysis
- Method M4500-H+ B - pH of a Water Analysis
- Method M2540C - TDS Analysis

Sub-contract - Radium-228 and Radium-226 analyses by methods E904/9320 and SM 7500 Ra B M. Analyzed at ESC Lab Sciences.

LOG IN

The samples were received and log-in performed on 8/9/16 and 8/10/16. A total of 12 samples were received. The samples arrived in good condition and were properly packaged.

METALS ANALYSIS

For Metals analysis performed on 8/17/16 and 8/18/16 (batches 76764 & 76796) the matrix spikes and matrix spike duplicate recoveries were out of control limits for seven analytes. These are flagged accordingly in the QC summary report. The samples selected for the matrix spikes and matrix spike duplicates were not from this work order. The LCSs were within control limits for these analytes. No further corrective actions were taken.

For Metals analysis performed on 8/18/16 (batch 76796) the RPD for the serial dilution was slightly above control limits for Boron. This is flagged accordingly. The PDS was within control limits for this analyte. No further corrective actions were taken.

For Metals analysis performed on 8/18/16 and 8/19/16 three LCVLs were below control limits for Boron. These are flagged accordingly. The associated CCVs were within control limits for this analyte. No further corrective actions were taken.

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Lab Order: 1608095

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1608095-01	AX-24		08/09/16 09:35 AM	8/9/2016
1608095-02	AX-22R		08/09/16 10:30 AM	8/9/2016
1608095-03	AX-28		08/09/16 11:35 AM	8/9/2016
1608095-04	AXMW-1		08/09/16 12:20 PM	8/9/2016
1608095-05	AX-27		08/09/16 02:15 PM	8/9/2016
1608095-06	AX-23		08/09/16 03:15 PM	8/9/2016
1608095-07	MW-01		08/09/16	8/9/2016
1608095-08	EB-01		08/09/16 08:30 AM	8/9/2016
1608095-09	AX-25		08/10/16 08:35 AM	8/10/2016
1608095-10	AX-26		08/10/16 09:30 AM	8/10/2016
1608095-11	AXMW-2		08/10/16 11:00 AM	8/10/2016
1608095-12	AX-29		08/10/16 11:50 AM	8/10/2016

LUMINANT

PREP DATES REPORT

Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
08/09/16 09:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/09/16 09:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/09/16 09:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/09/16 09:35 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/16/16 11:56 AM	76826
08/09/16 09:35 AM	Aqueous	E300	Anion Preparation	08/10/16 09:00 AM	76753
08/09/16 09:35 AM	Aqueous	E300	Anion Preparation	08/10/16 09:00 AM	76753
08/09/16 09:35 AM	Aqueous	M4500-H+ B	pH Preparation	08/15/16 08:23 AM	76798
08/09/16 09:35 AM	Aqueous	M2540C	TDS Preparation	08/12/16 01:05 PM	76794
08/09/16 10:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/09/16 10:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/09/16 10:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/09/16 10:30 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/16/16 11:56 AM	76826
08/09/16 10:30 AM	Aqueous	E300	Anion Preparation	08/10/16 09:00 AM	76753
08/09/16 10:30 AM	Aqueous	E300	Anion Preparation	08/10/16 09:00 AM	76753
08/09/16 10:30 AM	Aqueous	M4500-H+ B	pH Preparation	08/15/16 08:23 AM	76798
08/09/16 10:30 AM	Aqueous	M2540C	TDS Preparation	08/12/16 01:05 PM	76794
08/09/16 11:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/09/16 11:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/09/16 11:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/09/16 11:35 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/16/16 11:56 AM	76826
08/09/16 11:35 AM	Aqueous	E300	Anion Preparation	08/10/16 09:00 AM	76753
08/09/16 11:35 AM	Aqueous	E300	Anion Preparation	08/10/16 09:00 AM	76753
08/09/16 11:35 AM	Aqueous	M4500-H+ B	pH Preparation	08/15/16 08:23 AM	76798
08/09/16 11:35 AM	Aqueous	M2540C	TDS Preparation	08/12/16 01:05 PM	76794
08/09/16 12:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/09/16 12:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/09/16 12:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/09/16 12:20 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/16/16 11:56 AM	76826

PREP DATES REPORT

Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
08/09/16 12:20 PM	Aqueous	E300	Anion Preparation	08/10/16 09:00 AM	76753
08/09/16 12:20 PM	Aqueous	E300	Anion Preparation	08/10/16 09:00 AM	76753
08/09/16 12:20 PM	Aqueous	M4500-H+ B	pH Preparation	08/15/16 08:23 AM	76798
08/09/16 12:20 PM	Aqueous	M2540C	TDS Preparation	08/12/16 01:05 PM	76794
08/09/16 02:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/09/16 02:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/09/16 02:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/09/16 02:15 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/16/16 11:56 AM	76826
08/09/16 02:15 PM	Aqueous	E300	Anion Preparation	08/10/16 09:00 AM	76753
08/09/16 02:15 PM	Aqueous	E300	Anion Preparation	08/10/16 09:00 AM	76753
08/09/16 02:15 PM	Aqueous	M4500-H+ B	pH Preparation	08/15/16 08:23 AM	76798
08/09/16 02:15 PM	Aqueous	M2540C	TDS Preparation	08/12/16 01:05 PM	76794
08/09/16 03:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/09/16 03:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/09/16 03:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/09/16 03:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/09/16 03:15 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/16/16 11:56 AM	76826
08/09/16 03:15 PM	Aqueous	E300	Anion Preparation	08/10/16 09:00 AM	76753
08/09/16 03:15 PM	Aqueous	M4500-H+ B	pH Preparation	08/15/16 08:23 AM	76798
08/09/16 03:15 PM	Aqueous	M2540C	TDS Preparation	08/12/16 01:05 PM	76794
08/09/16	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/09/16	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/09/16	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/09/16	Aqueous	SW7470A	Mercury Aq Prep, Total	08/16/16 11:56 AM	76826
08/09/16	Aqueous	E300	Anion Preparation	08/10/16 09:00 AM	76753
08/09/16	Aqueous	E300	Anion Preparation	08/10/16 09:00 AM	76753
08/09/16	Aqueous	M4500-H+ B	pH Preparation	08/15/16 08:23 AM	76798
08/09/16	Aqueous	M2540C	TDS Preparation	08/12/16 01:05 PM	76794

PREP DATES REPORT

Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
08/09/16 08:30 AM	Equip Blank	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/09/16 08:30 AM	Equip Blank	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/09/16 08:30 AM	Equip Blank	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/09/16 08:30 AM	Equip Blank	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/09/16 08:30 AM	Equip Blank	SW7470A	Mercury Aq Prep, Total	08/16/16 11:56 AM	76826
08/09/16 08:30 AM	Equip Blank	E300	Anion Preparation	08/10/16 09:00 AM	76753
08/09/16 08:30 AM	Equip Blank	E300	Anion Preparation	08/10/16 09:00 AM	76753
08/09/16 08:30 AM	Equip Blank	M4500-H+ B	pH Preparation	08/15/16 08:23 AM	76798
08/09/16 08:30 AM	Equip Blank	M2540C	TDS Preparation	08/12/16 01:05 PM	76794
08/10/16 08:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/10/16 08:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/10/16 08:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/10/16 08:35 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/16/16 11:56 AM	76826
08/10/16 08:35 AM	Aqueous	E300	Anion Preparation	08/11/16 10:56 AM	76776
08/10/16 08:35 AM	Aqueous	E300	Anion Preparation	08/11/16 10:56 AM	76776
08/10/16 08:35 AM	Aqueous	M4500-H+ B	pH Preparation	08/15/16 08:23 AM	76798
08/10/16 08:35 AM	Aqueous	M2540C	TDS Preparation	08/12/16 01:05 PM	76794
08/10/16 09:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/10/16 09:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/10/16 09:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/10/16 09:30 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/16/16 11:56 AM	76826
08/10/16 09:30 AM	Aqueous	E300	Anion Preparation	08/11/16 10:56 AM	76776
08/10/16 09:30 AM	Aqueous	E300	Anion Preparation	08/11/16 10:56 AM	76776
08/10/16 09:30 AM	Aqueous	M4500-H+ B	pH Preparation	08/15/16 08:23 AM	76798
08/10/16 09:30 AM	Aqueous	M2540C	TDS Preparation	08/12/16 01:05 PM	76794
08/10/16 11:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/10/16 11:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/10/16 11:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764

PREP DATES REPORT

Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
08/10/16 11:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/10/16 11:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/10/16 11:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/10/16 04:43 PM	76764
08/10/16 11:00 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/16/16 11:56 AM	76826
08/10/16 11:00 AM	Aqueous	E300	Anion Preparation	08/11/16 10:56 AM	76776
08/10/16 11:00 AM	Aqueous	E300	Anion Preparation	08/11/16 10:56 AM	76776
08/10/16 11:00 AM	Aqueous	E300	Anion Preparation	08/11/16 10:56 AM	76776
08/10/16 11:00 AM	Aqueous	M4500-H+ B	pH Preparation	08/15/16 08:23 AM	76798
08/10/16 11:00 AM	Aqueous	M2540C	TDS Preparation	08/12/16 01:05 PM	76794
08/10/16 11:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/15/16 08:01 AM	76796
08/10/16 11:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/15/16 08:01 AM	76796
08/10/16 11:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/15/16 08:01 AM	76796
08/10/16 11:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/15/16 08:01 AM	76796
08/10/16 11:50 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/16/16 11:56 AM	76826
08/10/16 11:50 AM	Aqueous	E300	Anion Preparation	08/11/16 10:56 AM	76776
08/10/16 11:50 AM	Aqueous	E300	Anion Preparation	08/11/16 10:56 AM	76776
08/10/16 11:50 AM	Aqueous	M4500-H+ B	pH Preparation	08/15/16 08:23 AM	76798
08/10/16 11:50 AM	Aqueous	M2540C	TDS Preparation	08/12/16 01:05 PM	76794

ANALYTICAL DATES REPORT

Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
Aqueous	SW7470A	Mercury Total: Aqueous	76826	1	08/17/16 11:17 AM	CETAC2_HG_160817 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76764	50	08/17/16 03:22 PM	ICP-MS3_160817A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76764	1	08/16/16 02:41 PM	ICP-MS4_160816B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76764	1	08/19/16 02:33 PM	ICP-MS4_160819A
Aqueous	E300	Anions by IC method - Water	76753	1	08/10/16 11:23 AM	IC4_160810A
Aqueous	E300	Anions by IC method - Water	76753	100	08/10/16 03:38 PM	IC4_160810A
Aqueous	M4500-H+ B	pH	76798	1	08/15/16 10:36 AM	TITRATOR_160815A
Aqueous	M2540C	Total Dissolved Solids	76794	1	08/15/16 08:46 AM	WC_160812A
Aqueous	SW7470A	Mercury Total: Aqueous	76826	1	08/17/16 11:20 AM	CETAC2_HG_160817 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76764	10	08/17/16 03:28 PM	ICP-MS3_160817A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76764	1	08/16/16 02:43 PM	ICP-MS4_160816B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76764	1	08/19/16 03:28 PM	ICP-MS4_160819A
Aqueous	E300	Anions by IC method - Water	76753	1	08/10/16 11:38 AM	IC4_160810A
Aqueous	E300	Anions by IC method - Water	76753	10	08/10/16 03:53 PM	IC4_160810A
Aqueous	M4500-H+ B	pH	76798	1	08/15/16 10:41 AM	TITRATOR_160815A
Aqueous	M2540C	Total Dissolved Solids	76794	1	08/15/16 08:46 AM	WC_160812A
Aqueous	SW7470A	Mercury Total: Aqueous	76826	1	08/17/16 11:22 AM	CETAC2_HG_160817 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76764	50	08/17/16 03:34 PM	ICP-MS3_160817A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76764	1	08/16/16 02:45 PM	ICP-MS4_160816B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76764	1	08/19/16 03:30 PM	ICP-MS4_160819A
Aqueous	E300	Anions by IC method - Water	76753	1	08/10/16 11:53 AM	IC4_160810A
Aqueous	E300	Anions by IC method - Water	76753	100	08/10/16 04:38 PM	IC4_160810A
Aqueous	M4500-H+ B	pH	76798	1	08/15/16 10:42 AM	TITRATOR_160815A
Aqueous	M2540C	Total Dissolved Solids	76794	1	08/15/16 08:46 AM	WC_160812A
Aqueous	SW7470A	Mercury Total: Aqueous	76826	1	08/17/16 11:24 AM	CETAC2_HG_160817 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76764	1	08/19/16 03:32 PM	ICP-MS4_160819A

ANALYTICAL DATES REPORT

Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76764	50	08/17/16 03:40 PM	ICP-MS3_160817A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76764	1	08/16/16 02:47 PM	ICP-MS4_160816B
Aqueous	E300	Anions by IC method - Water	76753	1	08/10/16 12:08 PM	IC4_160810A
Aqueous	E300	Anions by IC method - Water	76753	100	08/10/16 04:53 PM	IC4_160810A
Aqueous	M4500-H+ B	pH	76798	1	08/15/16 10:44 AM	TITRATOR_160815A
Aqueous	M2540C	Total Dissolved Solids	76794	1	08/15/16 08:46 AM	WC_160812A
Aqueous	SW7470A	Mercury Total: Aqueous	76826	1	08/17/16 11:35 AM	CETAC2_HG_160817 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76764	1	08/16/16 02:49 PM	ICP-MS4_160816B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76764	50	08/19/16 02:17 PM	ICP-MS4_160819A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76764	1	08/19/16 03:34 PM	ICP-MS4_160819A
Aqueous	E300	Anions by IC method - Water	76753	100	08/10/16 05:08 PM	IC4_160810A
Aqueous	E300	Anions by IC method - Water	76753	1	08/10/16 12:23 PM	IC4_160810A
Aqueous	M4500-H+ B	pH	76798	1	08/15/16 10:47 AM	TITRATOR_160815A
Aqueous	M2540C	Total Dissolved Solids	76794	1	08/15/16 08:46 AM	WC_160812A
Aqueous	SW7470A	Mercury Total: Aqueous	76826	1	08/17/16 11:38 AM	CETAC2_HG_160817 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76764	1	08/19/16 04:41 PM	ICP-MS3_160819B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76764	1	08/16/16 02:51 PM	ICP-MS4_160816B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76764	10	08/19/16 02:19 PM	ICP-MS4_160819A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76764	1	08/19/16 03:36 PM	ICP-MS4_160819A
Aqueous	E300	Anions by IC method - Water	76753	1	08/10/16 12:38 PM	IC4_160810A
Aqueous	M4500-H+ B	pH	76798	1	08/15/16 10:48 AM	TITRATOR_160815A
Aqueous	M2540C	Total Dissolved Solids	76794	1	08/15/16 08:46 AM	WC_160812A
Aqueous	SW7470A	Mercury Total: Aqueous	76826	1	08/17/16 11:40 AM	CETAC2_HG_160817 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76764	50	08/19/16 02:21 PM	ICP-MS4_160819A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76764	1	08/19/16 03:38 PM	ICP-MS4_160819A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76764	1	08/16/16 02:53 PM	ICP-MS4_160816B

ANALYTICAL DATES REPORT

Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
Aqueous	E300	Anions by IC method - Water	76753	1	08/10/16 12:53 PM	IC4_160810A
Aqueous	E300	Anions by IC method - Water	76753	100	08/10/16 05:23 PM	IC4_160810A
Aqueous	M4500-H+ B	pH	76798	1	08/15/16 10:50 AM	TITRATOR_160815A
Aqueous	M2540C	Total Dissolved Solids	76794	1	08/15/16 08:46 AM	WC_160812A
Equip Blank	SW7470A	Mercury Total: Aqueous	76826	1	08/17/16 11:42 AM	CETAC2_HG_160817 A
Equip Blank	SW6020A	Trace Metals: ICP-MS - Water	76764	1	08/19/16 04:47 PM	ICP-MS3_160819B
Equip Blank	SW6020A	Trace Metals: ICP-MS - Water	76764	1	08/16/16 02:55 PM	ICP-MS4_160816B
Equip Blank	SW6020A	Trace Metals: ICP-MS - Water	76764	10	08/19/16 02:23 PM	ICP-MS4_160819A
Equip Blank	SW6020A	Trace Metals: ICP-MS - Water	76764	1	08/19/16 03:40 PM	ICP-MS4_160819A
Equip Blank	E300	Anions by IC method - Water	76753	1	08/10/16 02:30 PM	IC4_160810A
Equip Blank	E300	Anions by IC method - Water	76753	1	08/10/16 01:08 PM	IC4_160810A
Equip Blank	M4500-H+ B	pH	76798	1	08/15/16 10:53 AM	TITRATOR_160815A
Equip Blank	M2540C	Total Dissolved Solids	76794	1	08/15/16 08:46 AM	WC_160812A
Aqueous	SW7470A	Mercury Total: Aqueous	76826	1	08/17/16 11:45 AM	CETAC2_HG_160817 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76764	1	08/16/16 02:57 PM	ICP-MS4_160816B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76764	50	08/19/16 02:25 PM	ICP-MS4_160819A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76764	1	08/19/16 03:42 PM	ICP-MS4_160819A
Aqueous	E300	Anions by IC method - Water	76776	1	08/11/16 12:23 PM	IC4_160811A
Aqueous	E300	Anions by IC method - Water	76776	100	08/11/16 04:08 PM	IC4_160811A
Aqueous	M4500-H+ B	pH	76798	1	08/15/16 10:54 AM	TITRATOR_160815A
Aqueous	M2540C	Total Dissolved Solids	76794	1	08/15/16 08:46 AM	WC_160812A
Aqueous	SW7470A	Mercury Total: Aqueous	76826	1	08/17/16 11:47 AM	CETAC2_HG_160817 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76764	1	08/19/16 03:44 PM	ICP-MS4_160819A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76764	50	08/19/16 02:27 PM	ICP-MS4_160819A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76764	1	08/16/16 03:16 PM	ICP-MS4_160816B
Aqueous	E300	Anions by IC method - Water	76776	100	08/11/16 04:23 PM	IC4_160811A

ANALYTICAL DATES REPORT

Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
Aqueous	E300	Anions by IC method - Water	76776	1	08/11/16 12:38 PM	IC4_160811A
Aqueous	M4500-H+ B	pH	76798	1	08/15/16 10:58 AM	TITRATOR_160815A
Aqueous	M2540C	Total Dissolved Solids	76794	1	08/15/16 08:46 AM	WC_160812A
Aqueous	SW7470A	Mercury Total: Aqueous	76826	1	08/17/16 11:54 AM	CETAC2_HG_160817 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76764	10	08/19/16 04:53 PM	ICP-MS3_160819B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76764	1	08/16/16 03:18 PM	ICP-MS4_160816B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76764	50	08/19/16 02:29 PM	ICP-MS4_160819A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76764	10	08/19/16 02:31 PM	ICP-MS4_160819A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76764	10	08/22/16 12:13 PM	ICP-MS4_160822A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76764	1	08/22/16 12:15 PM	ICP-MS4_160822A
Aqueous	E300	Anions by IC method - Water	76776	1	08/11/16 12:53 PM	IC4_160811A
Aqueous	E300	Anions by IC method - Water	76776	10	08/11/16 04:38 PM	IC4_160811A
Aqueous	E300	Anions by IC method - Water	76776	100	08/11/16 04:53 PM	IC4_160811A
Aqueous	M4500-H+ B	pH	76798	1	08/15/16 11:00 AM	TITRATOR_160815A
Aqueous	M2540C	Total Dissolved Solids	76794	1	08/15/16 08:46 AM	WC_160812A
Aqueous	SW7470A	Mercury Total: Aqueous	76826	1	08/17/16 11:56 AM	CETAC2_HG_160817 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76796	1	08/19/16 02:20 PM	ICP-MS3_160819A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76796	1	08/17/16 03:13 PM	ICP-MS4_160817A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76796	100	08/18/16 04:18 PM	ICP-MS4_160818B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76796	1	08/23/16 11:38 AM	ICP-MS4_160823A
Aqueous	E300	Anions by IC method - Water	76776	1	08/11/16 01:08 PM	IC4_160811A
Aqueous	E300	Anions by IC method - Water	76776	100	08/11/16 05:08 PM	IC4_160811A
Aqueous	M4500-H+ B	pH	76798	1	08/15/16 11:05 AM	TITRATOR_160815A
Aqueous	M2540C	Total Dissolved Solids	76794	1	08/15/16 08:46 AM	WC_160812A

DHL Analytical, Inc.

Date: 09-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1608095

Client Sample ID: AX-24
Lab ID: 1608095-01
Collection Date: 08/09/16 09:35 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A			Analyst: AH		
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/17/16 11:17 AM
TRACE METALS: ICP-MS - WATER		SW6020A			Analyst: RO		
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/16/16 02:41 PM
Arsenic	0.00456	0.00200	0.00500	J	mg/L	1	08/16/16 02:41 PM
Barium	0.0340	0.00300	0.0100		mg/L	1	08/16/16 02:41 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/19/16 02:33 PM
Boron	0.0779	0.0100	0.0300		mg/L	1	08/19/16 02:33 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/16/16 02:41 PM
Calcium	273	5.00	15.0		mg/L	50	08/17/16 03:22 PM
Chromium	0.00502	0.00200	0.00500		mg/L	1	08/16/16 02:41 PM
Cobalt	0.00528	0.00300	0.00500		mg/L	1	08/16/16 02:41 PM
Lead	0.000522	0.000300	0.00100	J	mg/L	1	08/16/16 02:41 PM
Lithium	0.0749	0.00500	0.0100		mg/L	1	08/19/16 02:33 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/16/16 02:41 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/16/16 02:41 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/16/16 02:41 PM
ANIONS BY IC METHOD - WATER		E300			Analyst: AV		
Chloride	273	30.0	100		mg/L	100	08/10/16 03:38 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/10/16 11:23 AM
Sulfate	837	100	300		mg/L	100	08/10/16 03:38 PM
PH		M4500-H+ B			Analyst: BJT		
pH	6.57	0	0		pH Units@20.7°C	1	08/15/16 10:36 AM
TOTAL DISSOLVED SOLIDS		M2540C			Analyst: AJH		
Total Dissolved Solids (Residue, Filterable)	2010	50.0	50.0		mg/L	1	08/15/16 08:46 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 09-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1608095

Client Sample ID: AX-22R
Lab ID: 1608095-02
Collection Date: 08/09/16 10:30 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/17/16 11:20 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/16/16 02:43 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	08/16/16 02:43 PM
Barium	0.108	0.00300	0.0100		mg/L	1	08/16/16 02:43 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/19/16 03:28 PM
Boron	0.110	0.100	0.300	J	mg/L	10	08/17/16 03:28 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/16/16 02:43 PM
Calcium	89.0	1.00	3.00		mg/L	10	08/17/16 03:28 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/16/16 02:43 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	08/16/16 02:43 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/16/16 02:43 PM
Lithium	0.0505	0.00500	0.0100		mg/L	1	08/19/16 03:28 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/16/16 02:43 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/16/16 02:43 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/16/16 02:43 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	91.1	3.00	10.0		mg/L	10	08/10/16 03:53 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/10/16 11:38 AM
Sulfate	52.1	1.00	3.00		mg/L	1	08/10/16 11:38 AM
PH		M4500-H+ B		Analyst: BJT			
pH	7.51	0	0		pH Units@20.8°C	1	08/15/16 10:41 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	562	10.0	10.0		mg/L	1	08/15/16 08:46 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 09-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1608095

Client Sample ID: AX-28
Lab ID: 1608095-03
Collection Date: 08/09/16 11:35 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/17/16 11:22 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/16/16 02:45 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	08/16/16 02:45 PM
Barium	0.0342	0.00300	0.0100		mg/L	1	08/16/16 02:45 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/19/16 03:30 PM
Boron	0.244	0.0100	0.0300		mg/L	1	08/19/16 03:30 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/16/16 02:45 PM
Calcium	574	5.00	15.0		mg/L	50	08/17/16 03:34 PM
Chromium	0.00266	0.00200	0.00500	J	mg/L	1	08/16/16 02:45 PM
Cobalt	0.0241	0.00300	0.00500		mg/L	1	08/16/16 02:45 PM
Lead	0.000867	0.000300	0.00100	J	mg/L	1	08/16/16 02:45 PM
Lithium	0.245	0.00500	0.0100		mg/L	1	08/19/16 03:30 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/16/16 02:45 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/16/16 02:45 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/16/16 02:45 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	412	30.0	100		mg/L	100	08/10/16 04:38 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/10/16 11:53 AM
Sulfate	1450	100	300		mg/L	100	08/10/16 04:38 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.76	0	0		pH Units@20.7°C	1	08/15/16 10:42 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	3120	50.0	50.0		mg/L	1	08/15/16 08:46 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 09-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1608095

Client Sample ID: AXMW-1
Lab ID: 1608095-04
Collection Date: 08/09/16 12:20 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A			Analyst: AH		
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/17/16 11:24 AM
TRACE METALS: ICP-MS - WATER		SW6020A			Analyst: RO		
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/16/16 02:47 PM
Arsenic	0.0173	0.00200	0.00500		mg/L	1	08/16/16 02:47 PM
Barium	0.0192	0.00300	0.0100		mg/L	1	08/16/16 02:47 PM
Beryllium	0.000390	0.000300	0.00100	J	mg/L	1	08/19/16 03:32 PM
Boron	0.624	0.500	1.50	J	mg/L	50	08/17/16 03:40 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/16/16 02:47 PM
Calcium	514	5.00	15.0		mg/L	50	08/17/16 03:40 PM
Chromium	0.0106	0.00200	0.00500		mg/L	1	08/16/16 02:47 PM
Cobalt	0.390	0.00300	0.00500		mg/L	1	08/16/16 02:47 PM
Lead	0.000602	0.000300	0.00100	J	mg/L	1	08/16/16 02:47 PM
Lithium	0.0246	0.00500	0.0100		mg/L	1	08/19/16 03:32 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/16/16 02:47 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/16/16 02:47 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/16/16 02:47 PM
ANIONS BY IC METHOD - WATER		E300			Analyst: AV		
Chloride	353	30.0	100		mg/L	100	08/10/16 04:53 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/10/16 12:08 PM
Sulfate	2290	100	300		mg/L	100	08/10/16 04:53 PM
PH		M4500-H+ B			Analyst: BJT		
pH	6.04	0	0		pH Units@20.6°C	1	08/15/16 10:44 AM
TOTAL DISSOLVED SOLIDS		M2540C			Analyst: AJH		
Total Dissolved Solids (Residue, Filterable)	4350	50.0	50.0		mg/L	1	08/15/16 08:46 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 09-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1608095

Client Sample ID: AX-27
Lab ID: 1608095-05
Collection Date: 08/09/16 02:15 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A			Analyst: AH		
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/17/16 11:35 AM
TRACE METALS: ICP-MS - WATER		SW6020A			Analyst: RO		
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/16/16 02:49 PM
Arsenic	0.00309	0.00200	0.00500	J	mg/L	1	08/16/16 02:49 PM
Barium	0.112	0.00300	0.0100		mg/L	1	08/16/16 02:49 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/19/16 03:34 PM
Boron	0.178	0.0100	0.0300		mg/L	1	08/19/16 03:34 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/16/16 02:49 PM
Calcium	359	5.00	15.0		mg/L	50	08/19/16 02:17 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/16/16 02:49 PM
Cobalt	0.0208	0.00300	0.00500		mg/L	1	08/16/16 02:49 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/16/16 02:49 PM
Lithium	0.0880	0.00500	0.0100		mg/L	1	08/19/16 03:34 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/16/16 02:49 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/16/16 02:49 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/16/16 02:49 PM
ANIONS BY IC METHOD - WATER		E300			Analyst: AV		
Chloride	670	30.0	100		mg/L	100	08/10/16 05:08 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/10/16 12:23 PM
Sulfate	468	100	300		mg/L	100	08/10/16 05:08 PM
PH		M4500-H+ B			Analyst: BJT		
pH	6.68	0	0		pH Units@20.7°C	1	08/15/16 10:47 AM
TOTAL DISSOLVED SOLIDS		M2540C			Analyst: AJH		
Total Dissolved Solids (Residue, Filterable)	2320	50.0	50.0		mg/L	1	08/15/16 08:46 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 09-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1608095

Client Sample ID: AX-23
Lab ID: 1608095-06
Collection Date: 08/09/16 03:15 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/17/16 11:38 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/16/16 02:51 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	08/16/16 02:51 PM
Barium	0.179	0.00300	0.0100		mg/L	1	08/16/16 02:51 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/19/16 03:36 PM
Boron	0.0987	0.0100	0.0300		mg/L	1	08/19/16 04:41 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/16/16 02:51 PM
Calcium	53.4	1.00	3.00		mg/L	10	08/19/16 02:19 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/16/16 02:51 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	08/16/16 02:51 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/16/16 02:51 PM
Lithium	<0.00500	0.00500	0.0100		mg/L	1	08/19/16 03:36 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/16/16 02:51 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/16/16 02:51 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/16/16 02:51 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	40.8	0.300	1.00		mg/L	1	08/10/16 12:38 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/10/16 12:38 PM
Sulfate	149	1.00	3.00		mg/L	1	08/10/16 12:38 PM
PH		M4500-H+ B		Analyst: BJT			
pH	7.06	0	0		pH Units@20.8°C	1	08/15/16 10:48 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	515	10.0	10.0		mg/L	1	08/15/16 08:46 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 09-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1608095

Client Sample ID: MW-01
Lab ID: 1608095-07
Collection Date: 08/09/16
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A			Analyst: AH		
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/17/16 11:40 AM
TRACE METALS: ICP-MS - WATER		SW6020A			Analyst: RO		
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/16/16 02:53 PM
Arsenic	0.0175	0.00200	0.00500		mg/L	1	08/16/16 02:53 PM
Barium	0.0204	0.00300	0.0100		mg/L	1	08/16/16 02:53 PM
Beryllium	0.000377	0.000300	0.00100	J	mg/L	1	08/19/16 03:38 PM
Boron	0.488	0.0100	0.0300		mg/L	1	08/19/16 03:38 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/16/16 02:53 PM
Calcium	471	5.00	15.0		mg/L	50	08/19/16 02:21 PM
Chromium	0.0107	0.00200	0.00500		mg/L	1	08/16/16 02:53 PM
Cobalt	0.389	0.00300	0.00500		mg/L	1	08/16/16 02:53 PM
Lead	0.000595	0.000300	0.00100	J	mg/L	1	08/16/16 02:53 PM
Lithium	0.0240	0.00500	0.0100		mg/L	1	08/19/16 03:38 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/16/16 02:53 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/16/16 02:53 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/16/16 02:53 PM
ANIONS BY IC METHOD - WATER		E300			Analyst: AV		
Chloride	372	30.0	100		mg/L	100	08/10/16 05:23 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/10/16 12:53 PM
Sulfate	2390	100	300		mg/L	100	08/10/16 05:23 PM
PH		M4500-H+ B			Analyst: BJT		
pH	6.01	0	0		pH Units@20.4°C	1	08/15/16 10:50 AM
TOTAL DISSOLVED SOLIDS		M2540C			Analyst: AJH		
Total Dissolved Solids (Residue, Filterable)	4060	50.0	50.0		mg/L	1	08/15/16 08:46 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 09-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1608095

Client Sample ID: EB-01
Lab ID: 1608095-08
Collection Date: 08/09/16 08:30 AM
Matrix: EQUIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/17/16 11:42 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/16/16 02:55 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	08/16/16 02:55 PM
Barium	0.0222	0.00300	0.0100		mg/L	1	08/16/16 02:55 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/19/16 03:40 PM
Boron	0.0359	0.0100	0.0300		mg/L	1	08/19/16 04:47 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/16/16 02:55 PM
Calcium	46.1	1.00	3.00		mg/L	10	08/19/16 02:23 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/16/16 02:55 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	08/16/16 02:55 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/16/16 02:55 PM
Lithium	<0.00500	0.00500	0.0100		mg/L	1	08/19/16 03:40 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/16/16 02:55 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/16/16 02:55 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/16/16 02:55 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	2.87	0.300	1.00		mg/L	1	08/10/16 02:30 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/10/16 02:30 PM
Sulfate	18.3	1.00	3.00		mg/L	1	08/10/16 02:30 PM
PH		M4500-H+ B		Analyst: BJT			
pH	8.09	0	0		pH Units@20.4°C	1	08/15/16 10:53 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	<10.0	10.0	10.0		mg/L	1	08/15/16 08:46 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 09-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1608095

Client Sample ID: AX-25
Lab ID: 1608095-09
Collection Date: 08/10/16 08:35 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/17/16 11:45 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/16/16 02:57 PM
Arsenic	0.00445	0.00200	0.00500	J	mg/L	1	08/16/16 02:57 PM
Barium	0.0808	0.00300	0.0100		mg/L	1	08/16/16 02:57 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/19/16 03:42 PM
Boron	0.196	0.0100	0.0300		mg/L	1	08/19/16 03:42 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/16/16 02:57 PM
Calcium	262	5.00	15.0		mg/L	50	08/19/16 02:25 PM
Chromium	0.00210	0.00200	0.00500	J	mg/L	1	08/16/16 02:57 PM
Cobalt	0.0311	0.00300	0.00500		mg/L	1	08/16/16 02:57 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/16/16 02:57 PM
Lithium	0.0274	0.00500	0.0100		mg/L	1	08/19/16 03:42 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/16/16 02:57 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/16/16 02:57 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/16/16 02:57 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	606	30.0	100		mg/L	100	08/11/16 04:08 PM
Fluoride	0.199	0.100	0.400	J	mg/L	1	08/11/16 12:23 PM
Sulfate	534	100	300		mg/L	100	08/11/16 04:08 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.84	0	0		pH Units@20.5°C	1	08/15/16 10:54 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	2450	50.0	50.0		mg/L	1	08/15/16 08:46 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 09-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1608095

Client Sample ID: AX-26
Lab ID: 1608095-10
Collection Date: 08/10/16 09:30 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A			Analyst: AH		
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/17/16 11:47 AM
TRACE METALS: ICP-MS - WATER		SW6020A			Analyst: RO		
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/16/16 03:16 PM
Arsenic	0.00323	0.00200	0.00500	J	mg/L	1	08/16/16 03:16 PM
Barium	0.0442	0.00300	0.0100		mg/L	1	08/16/16 03:16 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/19/16 03:44 PM
Boron	0.311	0.0100	0.0300		mg/L	1	08/19/16 03:44 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/16/16 03:16 PM
Calcium	587	5.00	15.0		mg/L	50	08/19/16 02:27 PM
Chromium	0.00990	0.00200	0.00500		mg/L	1	08/16/16 03:16 PM
Cobalt	0.0233	0.00300	0.00500		mg/L	1	08/16/16 03:16 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/16/16 03:16 PM
Lithium	0.443	0.00500	0.0100		mg/L	1	08/19/16 03:44 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/16/16 03:16 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/16/16 03:16 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/16/16 03:16 PM
ANIONS BY IC METHOD - WATER		E300			Analyst: AV		
Chloride	1180	30.0	100		mg/L	100	08/11/16 04:23 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/11/16 12:38 PM
Sulfate	1060	100	300		mg/L	100	08/11/16 04:23 PM
PH		M4500-H+ B			Analyst: BJT		
pH	6.71	0	0		pH Units@20.8°C	1	08/15/16 10:58 AM
TOTAL DISSOLVED SOLIDS		M2540C			Analyst: AJH		
Total Dissolved Solids (Residue, Filterable)	4210	50.0	50.0		mg/L	1	08/15/16 08:46 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 09-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1608095

Client Sample ID: AXMW-2
Lab ID: 1608095-11
Collection Date: 08/10/16 11:00 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/17/16 11:54 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/16/16 03:18 PM
Arsenic	0.0197	0.00200	0.00500		mg/L	1	08/16/16 03:18 PM
Barium	0.0201	0.00300	0.0100		mg/L	1	08/16/16 03:18 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/22/16 12:15 PM
Boron	1.49	0.100	0.300		mg/L	10	08/19/16 04:53 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/16/16 03:18 PM
Calcium	479	5.00	15.0		mg/L	50	08/19/16 02:29 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/16/16 03:18 PM
Cobalt	0.0327	0.00300	0.00500		mg/L	1	08/16/16 03:18 PM
Lead	0.000356	0.000300	0.00100	J	mg/L	1	08/16/16 03:18 PM
Lithium	0.0914	0.00500	0.0100		mg/L	1	08/22/16 12:15 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/16/16 03:18 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/16/16 03:18 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/16/16 03:18 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	177	3.00	10.0		mg/L	10	08/11/16 04:38 PM
Fluoride	0.299	0.100	0.400	J	mg/L	1	08/11/16 12:53 PM
Sulfate	1840	100	300		mg/L	100	08/11/16 04:53 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.43	0	0		pH Units@20.6°C	1	08/15/16 11:00 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	3310	50.0	50.0		mg/L	1	08/15/16 08:46 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 09-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1608095

Client Sample ID: AX-29
Lab ID: 1608095-12
Collection Date: 08/10/16 11:50 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/17/16 11:56 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/17/16 03:13 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	08/17/16 03:13 PM
Barium	0.0329	0.00300	0.0100		mg/L	1	08/17/16 03:13 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/17/16 03:13 PM
Boron	0.318	0.0100	0.0300		mg/L	1	08/19/16 02:20 PM
Cadmium	0.00308	0.000300	0.00100		mg/L	1	08/17/16 03:13 PM
Calcium	791	10.0	30.0		mg/L	100	08/18/16 04:18 PM
Chromium	0.0109	0.00200	0.00500		mg/L	1	08/17/16 03:13 PM
Cobalt	0.104	0.00300	0.00500		mg/L	1	08/17/16 03:13 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/17/16 03:13 PM
Lithium	0.0411	0.00500	0.0100		mg/L	1	08/23/16 11:38 AM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/17/16 03:13 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/17/16 03:13 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/17/16 03:13 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	293	30.0	100		mg/L	100	08/11/16 05:08 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/11/16 01:08 PM
Sulfate	1300	100	300		mg/L	100	08/11/16 05:08 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.68	0	0		pH Units@20.8°C	1	08/15/16 11:05 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	2860	50.0	50.0		mg/L	1	08/15/16 08:46 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_160817A

The QC data in batch 76826 applies to the following samples: 1608095-01A, 1608095-02A, 1608095-03A, 1608095-04A, 1608095-05A, 1608095-06A, 1608095-07A, 1608095-08A, 1608095-09A, 1608095-10A, 1608095-11A, 1608095-12A

Sample ID MB-76826	Batch ID: 76826	TestNo: SW7470A	Units: mg/L
SampType: MBLK	Run ID: CETAC2_HG_160817A	Analysis Date: 8/17/2016 11:08:48 AM	Prep Date: 8/16/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	<0.0000800	0.000200								

Sample ID LCS-76826	Batch ID: 76826	TestNo: SW7470A	Units: mg/L
SampType: LCS	Run ID: CETAC2_HG_160817A	Analysis Date: 8/17/2016 11:13:20 AM	Prep Date: 8/16/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00208	0.000200	0.00200	0	104	85	115			

Sample ID LCSD-76826	Batch ID: 76826	TestNo: SW7470A	Units: mg/L
SampType: LCSD	Run ID: CETAC2_HG_160817A	Analysis Date: 8/17/2016 11:15:36 AM	Prep Date: 8/16/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00206	0.000200	0.00200	0	103	85	115	0.966	15	

Sample ID 1608095-04A SD	Batch ID: 76826	TestNo: SW7470A	Units: mg/L
SampType: SD	Run ID: CETAC2_HG_160817A	Analysis Date: 8/17/2016 11:26:55 AM	Prep Date: 8/16/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	<0.000400	0.00100	0	0				0	10	

Sample ID 1608095-04A PDS	Batch ID: 76826	TestNo: SW7470A	Units: mg/L
SampType: PDS	Run ID: CETAC2_HG_160817A	Analysis Date: 8/17/2016 11:29:11 AM	Prep Date: 8/16/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00227	0.000200	0.00250	0	90.8	85	115			

Sample ID 1608095-04A MS	Batch ID: 76826	TestNo: SW7470A	Units: mg/L
SampType: MS	Run ID: CETAC2_HG_160817A	Analysis Date: 8/17/2016 11:31:27 AM	Prep Date: 8/16/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00185	0.000200	0.00200	0	92.5	80	120			

Sample ID 1608095-04A MSD	Batch ID: 76826	TestNo: SW7470A	Units: mg/L
SampType: MSD	Run ID: CETAC2_HG_160817A	Analysis Date: 8/17/2016 11:33:42 AM	Prep Date: 8/16/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00185	0.000200	0.00200	0	92.5	80	120	0	15	

- Qualifiers:**
- B Analyte detected in the associated Method Blank
 - J Analyte detected between MDL and RL
 - ND Not Detected at the Method Detection Limit
 - RL Reporting Limit
 - J Analyte detected between SDL and RL
 - DF Dilution Factor
 - MDL Method Detection Limit
 - R RPD outside accepted control limits
 - S Spike Recovery outside control limits
 - N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_160817A

Sample ID ICV-160817	Batch ID: R87650	TestNo: SW7470A	Units: mg/L							
SampType: ICV	Run ID: CETAC2_HG_160817A	Analysis Date: 8/17/2016 11:04:13 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00389	0.000200	0.00400	0	97.2	90	110			
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Sample ID CCV1-160817	Batch ID: R87650	TestNo: SW7470A	Units: mg/L							
SampType: CCV	Run ID: CETAC2_HG_160817A	Analysis Date: 8/17/2016 11:49:36 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00198	0.000200	0.00200	0	99.0	90	110			
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Sample ID CCV2-160817	Batch ID: R87650	TestNo: SW7470A	Units: mg/L							
SampType: CCV	Run ID: CETAC2_HG_160817A	Analysis Date: 8/17/2016 12:16:56 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00194	0.000200	0.00200	0	97.0	90	110			
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LUMINANANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1608095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_160817A

The QC data in batch 76764 applies to the following samples: 1608095-01A, 1608095-02A, 1608095-03A, 1608095-04A, 1608095-05A, 1608095-06A, 1608095-07A, 1608095-08A, 1608095-09A, 1608095-10A, 1608095-11A

Sample ID MB-76764	Batch ID: 76764	TestNo: SW6020A	Units: mg/L							
SampType: MBLK	Run ID: ICP-MS3_160817A	Analysis Date: 8/17/2016 2:05:00 PM	Prep Date: 8/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	<0.0100	0.0300
Calcium	<0.100	0.300

Sample ID LCS-76764	Batch ID: 76764	TestNo: SW6020A	Units: mg/L							
SampType: LCS	Run ID: ICP-MS3_160817A	Analysis Date: 8/17/2016 2:11:00 PM	Prep Date: 8/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.216	0.0300	0.200	0	108	80	120
Calcium	5.26	0.300	5.00	0	105	80	120

Sample ID LCS-76764	Batch ID: 76764	TestNo: SW6020A	Units: mg/L							
SampType: LCS	Run ID: ICP-MS3_160817A	Analysis Date: 8/17/2016 2:17:00 PM	Prep Date: 8/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.214	0.0300	0.200	0	107	80	120	0.697	15
Calcium	5.25	0.300	5.00	0	105	80	120	0.209	15

Sample ID 1608096-07C SD	Batch ID: 76764	TestNo: SW6020A	Units: mg/L							
SampType: SD	Run ID: ICP-MS3_160817A	Analysis Date: 8/17/2016 2:34:00 PM	Prep Date: 8/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	<2.50	7.50	0	0.567				0	10
Calcium	170	75.0	0	177				4.18	10

Sample ID 1608096-07C PDS	Batch ID: 76764	TestNo: SW6020A	Units: mg/L							
SampType: PDS	Run ID: ICP-MS3_160817A	Analysis Date: 8/17/2016 2:40:00 PM	Prep Date: 8/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	10.9	1.50	10.0	0.567	103	80	120
Calcium	420	15.0	250	177	97.1	80	120

Sample ID 1608096-07C MS	Batch ID: 76764	TestNo: SW6020A	Units: mg/L							
SampType: MS	Run ID: ICP-MS3_160817A	Analysis Date: 8/17/2016 3:46:00 PM	Prep Date: 8/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.664	1.50	0.200	0.567	48.2	80	120		S
Calcium	180	15.0	5.00	177	69.0	80	120		S

Qualifiers:	B	Analyte detected in the associated Method Blank	DF	Dilution Factor
	J	Analyte detected between MDL and RL	MDL	Method Detection Limit
	ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
	RL	Reporting Limit	S	Spike Recovery outside control limits
	J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_160817A

Sample ID 1608096-07C MSD	Batch ID: 76764	TestNo: SW6020A	Units: mg/L							
SampType: MSD	Run ID: ICP-MS3_160817A	Analysis Date: 8/17/2016 3:52:00 PM	Prep Date: 8/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.652	1.50	0.200	0.567	42.8	80	120	1.67	15	S
Calcium	178	15.0	5.00	177	17.0	80	120	1.45	15	S

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1608095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_160817A

Sample ID ICV1-160817	Batch ID: R87665	TestNo: SW6020A	Units: mg/L							
SampType: ICV	Run ID: ICP-MS3_160817A	Analysis Date: 8/17/2016 1:41:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.107	0.0300	0.100	0	107	90	110			
Calcium	2.48	0.300	2.50	0	99.2	90	110			

Sample ID ILCVL-160817	Batch ID: R87665	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS3_160817A	Analysis Date: 8/17/2016 1:53:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0246	0.0300	0.0200	0	123	70	130			
Calcium	0.110	0.300	0.100	0	110	70	130			

Sample ID CCV1-160817	Batch ID: R87665	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS3_160817A	Analysis Date: 8/17/2016 4:31:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.215	0.0300	0.200	0	108	90	110			
Calcium	5.23	0.300	5.00	0	105	90	110			

Sample ID LCVL1-160817	Batch ID: R87665	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS3_160817A	Analysis Date: 8/17/2016 4:43:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0243	0.0300	0.0200	0	122	70	130			
Calcium	0.112	0.300	0.100	0	112	70	130			

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1608095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_160819A

Sample ID ICV1-160819	Batch ID: R87700	TestNo: SW6020A	Units: mg/L							
SampType: ICV	Run ID: ICP-MS3_160819A	Analysis Date: 8/19/2016 11:28:00 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.107	0.0300	0.100	0	107	90	110			
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Sample ID ILCVL-160819	Batch ID: R87700	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS3_160819A	Analysis Date: 8/19/2016 11:34:00 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.0248	0.0300	0.0200	0	124	70	130			
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Sample ID CCV1-160810	Batch ID: R87700	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS3_160819A	Analysis Date: 8/19/2016 2:26:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.214	0.0300	0.200	0	107	90	110			
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Sample ID LCVL1-160810	Batch ID: R87700	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS3_160819A	Analysis Date: 8/19/2016 2:37:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.0236	0.0300	0.0200	0	118	70	130			
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Qualifiers:	B Analyte detected in the associated Method Blank	DF Dilution Factor
	J Analyte detected between MDL and RL	MDL Method Detection Limit
	ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
	RL Reporting Limit	S Spike Recovery outside control limits
	J Analyte detected between SDL and RL	N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_160819B

Sample ID ICV1-160819	Batch ID: R87709	TestNo: SW6020A	Units: mg/L							
SampType: ICV	Run ID: ICP-MS3_160819B	Analysis Date: 8/19/2016 11:28:00 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.107	0.0300	0.100	0	107	90	110
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Sample ID ILCVL-160819	Batch ID: R87709	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS3_160819B	Analysis Date: 8/19/2016 11:34:00 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.0248	0.0300	0.0200	0	124	70	130
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Sample ID CCV2-160819	Batch ID: R87709	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS3_160819B	Analysis Date: 8/19/2016 4:59:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.209	0.0300	0.200	0	105	90	110
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Sample ID LCVL2-160819	Batch ID: R87709	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS3_160819B	Analysis Date: 8/19/2016 5:11:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.0224	0.0300	0.0200	0	112	70	130
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Sample ID CCV1-160810	Batch ID: R87709	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS3_160819B	Analysis Date: 8/19/2016 2:26:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.214	0.0300	0.200	0	107	90	110
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Sample ID LCVL1-160810	Batch ID: R87709	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS3_160819B	Analysis Date: 8/19/2016 2:37:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.0236	0.0300	0.0200	0	118	70	130
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Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1608095
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160816B

The QC data in batch 76764 applies to the following samples: 1608095-01A, 1608095-02A, 1608095-03A, 1608095-04A, 1608095-05A, 1608095-06A, 1608095-07A, 1608095-08A, 1608095-09A, 1608095-10A, 1608095-11A

Sample ID: MB-76764	Batch ID: 76764	TestNo: SW6020A	Units: mg/L
SampType: MBLK	Run ID: ICP-MS4_160816B	Analysis Date: 8/16/2016 2:25:00 PM	Prep Date: 8/10/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.000800	0.00250								
Arsenic	<0.00200	0.00500								
Barium	<0.00300	0.0100								
Beryllium	<0.000300	0.00100								
Cadmium	<0.000300	0.00100								
Chromium	<0.00200	0.00500								
Cobalt	<0.00300	0.00500								
Lead	<0.000300	0.00100								
Molybdenum	<0.00200	0.00500								
Selenium	<0.00200	0.00500								
Thallium	<0.000500	0.00150								

Sample ID: LCS-76764	Batch ID: 76764	TestNo: SW6020A	Units: mg/L
SampType: LCS	Run ID: ICP-MS4_160816B	Analysis Date: 8/16/2016 2:27:00 PM	Prep Date: 8/10/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.202	0.00250	0.200	0	101	80	120			
Arsenic	0.207	0.00500	0.200	0	103	80	120			
Barium	0.199	0.0100	0.200	0	99.7	80	120			
Beryllium	0.178	0.00100	0.200	0	89.1	80	120			
Cadmium	0.202	0.00100	0.200	0	101	80	120			
Chromium	0.204	0.00500	0.200	0	102	80	120			
Cobalt	0.208	0.00500	0.200	0	104	80	120			
Lead	0.198	0.00100	0.200	0	98.9	80	120			
Molybdenum	0.201	0.00500	0.200	0	101	80	120			
Selenium	0.203	0.00500	0.200	0	101	80	120			
Thallium	0.202	0.00150	0.200	0	101	80	120			

Sample ID: LCSD-76764	Batch ID: 76764	TestNo: SW6020A	Units: mg/L
SampType: LCSD	Run ID: ICP-MS4_160816B	Analysis Date: 8/16/2016 2:29:00 PM	Prep Date: 8/10/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.204	0.00250	0.200	0	102	80	120	1.09	15	
Arsenic	0.206	0.00500	0.200	0	103	80	120	0.339	15	
Barium	0.200	0.0100	0.200	0	100	80	120	0.550	15	
Beryllium	0.178	0.00100	0.200	0	89.0	80	120	0.108	15	
Cadmium	0.201	0.00100	0.200	0	100	80	120	0.761	15	
Chromium	0.204	0.00500	0.200	0	102	80	120	0.027	15	
Cobalt	0.208	0.00500	0.200	0	104	80	120	0.071	15	

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1608095
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160816B

Sample ID LCSD-76764	Batch ID: 76764	TestNo: SW6020A	Units: mg/L							
SampType: LCSD	Run ID: ICP-MS4_160816B	Analysis Date: 8/16/2016 2:29:00 PM	Prep Date: 8/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.201	0.00100	0.200	0	101	80	120	1.63	15	
Molybdenum	0.202	0.00500	0.200	0	101	80	120	0.472	15	
Selenium	0.202	0.00500	0.200	0	101	80	120	0.485	15	
Thallium	0.205	0.00150	0.200	0	102	80	120	1.22	15	

Sample ID 1608096-07C SD	Batch ID: 76764	TestNo: SW6020A	Units: mg/L							
SampType: SD	Run ID: ICP-MS4_160816B	Analysis Date: 8/16/2016 2:39:00 PM	Prep Date: 8/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.00400	0.0125	0	0				0	10	
Arsenic	<0.0100	0.0250	0	0				0	10	
Barium	0.0678	0.0500	0	0.0692				2.10	10	
Cadmium	<0.00150	0.00500	0	0				0	10	
Chromium	<0.0100	0.0250	0	0				0	10	
Cobalt	<0.0150	0.0250	0	0				0	10	
Lead	<0.00150	0.00500	0	0				0	10	
Molybdenum	<0.0100	0.0250	0	0.00630				0	10	
Selenium	<0.0100	0.0250	0	0.00817				0	10	
Thallium	<0.00250	0.00750	0	0				0	10	

Sample ID 1608096-07C PDS	Batch ID: 76764	TestNo: SW6020A	Units: mg/L							
SampType: PDS	Run ID: ICP-MS4_160816B	Analysis Date: 8/16/2016 2:59:00 PM	Prep Date: 8/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.221	0.00250	0.200	0	110	80	120			
Arsenic	0.228	0.00500	0.200	0	114	80	120			
Barium	0.289	0.0100	0.200	0.0692	110	80	120			
Cadmium	0.221	0.00100	0.200	0	111	80	120			
Chromium	0.232	0.00500	0.200	0	116	80	120			
Cobalt	0.217	0.00500	0.200	0	109	80	120			
Lead	0.225	0.00100	0.200	0	112	80	120			
Molybdenum	0.233	0.00500	0.200	0.00630	113	80	120			
Selenium	0.217	0.00500	0.200	0.00817	104	80	120			
Thallium	0.224	0.00150	0.200	0	112	80	120			

Sample ID 1608096-07C MS	Batch ID: 76764	TestNo: SW6020A	Units: mg/L							
SampType: MS	Run ID: ICP-MS4_160816B	Analysis Date: 8/16/2016 3:01:00 PM	Prep Date: 8/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.217	0.00250	0.200	0	108	80	120			
Arsenic	0.206	0.00500	0.200	0	103	80	120			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160816B

Sample ID: 1608096-07C MS	Batch ID: 76764	TestNo: SW6020A	Units: mg/L
SampType: MS	Run ID: ICP-MS4_160816B	Analysis Date: 8/16/2016 3:01:00 PM	Prep Date: 8/10/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.269	0.0100	0.200	0.0692	99.8	80	120			
Cadmium	0.201	0.00100	0.200	0	100	80	120			
Chromium	0.203	0.00500	0.200	0	101	80	120			
Cobalt	0.194	0.00500	0.200	0	96.9	80	120			
Lead	0.202	0.00100	0.200	0	101	80	120			
Molybdenum	0.215	0.00500	0.200	0.00630	104	80	120			
Selenium	0.198	0.00500	0.200	0.00817	95.1	80	120			
Thallium	0.202	0.00150	0.200	0	101	80	120			

Sample ID: 1608096-07C MSD	Batch ID: 76764	TestNo: SW6020A	Units: mg/L
SampType: MSD	Run ID: ICP-MS4_160816B	Analysis Date: 8/16/2016 3:03:00 PM	Prep Date: 8/10/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.215	0.00250	0.200	0	107	80	120	1.06	15	
Arsenic	0.210	0.00500	0.200	0	105	80	120	1.50	15	
Barium	0.269	0.0100	0.200	0.0692	99.9	80	120	0.066	15	
Cadmium	0.200	0.00100	0.200	0	100	80	120	0.175	15	
Chromium	0.203	0.00500	0.200	0	101	80	120	0.033	15	
Cobalt	0.196	0.00500	0.200	0	98.1	80	120	1.16	15	
Lead	0.205	0.00100	0.200	0	103	80	120	1.63	15	
Molybdenum	0.218	0.00500	0.200	0.00630	106	80	120	1.41	15	
Selenium	0.197	0.00500	0.200	0.00817	94.4	80	120	0.747	15	
Thallium	0.206	0.00150	0.200	0	103	80	120	1.67	15	

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1608095
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160816B

Sample ID	ICV-160816	Batch ID:	R87638	TestNo:	SW6020A	Units:	mg/L
SampType:	ICV	Run ID:	ICP-MS4_160816B	Analysis Date:	8/16/2016 12:31:00 PM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.104	0.00250	0.100	0	104	90	110			
Arsenic	0.101	0.00500	0.100	0	101	90	110			
Barium	0.101	0.0100	0.100	0	101	90	110			
Beryllium	0.102	0.00100	0.100	0	102	90	110			
Cadmium	0.101	0.00100	0.100	0	101	90	110			
Chromium	0.105	0.00500	0.100	0	105	90	110			
Cobalt	0.106	0.00500	0.100	0	106	90	110			
Lead	0.0992	0.00100	0.100	0	99.2	90	110			
Molybdenum	0.0977	0.00500	0.100	0	97.7	90	110			
Selenium	0.101	0.00500	0.100	0	101	90	110			
Thallium	0.0975	0.00150	0.100	0	97.5	90	110			

Sample ID	LCVL-160816	Batch ID:	R87638	TestNo:	SW6020A	Units:	mg/L
SampType:	LCVL	Run ID:	ICP-MS4_160816B	Analysis Date:	8/16/2016 12:39:00 PM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00216	0.00250	0.00200	0	108	70	130			
Arsenic	0.00535	0.00500	0.00500	0	107	70	130			
Barium	0.00532	0.0100	0.00500	0	106	70	130			
Beryllium	0.00100	0.00100	0.00100	0	100	70	130			
Cadmium	0.00109	0.00100	0.00100	0	109	70	130			
Chromium	0.00546	0.00500	0.00500	0	109	70	130			
Cobalt	0.00549	0.00500	0.00500	0	110	70	130			
Lead	0.00109	0.00100	0.00100	0	109	70	130			
Molybdenum	0.00540	0.00500	0.00500	0	108	70	130			
Selenium	0.00562	0.00500	0.00500	0	112	70	130			
Thallium	0.00105	0.00150	0.00100	0	104	70	130			

Sample ID	CCV2-160816	Batch ID:	R87638	TestNo:	SW6020A	Units:	mg/L
SampType:	CCV	Run ID:	ICP-MS4_160816B	Analysis Date:	8/16/2016 2:08:00 PM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.213	0.00250	0.200	0	106	90	110			
Arsenic	0.208	0.00500	0.200	0	104	90	110			
Barium	0.204	0.0100	0.200	0	102	90	110			
Beryllium	0.184	0.00100	0.200	0	92.2	90	110			
Cadmium	0.208	0.00100	0.200	0	104	90	110			
Chromium	0.209	0.00500	0.200	0	105	90	110			
Cobalt	0.211	0.00500	0.200	0	105	90	110			
Lead	0.207	0.00100	0.200	0	104	90	110			
Molybdenum	0.211	0.00500	0.200	0	105	90	110			

- Qualifiers:**
- B Analyte detected in the associated Method Blank
 - J Analyte detected between MDL and RL
 - ND Not Detected at the Method Detection Limit
 - RL Reporting Limit
 - J Analyte detected between SDL and RL
 - DF Dilution Factor
 - MDL Method Detection Limit
 - R RPD outside accepted control limits
 - S Spike Recovery outside control limits
 - N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160816B

Sample ID CCV2-160816	Batch ID: R87638	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160816B	Analysis Date: 8/16/2016 2:08:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.204	0.00500	0.200	0	102	90	110			
Thallium	0.210	0.00150	0.200	0	105	90	110			

Sample ID LCVL2-160816	Batch ID: R87638	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160816B	Analysis Date: 8/16/2016 2:21:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00215	0.00250	0.00200	0	107	70	130			
Arsenic	0.00535	0.00500	0.00500	0	107	70	130			
Barium	0.00535	0.0100	0.00500	0	107	70	130			
Beryllium	0.000864	0.00100	0.00100	0	86.4	70	130			
Cadmium	0.00108	0.00100	0.00100	0	108	70	130			
Chromium	0.00545	0.00500	0.00500	0	109	70	130			
Cobalt	0.00545	0.00500	0.00500	0	109	70	130			
Lead	0.00112	0.00100	0.00100	0	112	70	130			
Molybdenum	0.00523	0.00500	0.00500	0	105	70	130			
Selenium	0.00559	0.00500	0.00500	0	112	70	130			
Thallium	0.00104	0.00150	0.00100	0	104	70	130			

Sample ID CCV3-160816	Batch ID: R87638	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160816B	Analysis Date: 8/16/2016 3:05:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.215	0.00250	0.200	0	108	90	110			
Arsenic	0.208	0.00500	0.200	0	104	90	110			
Barium	0.203	0.0100	0.200	0	101	90	110			
Cadmium	0.209	0.00100	0.200	0	104	90	110			
Chromium	0.209	0.00500	0.200	0	104	90	110			
Cobalt	0.207	0.00500	0.200	0	103	90	110			
Lead	0.204	0.00100	0.200	0	102	90	110			
Molybdenum	0.211	0.00500	0.200	0	105	90	110			
Selenium	0.192	0.00500	0.200	0	95.8	90	110			
Thallium	0.205	0.00150	0.200	0	102	90	110			

Sample ID LCVL3-160816	Batch ID: R87638	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160816B	Analysis Date: 8/16/2016 3:11:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00235	0.00250	0.00200	0	117	70	130			
Arsenic	0.00530	0.00500	0.00500	0	106	70	130			
Barium	0.00518	0.0100	0.00500	0	104	70	130			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1608095
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160816B

Sample ID	LCVL3-160816	Batch ID:	R87638	TestNo:	SW6020A	Units:	mg/L
SampType:	LCVL	Run ID:	ICP-MS4_160816B	Analysis Date:	8/16/2016 3:11:00 PM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.00104	0.00100	0.00100	0	104	70	130			
Chromium	0.00546	0.00500	0.00500	0	109	70	130			
Cobalt	0.00522	0.00500	0.00500	0	104	70	130			
Lead	0.00113	0.00100	0.00100	0	113	70	130			
Molybdenum	0.00540	0.00500	0.00500	0	108	70	130			
Selenium	0.00573	0.00500	0.00500	0	115	70	130			
Thallium	0.00106	0.00150	0.00100	0	106	70	130			

Sample ID	CCV4-160816	Batch ID:	R87638	TestNo:	SW6020A	Units:	mg/L
SampType:	CCV	Run ID:	ICP-MS4_160816B	Analysis Date:	8/16/2016 3:35:00 PM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.215	0.00250	0.200	0	107	90	110			
Arsenic	0.207	0.00500	0.200	0	104	90	110			
Barium	0.201	0.0100	0.200	0	101	90	110			
Cadmium	0.207	0.00100	0.200	0	104	90	110			
Chromium	0.210	0.00500	0.200	0	105	90	110			
Cobalt	0.206	0.00500	0.200	0	103	90	110			
Lead	0.201	0.00100	0.200	0	100	90	110			
Molybdenum	0.209	0.00500	0.200	0	105	90	110			
Selenium	0.195	0.00500	0.200	0	97.7	90	110			
Thallium	0.207	0.00150	0.200	0	103	90	110			

Sample ID	LCVL4-160816	Batch ID:	R87638	TestNo:	SW6020A	Units:	mg/L
SampType:	LCVL	Run ID:	ICP-MS4_160816B	Analysis Date:	8/16/2016 3:40:00 PM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00215	0.00250	0.00200	0	107	70	130			
Arsenic	0.00534	0.00500	0.00500	0	107	70	130			
Barium	0.00515	0.0100	0.00500	0	103	70	130			
Cadmium	0.00104	0.00100	0.00100	0	104	70	130			
Chromium	0.00547	0.00500	0.00500	0	109	70	130			
Cobalt	0.00534	0.00500	0.00500	0	107	70	130			
Lead	0.00105	0.00100	0.00100	0	105	70	130			
Molybdenum	0.00535	0.00500	0.00500	0	107	70	130			
Selenium	0.00539	0.00500	0.00500	0	108	70	130			
Thallium	0.00101	0.00150	0.00100	0	101	70	130			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160817A

The QC data in batch 76796 applies to the following samples: 1608095-12A

Sample ID MB-76796	Batch ID: 76796	TestNo: SW6020A	Units: mg/L
SampType: MBLK	Run ID: ICP-MS4_160817A	Analysis Date: 8/17/2016 2:19:00 PM	Prep Date: 8/15/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.000800	0.00250								
Arsenic	<0.00200	0.00500								
Barium	<0.00300	0.0100								
Beryllium	<0.000300	0.00100								
Cadmium	<0.000300	0.00100								
Calcium	<0.100	0.300								
Chromium	<0.00200	0.00500								
Cobalt	<0.00300	0.00500								
Lead	<0.000300	0.00100								
Molybdenum	<0.00200	0.00500								
Selenium	<0.00200	0.00500								
Thallium	<0.000500	0.00150								

Sample ID LCS-76796	Batch ID: 76796	TestNo: SW6020A	Units: mg/L
SampType: LCS	Run ID: ICP-MS4_160817A	Analysis Date: 8/17/2016 2:22:00 PM	Prep Date: 8/15/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.205	0.00250	0.200	0	102	80	120			
Arsenic	0.197	0.00500	0.200	0	98.5	80	120			
Barium	0.193	0.0100	0.200	0	96.3	80	120			
Beryllium	0.200	0.00100	0.200	0	100	80	120			
Cadmium	0.194	0.00100	0.200	0	97.2	80	120			
Calcium	4.62	0.300	5.00	0	92.5	80	120			
Chromium	0.193	0.00500	0.200	0	96.5	80	120			
Cobalt	0.193	0.00500	0.200	0	96.5	80	120			
Lead	0.189	0.00100	0.200	0	94.6	80	120			
Molybdenum	0.193	0.00500	0.200	0	96.5	80	120			
Selenium	0.190	0.00500	0.200	0	95.2	80	120			
Thallium	0.198	0.00150	0.200	0	98.9	80	120			

Sample ID LCSD-76796	Batch ID: 76796	TestNo: SW6020A	Units: mg/L
SampType: LCSD	Run ID: ICP-MS4_160817A	Analysis Date: 8/17/2016 2:24:00 PM	Prep Date: 8/15/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.206	0.00250	0.200	0	103	80	120	0.470	15	
Arsenic	0.199	0.00500	0.200	0	99.5	80	120	0.972	15	
Barium	0.193	0.0100	0.200	0	96.3	80	120	0.020	15	
Beryllium	0.198	0.00100	0.200	0	99.1	80	120	0.915	15	
Cadmium	0.191	0.00100	0.200	0	95.5	80	120	1.75	15	
Calcium	4.65	0.300	5.00	0	93.0	80	120	0.535	15	

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
J Analyte detected between MDL and RL MDL Method Detection Limit
ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
RL Reporting Limit S Spike Recovery outside control limits
J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160817A

Sample ID: LCSD-76796	Batch ID: 76796	TestNo: SW6020A	Units: mg/L
SampType: LCSD	Run ID: ICP-MS4_160817A	Analysis Date: 8/17/2016 2:24:00 PM	Prep Date: 8/15/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.196	0.00500	0.200	0	97.9	80	120	1.42	15	
Cobalt	0.196	0.00500	0.200	0	97.9	80	120	1.47	15	
Lead	0.190	0.00100	0.200	0	94.9	80	120	0.221	15	
Molybdenum	0.191	0.00500	0.200	0	95.3	80	120	1.22	15	
Selenium	0.196	0.00500	0.200	0	97.8	80	120	2.71	15	
Thallium	0.195	0.00150	0.200	0	97.7	80	120	1.22	15	

Sample ID: 1608137-04A SD	Batch ID: 76796	TestNo: SW6020A	Units: mg/L
SampType: SD	Run ID: ICP-MS4_160817A	Analysis Date: 8/17/2016 2:30:00 PM	Prep Date: 8/15/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.0400	0.125	0	0				0	10	
Arsenic	0.777	0.250	0	0.784				0.834	10	
Barium	<0.150	0.500	0	0.116				0	10	
Beryllium	<0.0150	0.0500	0	0				0	10	
Cadmium	<0.0150	0.0500	0	0				0	10	
Calcium	6.62	15.0	0	6.38				3.72	10	
Chromium	<0.100	0.250	0	0				0	10	
Cobalt	<0.150	0.250	0	0.142				0	10	
Lead	<0.0150	0.0500	0	0				0	10	
Molybdenum	0.524	0.250	0	0.525				0.238	10	
Selenium	<0.100	0.250	0	0				0	10	
Thallium	<0.0250	0.0750	0	0				0	10	

Sample ID: 1608137-04A PDS	Batch ID: 76796	TestNo: SW6020A	Units: mg/L
SampType: PDS	Run ID: ICP-MS4_160817A	Analysis Date: 8/17/2016 2:50:00 PM	Prep Date: 8/15/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	2.10	0.0250	2.00	0	105	80	120			
Arsenic	2.76	0.0500	2.00	0.783	99.0	80	120			
Barium	2.06	0.100	2.00	0.116	97.3	80	120			
Beryllium	1.91	0.0100	2.00	0	95.7	80	120			
Cadmium	1.84	0.0100	2.00	0	92.2	80	120			
Calcium	50.5	3.00	50.0	6.38	88.3	80	120			
Chromium	1.93	0.0500	2.00	0	96.3	80	120			
Cobalt	2.06	0.0500	2.00	0.142	95.8	80	120			
Lead	1.96	0.0100	2.00	0	97.8	80	120			
Molybdenum	2.33	0.0500	2.00	0.525	90.3	80	120			
Selenium	1.95	0.0500	2.00	0	97.5	80	120			
Thallium	1.94	0.0150	2.00	0	96.8	80	120			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1608095
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160817A

Sample ID: 1608137-04A MS	Batch ID: 76796	TestNo: SW6020A	Units: mg/L
SampType: MS	Run ID: ICP-MS4_160817A	Analysis Date: 8/17/2016 2:52:00 PM	Prep Date: 8/15/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.198	0.0250	0.200	0	99.1	80	120			
Arsenic	2.30	0.0500	0.200	0.783	757	80	120			S
Barium	0.225	0.100	0.200	0.116	54.6	80	120			S
Beryllium	0.183	0.0100	0.200	0	91.3	80	120			
Cadmium	0.182	0.0100	0.200	0	91.0	80	120			
Calcium	5.79	3.00	5.00	6.38	-11.8	80	120			S
Chromium	0.182	0.0500	0.200	0	91.1	80	120			
Cobalt	0.186	0.0500	0.200	0.142	21.6	80	120			S
Lead	0.200	0.0100	0.200	0	100	80	120			
Molybdenum	2.23	0.0500	0.200	0.525	853	80	120			S
Selenium	0.154	0.0500	0.200	0	76.9	80	120			S
Thallium	0.189	0.0150	0.200	0	94.5	80	120			

Sample ID: 1608137-04A MSD	Batch ID: 76796	TestNo: SW6020A	Units: mg/L
SampType: MSD	Run ID: ICP-MS4_160817A	Analysis Date: 8/17/2016 2:54:00 PM	Prep Date: 8/15/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.175	0.0250	0.200	0	87.7	80	120	12.2	15	
Arsenic	2.33	0.0500	0.200	0.783	775	80	120	1.56	15	S
Barium	0.213	0.100	0.200	0.116	48.7	80	120	5.39	15	S
Beryllium	0.175	0.0100	0.200	0	87.3	80	120	4.51	15	
Cadmium	0.178	0.0100	0.200	0	89.1	80	120	2.09	15	
Calcium	5.50	3.00	5.00	6.38	-17.5	80	120	5.06	15	S
Chromium	0.172	0.0500	0.200	0	85.8	80	120	6.04	15	
Cobalt	0.179	0.0500	0.200	0.142	18.3	80	120	3.66	15	S
Lead	0.198	0.0100	0.200	0	98.8	80	120	1.39	15	
Molybdenum	2.25	0.0500	0.200	0.525	861	80	120	0.745	15	S
Selenium	0.151	0.0500	0.200	0	75.4	80	120	2.07	15	S
Thallium	0.189	0.0150	0.200	0	94.3	80	120	0.265	15	

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160817A

Sample ID ICV-160817	Batch ID: R87663	TestNo: SW6020A	Units: mg/L
SampType: ICV	Run ID: ICP-MS4_160817A	Analysis Date: 8/17/2016 10:42:00 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.104	0.00250	0.100	0	104	90	110			
Arsenic	0.101	0.00500	0.100	0	101	90	110			
Barium	0.0993	0.0100	0.100	0	99.3	90	110			
Beryllium	0.100	0.00100	0.100	0	100	90	110			
Cadmium	0.0985	0.00100	0.100	0	98.5	90	110			
Calcium	2.34	0.300	2.50	0	93.8	90	110			
Chromium	0.104	0.00500	0.100	0	104	90	110			
Cobalt	0.103	0.00500	0.100	0	103	90	110			
Lead	0.101	0.00100	0.100	0	101	90	110			
Molybdenum	0.0952	0.00500	0.100	0	95.2	90	110			
Selenium	0.101	0.00500	0.100	0	101	90	110			
Thallium	0.101	0.00150	0.100	0	101	90	110			

Sample ID LCVL-160817	Batch ID: R87663	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_160817A	Analysis Date: 8/17/2016 10:46:00 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00221	0.00250	0.00200	0	110	70	130			
Arsenic	0.00526	0.00500	0.00500	0	105	70	130			
Barium	0.00513	0.0100	0.00500	0	103	70	130			
Beryllium	0.000783	0.00100	0.00100	0	78.3	70	130			
Cadmium	0.00104	0.00100	0.00100	0	104	70	130			
Calcium	0.105	0.300	0.100	0	105	70	130			
Chromium	0.00526	0.00500	0.00500	0	105	70	130			
Cobalt	0.00522	0.00500	0.00500	0	104	70	130			
Lead	0.00111	0.00100	0.00100	0	110	70	130			
Molybdenum	0.00524	0.00500	0.00500	0	105	70	130			
Selenium	0.00555	0.00500	0.00500	0	111	70	130			
Thallium	0.00105	0.00150	0.00100	0	105	70	130			

Sample ID CCV4-160817	Batch ID: R87663	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_160817A	Analysis Date: 8/17/2016 2:11:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.207	0.00250	0.200	0	103	90	110			
Arsenic	0.209	0.00500	0.200	0	105	90	110			
Barium	0.208	0.0100	0.200	0	104	90	110			
Beryllium	0.207	0.00100	0.200	0	103	90	110			
Cadmium	0.208	0.00100	0.200	0	104	90	110			
Calcium	4.67	0.300	5.00	0	93.5	90	110			
Chromium	0.207	0.00500	0.200	0	103	90	110			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1608095
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160817A

Sample ID	CCV4-160817	Batch ID:	R87663	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160817A	Analysis Date:	8/17/2016 2:11:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cobalt	0.208	0.00500	0.200	0	104	90	110			
Lead	0.204	0.00100	0.200	0	102	90	110			
Molybdenum	0.205	0.00500	0.200	0	103	90	110			
Selenium	0.203	0.00500	0.200	0	101	90	110			
Thallium	0.210	0.00150	0.200	0	105	90	110			

Sample ID	LCVL4-160817	Batch ID:	R87663	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160817A	Analysis Date:	8/17/2016 2:15:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00226	0.00250	0.00200	0	113	70	130			
Arsenic	0.00509	0.00500	0.00500	0	102	70	130			
Barium	0.00516	0.0100	0.00500	0	103	70	130			
Beryllium	0.00123	0.00100	0.00100	0	123	70	130			
Cadmium	0.00108	0.00100	0.00100	0	108	70	130			
Calcium	0.106	0.300	0.100	0	106	70	130			
Chromium	0.00521	0.00500	0.00500	0	104	70	130			
Cobalt	0.00503	0.00500	0.00500	0	101	70	130			
Lead	0.00103	0.00100	0.00100	0	103	70	130			
Molybdenum	0.00495	0.00500	0.00500	0	99.0	70	130			
Selenium	0.00460	0.00500	0.00500	0	91.9	70	130			
Thallium	0.00104	0.00150	0.00100	0	104	70	130			

Sample ID	CCV5-160817	Batch ID:	R87663	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160817A	Analysis Date:	8/17/2016 2:56:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.204	0.00250	0.200	0	102	90	110			
Arsenic	0.211	0.00500	0.200	0	105	90	110			
Barium	0.206	0.0100	0.200	0	103	90	110			
Beryllium	0.210	0.00100	0.200	0	105	90	110			
Cadmium	0.202	0.00100	0.200	0	101	90	110			
Calcium	4.60	0.300	5.00	0	92.0	90	110			
Chromium	0.205	0.00500	0.200	0	103	90	110			
Cobalt	0.206	0.00500	0.200	0	103	90	110			
Lead	0.204	0.00100	0.200	0	102	90	110			
Molybdenum	0.205	0.00500	0.200	0	102	90	110			
Selenium	0.209	0.00500	0.200	0	105	90	110			
Thallium	0.211	0.00150	0.200	0	106	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160817A

Sample ID: LCVL5-160817	Batch ID: R87663	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_160817A	Analysis Date: 8/17/2016 3:08:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00233	0.00250	0.00200	0	117	70	130			
Arsenic	0.00544	0.00500	0.00500	0	109	70	130			
Barium	0.00517	0.0100	0.00500	0	103	70	130			
Beryllium	0.00126	0.00100	0.00100	0	126	70	130			
Cadmium	0.00102	0.00100	0.00100	0	102	70	130			
Calcium	0.0993	0.300	0.100	0	99.3	70	130			
Chromium	0.00526	0.00500	0.00500	0	105	70	130			
Cobalt	0.00523	0.00500	0.00500	0	105	70	130			
Lead	0.00103	0.00100	0.00100	0	103	70	130			
Molybdenum	0.00498	0.00500	0.00500	0	99.7	70	130			
Selenium	0.00544	0.00500	0.00500	0	109	70	130			
Thallium	0.00103	0.00150	0.00100	0	103	70	130			

Sample ID: CCV6-160817	Batch ID: R87663	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_160817A	Analysis Date: 8/17/2016 3:33:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.203	0.00250	0.200	0	102	90	110			
Arsenic	0.204	0.00500	0.200	0	102	90	110			
Barium	0.208	0.0100	0.200	0	104	90	110			
Beryllium	0.202	0.00100	0.200	0	101	90	110			
Cadmium	0.202	0.00100	0.200	0	101	90	110			
Chromium	0.201	0.00500	0.200	0	101	90	110			
Cobalt	0.195	0.00500	0.200	0	97.7	90	110			
Lead	0.206	0.00100	0.200	0	103	90	110			
Molybdenum	0.200	0.00500	0.200	0	99.8	90	110			
Selenium	0.198	0.00500	0.200	0	99.2	90	110			
Thallium	0.210	0.00150	0.200	0	105	90	110			

Sample ID: LCVL6-160817	Batch ID: R87663	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_160817A	Analysis Date: 8/17/2016 3:38:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00230	0.00250	0.00200	0	115	70	130			
Arsenic	0.00526	0.00500	0.00500	0	105	70	130			
Barium	0.00533	0.0100	0.00500	0	107	70	130			
Beryllium	0.00128	0.00100	0.00100	0	128	70	130			
Cadmium	0.000952	0.00100	0.00100	0	95.2	70	130			
Chromium	0.00519	0.00500	0.00500	0	104	70	130			
Cobalt	0.00517	0.00500	0.00500	0	103	70	130			
Lead	0.00101	0.00100	0.00100	0	101	70	130			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160817A

Sample ID	LCVL6-160817	Batch ID:	R87663	TestNo:	SW6020A	Units:	mg/L		
SampType:	LCVL	Run ID:	ICP-MS4_160817A	Analysis Date:	8/17/2016 3:38:00 PM	Prep Date:			

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Molybdenum	0.00482	0.00500	0.00500	0	96.4	70	130			
Selenium	0.00483	0.00500	0.00500	0	96.7	70	130			
Thallium	0.00102	0.00150	0.00100	0	102	70	130			

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1608095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160818B

The QC data in batch 76796 applies to the following samples: 1608095-12A

Sample ID MB-76796	Batch ID: 76796	TestNo: SW6020A	Units: mg/L							
SampType: MBLK	Run ID: ICP-MS4_160818B	Analysis Date: 8/18/2016 4:03:00 PM	Prep Date: 8/15/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	<0.0100	0.0300								
Lithium	<0.00500	0.0100								

Sample ID LCS-76796	Batch ID: 76796	TestNo: SW6020A	Units: mg/L							
SampType: LCS	Run ID: ICP-MS4_160818B	Analysis Date: 8/18/2016 4:05:00 PM	Prep Date: 8/15/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.193	0.0300	0.200	0	96.3	80	120			
Lithium	0.206	0.0100	0.200	0	103	80	120			

Sample ID LCSD-76796	Batch ID: 76796	TestNo: SW6020A	Units: mg/L							
SampType: LCSD	Run ID: ICP-MS4_160818B	Analysis Date: 8/18/2016 4:07:00 PM	Prep Date: 8/15/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.195	0.0300	0.200	0	97.6	80	120	1.41	15	
Lithium	0.203	0.0100	0.200	0	102	80	120	1.14	15	

Sample ID 1608137-04A SD	Batch ID: 76796	TestNo: SW6020A	Units: mg/L							
SampType: SD	Run ID: ICP-MS4_160818B	Analysis Date: 8/18/2016 4:14:00 PM	Prep Date: 8/15/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	1.81	1.50	0	2.03				11.5	10	R
Lithium	<0.250	0.500	0	0				0	10	

Sample ID 1608137-04A PDS	Batch ID: 76796	TestNo: SW6020A	Units: mg/L							
SampType: PDS	Run ID: ICP-MS4_160818B	Analysis Date: 8/18/2016 4:16:00 PM	Prep Date: 8/15/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	3.97	0.300	2.00	2.03	96.7	80	120			
Lithium	1.92	0.100	2.00	0	96.1	80	120			

Sample ID 1608137-04A MS	Batch ID: 76796	TestNo: SW6020A	Units: mg/L							
SampType: MS	Run ID: ICP-MS4_160818B	Analysis Date: 8/18/2016 4:26:00 PM	Prep Date: 8/15/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	4.27	0.300	0.200	2.03	1120	80	120			S
Lithium	0.194	0.100	0.200	0	96.8	80	120			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160818B

Sample ID	1608137-04A MSD	Batch ID:	76796	TestNo:	SW6020A	Units:	mg/L			
SampType:	MSD	Run ID:	ICP-MS4_160818B	Analysis Date:	8/18/2016 4:28:00 PM	Prep Date:	8/15/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	4.25	0.300	0.200	2.03	1110	80	120	0.340	15	S
Lithium	0.172	0.100	0.200	0	86.1	80	120	11.6	15	

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1608095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160818B

Sample ID ICV2-160818	Batch ID: R87690	TestNo: SW6020A	Units: mg/L							
SampType: ICV	Run ID: ICP-MS4_160818B	Analysis Date: 8/18/2016 2:06:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0920	0.0300	0.100	0	92.0	90	110			
Lithium	0.0995	0.0100	0.100	0	99.5	90	110			

Sample ID ILCVL2-160818	Batch ID: R87690	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160818B	Analysis Date: 8/18/2016 2:11:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0190	0.0300	0.0200	0	95.0	70	130			
Lithium	0.00953	0.0100	0.0100	0	95.3	70	130			

Sample ID CCV3-160818	Batch ID: R87690	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160818B	Analysis Date: 8/18/2016 3:42:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.193	0.0300	0.200	0	96.6	90	110			
Lithium	0.208	0.0100	0.200	0	104	90	110			

Sample ID LCVL3-160818	Batch ID: R87690	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160818B	Analysis Date: 8/18/2016 3:54:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.00902	0.0300	0.0200	0	45.1	70	130			S
Lithium	0.0107	0.0100	0.0100	0	107	70	130			

Sample ID CCV4-160818	Batch ID: R87690	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160818B	Analysis Date: 8/18/2016 4:30:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.210	0.0300	0.200	0	105	90	110			
Lithium	0.207	0.0100	0.200	0	104	90	110			

Sample ID LCVL4-160818	Batch ID: R87690	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160818B	Analysis Date: 8/18/2016 4:39:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0150	0.0300	0.0200	0	75.0	70	130			
Lithium	0.0113	0.0100	0.0100	0	113	70	130			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1608095
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160819A

The QC data in batch 76764 applies to the following samples: 1608095-01A, 1608095-02A, 1608095-03A, 1608095-04A, 1608095-05A, 1608095-06A, 1608095-07A, 1608095-08A, 1608095-09A, 1608095-10A, 1608095-11A

Sample ID MB-76764	Batch ID: 76764	TestNo: SW6020A	Units: mg/L
SampType: MBLK	Run ID: ICP-MS4_160819A	Analysis Date: 8/19/2016 2:04:00 PM	Prep Date: 8/10/2016
Analyte	Result	RL	SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Beryllium	<0.000300	0.00100	
Lithium	<0.00500	0.0100	

Sample ID LCS-76764	Batch ID: 76764	TestNo: SW6020A	Units: mg/L
SampType: LCS	Run ID: ICP-MS4_160819A	Analysis Date: 8/19/2016 2:06:00 PM	Prep Date: 8/10/2016
Analyte	Result	RL	SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Beryllium	0.202	0.00100	0.200 0 101 80 120
Lithium	0.199	0.0100	0.200 0 99.4 80 120

Sample ID LCSD-76764	Batch ID: 76764	TestNo: SW6020A	Units: mg/L
SampType: LCSD	Run ID: ICP-MS4_160819A	Analysis Date: 8/19/2016 2:08:00 PM	Prep Date: 8/10/2016
Analyte	Result	RL	SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Beryllium	0.203	0.00100	0.200 0 102 80 120 0.390 15
Lithium	0.199	0.0100	0.200 0 99.3 80 120 0.131 15

Sample ID 1608096-07C SD	Batch ID: 76764	TestNo: SW6020A	Units: mg/L
SampType: SD	Run ID: ICP-MS4_160819A	Analysis Date: 8/19/2016 2:15:00 PM	Prep Date: 8/10/2016
Analyte	Result	RL	SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Beryllium	<0.00150	0.00500	0 0 0 10
Lithium	0.0516	0.0500	0 0.0520 0.593 10

Sample ID 1608096-07C PDS	Batch ID: 76764	TestNo: SW6020A	Units: mg/L
SampType: PDS	Run ID: ICP-MS4_160819A	Analysis Date: 8/19/2016 2:35:00 PM	Prep Date: 8/10/2016
Analyte	Result	RL	SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Beryllium	0.188	0.00100	0.200 0 93.8 80 120
Lithium	0.230	0.0100	0.200 0.0520 89.1 80 120

Sample ID 1608096-07C MS	Batch ID: 76764	TestNo: SW6020A	Units: mg/L
SampType: MS	Run ID: ICP-MS4_160819A	Analysis Date: 8/19/2016 2:37:00 PM	Prep Date: 8/10/2016
Analyte	Result	RL	SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Beryllium	0.189	0.00100	0.200 0 94.7 80 120
Lithium	0.237	0.0100	0.200 0.0520 92.5 80 120

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160819A

Sample ID 1608096-07C MSD	Batch ID: 76764	TestNo: SW6020A	Units: mg/L							
SampType: MSD	Run ID: ICP-MS4_160819A	Analysis Date: 8/19/2016 2:39:00 PM	Prep Date: 8/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.193	0.00100	0.200	0	96.6	80	120	1.90	15	
Lithium	0.242	0.0100	0.200	0.0520	95.2	80	120	2.29	15	

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1608095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160819A

Sample ID ICV-160819	Batch ID: R87706	TestNo: SW6020A	Units: mg/L							
SampType: ICV	Run ID: ICP-MS4_160819A	Analysis Date: 8/19/2016 12:09:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.100	0.00100	0.100	0	100	90	110			
Calcium	2.40	0.300	2.50	0	96.1	90	110			
Lithium	0.0967	0.0100	0.100	0	96.7	90	110			

Sample ID LCVL-160819	Batch ID: R87706	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160819A	Analysis Date: 8/19/2016 12:13:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.00112	0.00100	0.00100	0	112	70	130			
Calcium	0.103	0.300	0.100	0	103	70	130			
Lithium	0.0108	0.0100	0.0100	0	108	70	130			

Sample ID CCV2-160819	Batch ID: R87706	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160819A	Analysis Date: 8/19/2016 1:28:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.193	0.00100	0.200	0	96.7	90	110			
Calcium	4.91	0.300	5.00	0	98.3	90	110			
Lithium	0.200	0.0100	0.200	0	100	90	110			

Sample ID LCVL2-160819	Batch ID: R87706	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160819A	Analysis Date: 8/19/2016 1:45:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.00101	0.00100	0.00100	0	101	70	130			
Calcium	0.104	0.300	0.100	0	104	70	130			
Lithium	0.0103	0.0100	0.0100	0	103	70	130			

Sample ID CCV3-160819	Batch ID: R87706	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160819A	Analysis Date: 8/19/2016 2:41:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.194	0.00100	0.200	0	97.2	90	110			
Boron	0.206	0.0300	0.200	0	103	90	110			
Calcium	5.03	0.300	5.00	0	101	90	110			
Lithium	0.200	0.0100	0.200	0	100	90	110			

Sample ID LCVL3-160819	Batch ID: R87706	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160819A	Analysis Date: 8/19/2016 3:13:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160819A

Sample ID: LCVL3-160819	Batch ID: R87706	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160819A	Analysis Date: 8/19/2016 3:13:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.00120	0.00100	0.00100	0	120	70	130			
Boron	0.00457	0.0300	0.0200	0	22.9	70	130			S
Calcium	0.104	0.300	0.100	0	104	70	130			
Lithium	0.0104	0.0100	0.0100	0	104	70	130			

Sample ID: CCV4-160819	Batch ID: R87706	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160819A	Analysis Date: 8/19/2016 3:46:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.195	0.00100	0.200	0	97.4	90	110			
Boron	0.204	0.0300	0.200	0	102	90	110			
Lithium	0.200	0.0100	0.200	0	99.9	90	110			

Sample ID: LCVL4-160819	Batch ID: R87706	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160819A	Analysis Date: 8/19/2016 3:53:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.00111	0.00100	0.00100	0	110	70	130			
Boron	0.00923	0.0300	0.0200	0	46.2	70	130			S
Lithium	0.0113	0.0100	0.0100	0	113	70	130			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160822A

Sample ID ICV-160822	Batch ID: R87716	TestNo: SW6020A	Units: mg/L							
SampType: ICV	Run ID: ICP-MS4_160822A	Analysis Date: 8/22/2016 11:39:00 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Beryllium	0.102	0.00100	0.100	0	102	90	110			
Lithium	0.100	0.0100	0.100	0	100	90	110			

Sample ID LCVL-160822	Batch ID: R87716	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160822A	Analysis Date: 8/22/2016 11:48:00 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Beryllium	0.00103	0.00100	0.00100	0	103	70	130			
Lithium	0.0111	0.0100	0.0100	0	111	70	130			

Sample ID CCV1-160822	Batch ID: R87716	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160822A	Analysis Date: 8/22/2016 12:33:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Beryllium	0.210	0.00100	0.200	0	105	90	110			
Lithium	0.208	0.0100	0.200	0	104	90	110			

Sample ID LCVL1-160822	Batch ID: R87716	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160822A	Analysis Date: 8/22/2016 12:39:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Barium	0.00500	0.0100	0.00500	0	99.9	70	130			
Beryllium	0.00107	0.00100	0.00100	0	107	70	130			
Boron	0.0226	0.0300	0.0200	0	113	70	130			
Lithium	0.0112	0.0100	0.0100	0	112	70	130			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160823A

Sample ID ICV-160823	Batch ID: R87746	TestNo: SW6020A	Units: mg/L							
SampType: ICV	Run ID: ICP-MS4_160823A	Analysis Date: 8/23/2016 11:07:00 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Lithium	0.0931	0.0100	0.100	0	93.1	90	110			
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Sample ID LCVL-160823	Batch ID: R87746	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160823A	Analysis Date: 8/23/2016 11:11:00 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Lithium	0.0102	0.0100	0.0100	0	102	70	130			
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Sample ID CCV1-160823	Batch ID: R87746	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_160823A	Analysis Date: 8/23/2016 11:55:00 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Lithium	0.205	0.0100	0.200	0	102	90	110			
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Sample ID LCVL1-160823	Batch ID: R87746	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_160823A	Analysis Date: 8/23/2016 12:00:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Lithium	0.00961	0.0100	0.0100	0	96.1	70	130			
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Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1608095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC4_160810A

The QC data in batch 76753 applies to the following samples: 1608095-01D, 1608095-02D, 1608095-03D, 1608095-04D, 1608095-05D, 1608095-06D, 1608095-07D, 1608095-08D

Sample ID: MB-76753	Batch ID: 76753	TestNo: E300	Units: mg/L
SampType: MBLK	Run ID: IC4_160810A	Analysis Date: 8/10/2016 9:37:41 AM	Prep Date: 8/10/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	<0.300	1.00								
Fluoride	<0.100	0.400								
Sulfate	<1.00	3.00								

Sample ID: LCS-76753	Batch ID: 76753	TestNo: E300	Units: mg/L
SampType: LCS	Run ID: IC4_160810A	Analysis Date: 8/10/2016 9:52:41 AM	Prep Date: 8/10/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.90	1.00	10.00	0	99.0	90	110			
Fluoride	3.68	0.400	4.000	0	91.9	90	110			
Sulfate	30.7	3.00	30.00	0	102	90	110			

Sample ID: LCS-76753	Batch ID: 76753	TestNo: E300	Units: mg/L
SampType: LCS	Run ID: IC4_160810A	Analysis Date: 8/10/2016 10:07:41 AM	Prep Date: 8/10/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.89	1.00	10.00	0	98.9	90	110	0.160	20	
Fluoride	3.65	0.400	4.000	0	91.3	90	110	0.722	20	
Sulfate	30.8	3.00	30.00	0	103	90	110	0.260	20	

Sample ID: 1608095-02DMS	Batch ID: 76753	TestNo: E300	Units: mg/L
SampType: MS	Run ID: IC4_160810A	Analysis Date: 8/10/2016 4:08:32 PM	Prep Date: 8/10/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	302	10.0	200.0	91.13	105	90	110			
Fluoride	200	4.00	200.0	0	100	90	110			
Sulfate	263	30.0	200.0	49.44	107	90	110			

Sample ID: 1608095-02DMSD	Batch ID: 76753	TestNo: E300	Units: mg/L
SampType: MSD	Run ID: IC4_160810A	Analysis Date: 8/10/2016 4:23:32 PM	Prep Date: 8/10/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	302	10.0	200.0	91.13	105	90	110	0.016	20	
Fluoride	201	4.00	200.0	0	100	90	110	0.244	20	
Sulfate	264	30.0	200.0	49.44	107	90	110	0.505	20	

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1608095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC4_160810A

Sample ID ICV-160810	Batch ID: R87556	TestNo: E300	Units: mg/L
SampType: ICV	Run ID: IC4_160810A	Analysis Date: 8/10/2016 9:03:03 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	25.3	1.00	25.00	0	101	90	110			
Fluoride	9.41	0.400	10.00	0	94.1	90	110			
Sulfate	79.1	3.00	75.00	0	105	90	110			

Sample ID CCV1-160810	Batch ID: R87556	TestNo: E300	Units: mg/L
SampType: CCV	Run ID: IC4_160810A	Analysis Date: 8/10/2016 1:38:29 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.3	1.00	10.00	0	103	90	110			
Fluoride	3.88	0.400	4.000	0	97.1	90	110			
Sulfate	31.6	3.00	30.00	0	105	90	110			

Sample ID CCV1-160810	Batch ID: R87556	TestNo: E300	Units: mg/L
SampType: CCV	Run ID: IC4_160810A	Analysis Date: 8/10/2016 5:53:32 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.3	1.00	10.00	0	103	90	110			
Fluoride	3.93	0.400	4.000	0	98.3	90	110			
Sulfate	31.4	3.00	30.00	0	105	90	110			

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1608095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC4_160811A

The QC data in batch 76776 applies to the following samples: 1608095-09D, 1608095-10D, 1608095-11D, 1608095-12D

Sample ID MB-76776	Batch ID: 76776	TestNo: E300	Units: mg/L							
SampType: MBLK	Run ID: IC4_160811A	Analysis Date: 8/11/2016 11:33:58 AM	Prep Date: 8/11/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	<0.300	1.00								
Fluoride	<0.100	0.400								
Sulfate	<1.00	3.00								

Sample ID LCS-76776	Batch ID: 76776	TestNo: E300	Units: mg/L							
SampType: LCS	Run ID: IC4_160811A	Analysis Date: 8/11/2016 11:48:58 AM	Prep Date: 8/11/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.2	1.00	10.00	0	102	90	110			
Fluoride	3.90	0.400	4.000	0	97.5	90	110			
Sulfate	31.3	3.00	30.00	0	104	90	110			

Sample ID LCSD-76776	Batch ID: 76776	TestNo: E300	Units: mg/L							
SampType: LCSD	Run ID: IC4_160811A	Analysis Date: 8/11/2016 12:03:58 PM	Prep Date: 8/11/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.3	1.00	10.00	0	103	90	110	0.397	20	
Fluoride	3.87	0.400	4.000	0	96.8	90	110	0.764	20	
Sulfate	31.3	3.00	30.00	0	104	90	110	0.215	20	

Sample ID 1608117-06CMS	Batch ID: 76776	TestNo: E300	Units: mg/L							
SampType: MS	Run ID: IC4_160811A	Analysis Date: 8/11/2016 5:23:35 PM	Prep Date: 8/11/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	2490	100	2000	315.3	109	90	110			
Fluoride	2050	40.0	2000	0	102	90	110			
Sulfate	2790	300	2000	617.6	109	90	110			

Sample ID 1608117-06CMSD	Batch ID: 76776	TestNo: E300	Units: mg/L							
SampType: MSD	Run ID: IC4_160811A	Analysis Date: 8/11/2016 5:38:35 PM	Prep Date: 8/11/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	2500	100	2000	315.3	109	90	110	0.247	20	
Fluoride	2060	40.0	2000	0	103	90	110	0.541	20	
Sulfate	2800	300	2000	617.6	109	90	110	0.446	20	

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC4_160811A

Sample ID ICV-160811	Batch ID: R87577	TestNo: E300	Units: mg/L
SampType: ICV	Run ID: IC4_160811A	Analysis Date: 8/11/2016 10:51:00 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	26.0	1.00	25.00	0	104	90	110			
Fluoride	9.87	0.400	10.00	0	98.7	90	110			
Sulfate	80.0	3.00	75.00	0	107	90	110			

Sample ID CCV1-160811	Batch ID: R87577	TestNo: E300	Units: mg/L
SampType: CCV	Run ID: IC4_160811A	Analysis Date: 8/11/2016 3:06:27 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.4	1.00	10.00	0	104	90	110			
Fluoride	3.93	0.400	4.000	0	98.2	90	110			
Sulfate	31.4	3.00	30.00	0	105	90	110			

Sample ID CCV2-160811	Batch ID: R87577	TestNo: E300	Units: mg/L
SampType: CCV	Run ID: IC4_160811A	Analysis Date: 8/11/2016 6:08:35 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.4	1.00	10.00	0	104	90	110			
Fluoride	3.91	0.400	4.000	0	97.8	90	110			
Sulfate	31.6	3.00	30.00	0	105	90	110			

Qualifiers:

B Analyte detected in the associated Method Blank	DF Dilution Factor
J Analyte detected between MDL and RL	MDL Method Detection Limit
ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
RL Reporting Limit	S Spike Recovery outside control limits
J Analyte detected between SDL and RL	N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_160815A

The QC data in batch 76798 applies to the following samples: 1608095-01D, 1608095-02D, 1608095-03D, 1608095-04D, 1608095-05D, 1608095-06D, 1608095-07D, 1608095-08D, 1608095-09D, 1608095-10D, 1608095-11D, 1608095-12D

Sample ID 1608095-01D-DUP	Batch ID: 76798	TestNo: M4500-H+ B	Units: pH Units@21°C							
SampType: DUP	Run ID: TITRATOR_160815A	Analysis Date: 8/15/2016 10:39:00 AM	Prep Date: 8/15/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	6.62	0	0	6.570				0.758	5	

Sample ID 1608095-11D-DUP	Batch ID: 76798	TestNo: M4500-H+ B	Units: pH Units@20.7°C							
SampType: DUP	Run ID: TITRATOR_160815A	Analysis Date: 8/15/2016 11:02:00 AM	Prep Date: 8/15/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	6.39	0	0	6.430				0.624	5	

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1608095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_160815A

Sample ID ICV-160815	Batch ID: R87598	TestNo: M4500-H+ B	Units: pH Units@21.3°C							
SampType: ICV	Run ID: TITRATOR_160815A	Analysis Date: 8/15/2016 9:21:00 AM	Prep Date: 8/15/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	9.90	0	10.00	0	99.0	99	101			
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Sample ID CCV1-160815	Batch ID: R87598	TestNo: M4500-H+ B	Units: pH Units@20.9°C							
SampType: CCV	Run ID: TITRATOR_160815A	Analysis Date: 8/15/2016 10:56:00 AM	Prep Date: 8/15/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	6.95	0	7.000	0	99.3	97.1	102.9			
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Sample ID CCV2-160815	Batch ID: R87598	TestNo: M4500-H+ B	Units: pH Units@21.2°C							
SampType: CCV	Run ID: TITRATOR_160815A	Analysis Date: 8/15/2016 11:35:00 AM	Prep Date: 8/15/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	6.95	0	7.000	0	99.3	97.1	102.9			
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LUMINANT

Qualifiers:	<p>B Analyte detected in the associated Method Blank</p> <p>J Analyte detected between MDL and RL</p> <p>ND Not Detected at the Method Detection Limit</p> <p>RL Reporting Limit</p> <p>J Analyte detected between SDL and RL</p>	<p>DF Dilution Factor</p> <p>MDL Method Detection Limit</p> <p>R RPD outside accepted control limits</p> <p>S Spike Recovery outside control limits</p> <p>N Parameter not NELAC certified</p>
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1608095
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: WC_160812A

The QC data in batch 76794 applies to the following samples: 1608095-01D, 1608095-02D, 1608095-03D, 1608095-04D, 1608095-05D, 1608095-06D, 1608095-07D, 1608095-08D, 1608095-09D, 1608095-10D, 1608095-11D, 1608095-12D

Sample ID MB-76794	Batch ID: 76794	TestNo: M2540C	Units: mg/L							
SampType: MBLK	Run ID: WC_160812A	Analysis Date: 8/15/2016 8:46:00 AM	Prep Date: 8/12/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	<10.0	10.0								

Sample ID LCS-76794	Batch ID: 76794	TestNo: M2540C	Units: mg/L							
SampType: LCS	Run ID: WC_160812A	Analysis Date: 8/15/2016 8:46:00 AM	Prep Date: 8/12/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	779	10.0	745.6	0	104	90	113			

Sample ID 1608116-01D-DUP	Batch ID: 76794	TestNo: M2540C	Units: mg/L							
SampType: DUP	Run ID: WC_160812A	Analysis Date: 8/15/2016 8:46:00 AM	Prep Date: 8/12/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	1510	50.0	0	1430				5.11	5	

Sample ID 1608117-01C-DUP	Batch ID: 76794	TestNo: M2540C	Units: mg/L							
SampType: DUP	Run ID: WC_160812A	Analysis Date: 8/15/2016 8:46:00 AM	Prep Date: 8/12/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	2190	50.0	0	2230				2.04	5	

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
--	---



Case Narrative

Lab No: 20160773

This report contains the analytical results for the 12 sample(s) received under chain of custody by ESC Lab Sciences on 8/12/2016 9:50:00 AM. These samples are associated with your 1608095 project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted below:

The test results in this report meet all NELAC requirements unless noted below:

This report shall not be reproduced, except in full, without the written approval of ESC Lab Sciences.

All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client.

Results have been reviewed by the Director of Radiochemistry or their designees and is approved for release.

Observations / Nonconformances

LUMINA



Client : DHL Analytical, Inc.
 Client Project : 1608095
 Lab Number : 20160773
 Date Reported : 09/06/16
 Date Received : 08/12/16
 Page Number : 2 of 5

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
--	--------	--------	----	-------	------	-----------	---------------	---------

Lab ID : 20160773-01
Client ID : AX-24
Date Sampled : 8/9/2016 9:35:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.870 +/- 0.989	0.652	pCi/l				
Radium-226	SM 7500 Ra B M*	0.457 +/- 0.160	0.158	pCi/l		08/22/16	08/25/16	AK
Radium-228	EPA 904*/9320*	0.413 +/- 0.829	0.494	pCi/l		08/25/16	08/30/16	JR

Lab ID : 20160773-02
Client ID : AX-22R
Date Sampled : 8/9/2016 10:30:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.959 +/- 1.32	0.795	pCi/l				
Radium-226	SM 7500 Ra B M*	0.642 +/- 0.280	0.205	pCi/l		08/22/16	08/25/16	AK
Radium-228	EPA 904*/9320*	0.317 +/- 1.04	0.590	pCi/l		08/25/16	08/30/16	JR

Lab ID : 20160773-03
Client ID : AX-28
Date Sampled : 8/9/2016 11:35:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.663 +/- 0.927	0.626	pCi/l				
Radium-226	SM 7500 Ra B M*	0.286 +/- 0.163	0.196	pCi/l		08/22/16	08/25/16	AK
Radium-228	EPA 904*/9320*	0.377 +/- 0.764	0.430	pCi/l		08/25/16	08/30/16	JR

Lab ID : 20160773-04
Client ID : AXMW-1
Date Sampled : 8/9/2016 12:20:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		2.84 +/- 1.16	0.769	pCi/l				
Radium-226	SM 7500 Ra B M*	1.06 +/- 0.251	0.135	pCi/l		08/22/16	08/25/16	AK
Radium-228	EPA 904*/9320*	1.78 +/- 0.906	0.634	pCi/l		08/25/16	08/30/16	JR



Client : DHL Analytical, Inc.
 Client Project : 1608095
 Lab Number : 20160773
 Date Reported : 09/06/16
 Date Received : 08/12/16
 Page Number : 3 of 5

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
--------	--------	----	-------	------	-----------	---------------	---------

Lab ID : 20160773-05
Client ID : AX-27
Date Sampled : 8/9/2016 2:15:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		2.38 +/- 1.11	0.639	pCi/l			
Radium-226	SM 7500 Ra B M*	0.592 +/- 0.211	0.161	pCi/l	08/22/16	08/26/16	AK
Radium-228	EPA 904*/9320*	1.79 +/- 0.897	0.478	pCi/l	08/25/16	08/30/16	JR

Lab ID : 20160773-06
Client ID : AX-23
Date Sampled : 8/9/2016 3:15:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.682 +/- 1.12	0.651	pCi/l			
Radium-226	SM 7500 Ra B M*	0.682 +/- 0.218	0.104	pCi/l	08/22/16	08/26/16	AK
Radium-228	EPA 904*/9320*	-0.258 +/- 0.900	0.547	pCi/l	08/25/16	08/30/16	JR

Lab ID : 20160773-07
Client ID : MW-01
Date Sampled : 8/9/2016
Matrix : NPW

Radiochemical Analyses

Combined Radium		4.02 +/- 1.37	0.760	pCi/l			
Radium-226	SM 7500 Ra B M*	1.49 +/- 0.274	0.124	pCi/l	08/22/16	08/26/16	AK
Radium-228	EPA 904*/9320*	2.53 +/- 1.10	0.636	pCi/l	08/25/16	08/30/16	JR

Lab ID : 20160773-08
Client ID : EB-01
Date Sampled : 8/9/2016 8:30:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.648 +/- 1.07	0.906	pCi/l			
Radium-226	SM 7500 Ra B M*	-0.092 +/- 0.159	0.367	pCi/l	08/22/16	08/26/16	AK
Radium-228	EPA 904*/9320*	0.648 +/- 0.911	0.539	pCi/l	08/25/16	08/30/16	JR



Client : DHL Analytical, Inc.
 Client Project : 1608095
 Lab Number : 20160773
 Date Reported : 09/06/16
 Date Received : 08/12/16
 Page Number : 4 of 5

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
--	--------	--------	----	-------	------	-----------	---------------	---------

Lab ID : 20160773-09
Client ID : AX-25
Date Sampled : 8/10/2016 8:35:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.658 +/- 1.23	0.857	pCi/l				
Radium-226	SM 7500 Ra B M*	0.371 +/- 0.244	0.285	pCi/l		08/22/16	08/26/16	AK
Radium-228	EPA 904*/9320*	0.286 +/- 0.981	0.572	pCi/l		08/25/16	08/30/16	JR

Lab ID : 20160773-10
Client ID : AX-26
Date Sampled : 8/10/2016 9:30:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.937 +/- 2.06	1.27	pCi/l				
Radium-226	SM 7500 Ra B M*	0.707 +/- 0.207	0.134	pCi/l		08/22/16	08/26/16	AK
Radium-228	EPA 904*/9320*	0.230 +/- 1.85	1.14	pCi/l		08/25/16	08/30/16	JR

Lab ID : 20160773-11
Client ID : AXMW-2
Date Sampled : 8/10/2016 11:00:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		2.07 +/- 1.25	0.752	pCi/l				
Radium-226	SM 7500 Ra B M*	0.528 +/- 0.156	0.118	pCi/l		08/22/16	08/26/16	AK
Radium-228	EPA 904*/9320*	1.55 +/- 1.09	0.634	pCi/l		08/25/16	08/30/16	JR

Lab ID : 20160773-12
Client ID : AX-29
Date Sampled : 8/10/2016 11:50:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		2.79 +/- 1.09	0.667	pCi/l				
Radium-226	SM 7500 Ra B M*	0.739 +/- 0.211	0.183	pCi/l		08/22/16	08/26/16	AK
Radium-228	EPA 904*/9320*	2.05 +/- 0.876	0.485	pCi/l		08/25/16	08/30/16	JR



Client : DHL Analytical, Inc.
Client Project : 1608095
Lab Number : 20160773
Date Reported : 09/06/16
Date Received : 08/12/16
Page Number : 5 of 5

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	RPD	Batch ID
Radium-226	0.018	105.0			NC	0.051	116.0	119.0	2.7	R1123
Radium-228	-0.353	83.9			NC	0.174	84.7	81.6	17.8	R3847

Lab Approval:

Ron Eidson
Director of Radiochemistry

LUMINANT

DHL Analytical, Inc.

2300 Double Creek Drive
Round Rock, TX 78664

TEL: (512) 388-8222

FAX: (512) 388-8229

Work Order: 1608095

CHAIN-OF-CUSTODY RECORD

Subcontractor:

ESC Laboratory
311 North Aspen
Broken Arrow, Oklahoma 74012

TEL: (918) 251-2515
FAX:
Acct #: DHLRRTX

Sample Id	Matrix	DHL#	Date Collected	Bottle Type	Requested Tests		
					E904.0	SM7500Ra-B M	
AX-24	Aqueous	-01B	08/09/16 09:35 AM	500HDPEHNO3	1		
AX-24	Aqueous	-01C	08/09/16 09:35 AM	500HDPEHNO3		1	
AX-22R	Aqueous	-02B	08/09/16 10:30 AM	500HDPEHNO3	1		
AX-22R	Aqueous	-02C	08/09/16 10:30 AM	500HDPEHNO3		1	
AX-28	Aqueous	-03B	08/09/16 11:35 AM	500HDPEHNO3	1		
AX-28	Aqueous	-03C	08/09/16 11:35 AM	500HDPEHNO3		1	
AXMW-1	Aqueous	-04B	08/09/16 12:20 PM	500HDPEHNO3	1		
AXMW-1	Aqueous	-04C	08/09/16 12:20 PM	500HDPEHNO3		1	
AX-27	Aqueous	-05B	08/09/16 02:15 PM	500HDPEHNO3	1		
AX-27	Aqueous	-05C	08/09/16 02:15 PM	500HDPEHNO3		1	
AX-23	Aqueous	-06B	08/09/16 03:15 PM	500HDPEHNO3	1		
AX-23	Aqueous	-06C	08/09/16 03:15 PM	500HDPEHNO3		1	
MW-01	Aqueous	-07B	08/09/16	500HDPEHNO3	1		
MW-01	Aqueous	-07C	08/09/16	500HDPEHNO3		1	
EB-01	Equip Blank	-08B	08/09/16 08:30 AM	500HDPEHNO3	1		
EB-01	Equip Blank	-08C	08/09/16 08:30 AM	500HDPEHNO3		1	
AX-25	Aqueous	-09B	08/10/16 08:35 AM	500HDPEHNO3	1		
AX-25	Aqueous	-09C	08/10/16 08:35 AM	500HDPEHNO3		1	

General Comments:

Please analyze these samples with Normal Turnaround Time.
Report RA-226, Ra-228 & Combined per Specs DHLRRTX033116S.
Quality Control Package Needed: Standard - NELAC Rad Test compliant
Email to cac@dhlanalytical.com & dupont@dhlanalytical.com

L853586
20/60773

	Date/Time	
Relinquished by: <u>[Signature]</u>	8/10/16 1730	Received by: <u>[Signature]</u>
Relinquished by: _____	_____	Received by: <u>[Signature]</u>

DHL Analytical, Inc.

2300 Double Creek Drive
Round Rock, TX 78664

TEL: (512) 388-8222

FAX: (512) 388-8229

Work Order: 1608095

CHAIN-OF-CUSTODY RECORD

Subcontractor:

ESC Laboratory
311 North Aspen
Broken Arrow, Oklahoma 74012

TEL: (918) 251-2515
FAX:
Acct #: DHLRRTX

Sample Id	Matrix	DHL#	Date Collected	Bottle Type	Requested Tests		
					E904.0	SM7500Ra-B M	
AX-26	Aqueous	-10B	08/10/16 09:30 AM	500HDPEHNO3	1		
AX-26	Aqueous	-10C	08/10/16 09:30 AM	500HDPEHNO3		1	
AXMW-2	Aqueous	-11B	08/10/16 11:00 AM	500HDPEHNO3	1		
AXMW-2	Aqueous	-11C	08/10/16 11:00 AM	500HDPEHNO3		1	
AX-29	Aqueous	-12B	08/10/16 11:50 AM	500HDPEHNO3	1		
AX-29	Aqueous	-12C	08/10/16 11:50 AM	500HDPEHNO3		1	

General Comments:

Please analyze these samples with Normal Turnaround Time.
Report RA-226, Ra-228 & Combined per Specs DHLRRTX033116S.
Quality Control Package Needed: Standard - NELAC Rad Test compliant
Email to cac@dhlanalytical.com & dupont@dhlanalytical.com

	Date/Time	
Relinquished by: <u>Bank</u>	<u>8/10/16 1730</u>	Received by: <u>Ronesta</u>
Relinquished by: _____	_____	Received by: _____

SAMPLE LOGIN

Date Received: 8/12/2016 9:50:00

Lab Number: 20160773

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Pres Upo
20160773-01 B	AX-24	NPW	08/09/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
20160773-01 A	AX-24	NPW	08/09/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				
20160773-02 A	AX-22R	NPW	08/09/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
20160773-02 B	AX-22R	NPW	08/09/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				
20160773-03 A	AX-28	NPW	08/09/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
20160773-03 B	AX-28	NPW	08/09/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				
20160773-04 A	AXMW-1	NPW	08/09/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
20160773-04 B	AXMW-1	NPW	08/09/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				
20160773-05 A	AX-27	NPW	08/09/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
20160773-05 B	AX-27	NPW	08/09/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				
20160773-06 B	AX-23	NPW	08/09/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
20160773-06 A	AX-23	NPW	08/09/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				
20160773-07 B	MW-01	NPW	08/09/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
20160773-07 A	MW-01	NPW	08/09/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				

20160773-08 A	EB-01	NPW	08/09/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
20160773-08 B	EB-01	NPW	08/09/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				
20160773-09 A	AX-25	NPW	08/10/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
20160773-09 B	AX-25	NPW	08/10/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				
20160773-10 A	AX-26	NPW	08/10/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
20160773-10 B	AX-26	NPW	08/10/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				
20160773-11 A	AXMW-2	NPW	08/10/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
20160773-11 B	AXMW-2	NPW	08/10/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				
20160773-12 B	AX-29	NPW	08/10/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
20160773-12 A	AX-29	NPW	08/10/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				

LUMINANT

CONTAINER INSPECTION

Coolers 1

Custody Seals Broken 0

Temperature: Auto

Ice

Radiation Survey: <300 cpm

SAMPLE INSPECTION

Sample Seal Broken 0

Chain of Custody Record ✓

Labels in Tact ✓

Radiation Survey Complete N/A

Anomalies

there is 2 AX-28 to no AXMW-28.

Inspected By:

Andrew Taylor

DATE

8/12/16

QA or Designee Review:

Raymond Thomas

DATE

08/12/16

Sample Custodian Review:

Sai

DATE

8/12/16

Project Notes:

LUMINANT



November 09, 2016

Will Vienne
Pastor, Behling & Wheeler
2201 Double Creek Dr #4004
Round Rock, Texas 78664
TEL: (512) 671-3434
FAX (512) 671-3446
RE: Sandow CCR

Order No.: 1610028

Dear Will Vienne:

DHL Analytical, Inc. received 12 sample(s) on 10/5/2016 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

A handwritten signature in orange ink, appearing to read "John DuPont".

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-16-17



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LUMINANT



2300 Double Creek Dr. ■ Round Rock, TX 78664
 Phone (512) 388-8222 ■ FAX (512) 388-8229
 Web: www.dhlanalytical.com
 E-Mail: login@dhlanalytical.com



CLIENT: Pastor, Behling & Wheeler
 ADDRESS: 2201 Double Creek Dr Ste 4004
 PHONE: (512) 671-3434 FAX/E-MAIL: _____
 DATA REPORTED TO: Will Vienne
 ADDITIONAL REPORT COPIES TO: Karla Henson

DATE: 10/5/2016
 PO #: _____ DHL WORK ORDER # _____
 PROJECT LOCATION OR NAME: Sandou
 CLIENT PROJECT #: 5164E

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	PRESERVATION			
							HCl	HNO ₃	H ₂ SO ₄ □ NaOH □	ICE
AX-24	1	10/5/16	9:50	W	P	4	X	X	X	
AX-25	2		11:50							
AX-22R	3		11:45							
AX-28	4		14:15							
AXMW-1	5		15:05							
AX-23	6		15:50							
EB-01	7		9:05							
AX-1	8		-							

- ANALYSES**
- BTEX
 - MTBE
 - TPH 1005
 - GRO (METHOD 8015)
 - VOC 8260
 - SVOC 8270
 - 8270 PEST
 - 8321 HERB
 - METALS 6020
 - RCRA
 - PH
 - CHLORIDE
 - TCLP-SVOC
 - TCE
 - I (METHOD 8021)
 - HOLD 1006
 - DRO (METHOD 8105)
 - VOC 8260/5035
 - HOLD PAH
 - SVOC 825
 - 8082 PCB
 - 8270 PCB
 - AMMONIA
 - METALS 200.8
 - DISS. METALS
 - ALK
 - ANION

RELINQUISHED BY: (Signature) <u>[Signature]</u>	DATE/TIME <u>10/5/16 17:15</u>	RECEIVED BY: (Signature) <u>[Signature]</u>
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)

TURN AROUND TIME

RUSH CALL FIRST
 1 DAY CALL FIRST
 2 DAY
 NORMAL
 OTHER

LABORATORY RECEIVING TEMPERATURE

CUSTODY SEAL CARRIER: L
 COURIER DELIVERED
 HAND DELIVERED

DHL DISPOSAL @ \$5.00 each Return



2300 Double Creek Dr. ■ Round Rock, TX 78664
 Phone (512) 388-8222 ■ FAX (512) 388-8229

Web: www.dhlanalytical.com
 E-Mail: fogin@dhlanalytical.com



CLIENT: Pastor Behling & Wheeler
 ADDRESS: 2201 Double Creek Dr Ste 4004
 PHONE: (512) 671-3734 FAX/E-MAIL: _____
 DATA REPORTED TO: Will Vienne
 ADDITIONAL REPORT COPIES TO: Karla Henyon

DATE: 10/16/2010
 PROJECT LOCATION OR NAME: Sandover
 CLIENT PROJECT #: 5164E

Authorize 5% surcharge for TRRP Report?
 Yes No

S=SOIL P=PAINT
 W=WATER SL=SLUDGE
 A=AIR O=OTHER
 L=LIQUID SO=SOLID
 SE=SEDIMENT

Field Sample I.D. | DHL Lab # | Date | Time | Matrix | Container Type | # of Containers | HCl | HNO₃ | H₂SO₄ | NaOH | ICE | UNPRESERVED

- ANALYSES**
- BTX
 - TPH 1005
 - GRO (METHOD 8015)
 - VOC 8260
 - SVOC 8270
 - 8270 PEST
 - 8321 HERR
 - METALS 6020
 - RCRA
 - PH
 - CHLORIDE
 - TCLP-SVOC
 - MIBK
 - TPH 1006
 - DRO (METHOD 8105)
 - VOC 8260/5035
 - HOLD PCB
 - SVOC 8270
 - O-P PEST
 - T PHOS. AMMONIA
 - TX 11
 - HEX CHROM
 - ANI

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	HCl	HNO ₃	H ₂ SO ₄	NaOH	ICE	UNPRESERVED
AX-29	9	10/16/10	10:30	w	plastic	4		X				XX
AXMW-2	10	↓	9:05	↓	↓	↓		↓				↓
AX-27	11	↓	11:10	↓	↓	↓		↓				↓
AX-26	12	↓	11:50	↓	↓	↓		↓				↓

RELINQUISHED BY: (Signature) [Signature] DATE/TIME 10/16/10 13:20 RECEIVED BY: (Signature) [Signature]
 RELINQUISHED BY: (Signature) _____ DATE/TIME _____ RECEIVED BY: (Signature) _____
 RELINQUISHED BY: (Signature) _____ DATE/TIME _____ RECEIVED BY: (Signature) _____

TURN AROUND TIME
 RUSH CALL FIRST
 1 DAY CALL FIRST
 2 DAY
 NORMAL
 OTHER

LABORATORY RECEIVING TEM
 CUSTODY SEAL
 CARRIER: L
 COURIER DEL
 HAND DELIV

DHL DISPOSAL @ \$5.00 each Return

John Dupont

From: Sara Taube [Sara.Taube@pbwllc.com]
Sent: Wednesday, July 22, 2015 12:05 PM
To: John Dupont
Subject: CCR Appendix III and IV
Follow Up Flag: Follow up
Flag Status: Completed

Hi John,

Here are the Appendix III and Appendix IV constituents that we will need to have analyzed under the CCR Rule.

Appendix III

Boron
Calcium
Chloride
Fluoride
pH
sulfate
TDS

Appendix IV

Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cobalt
Fluoride
Lead
Lithium
Mercury
Molybdenum
Selenium
Thallium
Radium 226 and 228

We are looking to have approximately 74 wells sampled 3 times over the course of the next two years. Please let me know if there is any more information you might need.

Cheers,

Sara

10/26/2015

Sample Receipt Checklist

Client Name Pastor, Behling & Wheeler

Date Received: 10/5/2016

Work Order Number 1610028

Received by JT

Checklist completed by: [Signature] 10/6/2016
Signature Date

Reviewed by: [Initials] 10/6/2016
Initials Date

Carrier name Hand Delivered

- 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 5.6 °C, 0.8
- Water - VOA vials have zero headspace? Yes No No VOA vials submitted
- Water - pH<2 acceptable upon receipt? Yes No NA LOT # 8086
Adjusted? NO Checked by [Signature]
- Water - pH>9 (S) or pH>12 (CN) acceptable upon receipt? Yes No NA LOT #
Adjusted? _____ Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Lab Order: 1610028

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Method SW6020A - Metals Analysis
Method SW7470A - Mercury Analysis
Method E300 - Anions Analysis
Method M4500-H+ B - pH of a Water Analysis
Method M2540C - TDS Analysis
Sub-contract - Radium-228 and Radium-226 analyses by methods E904/9320 and SM 7500 Ra B M.
Analyzed at ESC Lab Sciences.

LOG IN

The samples were received and log-in performed on 10/5/16. A total of 12 samples were received. The samples arrived in good condition and were properly packaged.

METALS ANALYSIS

For Metals analysis sample AX-28 had the Chromium result which was above the historical trend line. The Chromium result was verified by re-analysis directly from the sample container and was confirmed. The sample contained fine black particles.

For Metals analysis performed on 10/17/16 CCV4-161017 had low responses for all internal standards. All associated analytes were within control limits. No further corrective actions were taken.

For Metals analysis performed on 10/17/16 CCB4-161017 had low responses for the internal standards Bismuth and Indium. All associated analytes were below the reporting limits. No further corrective actions were taken.

For Metals analysis performed on 10/17/16 CCV5-161017 had low responses for the internal standards Scandium(1) and Scandium(2). All associated analytes were within control limits. No further corrective actions were taken.

For Metals analysis performed on 10/17/16 LCVL4-161017 had low responses for the internal standards Bismuth, Indium, Scandium(1) and Scandium(2). All associated analytes were within control limits. No further corrective actions were taken.

For Metals analysis performed on 10/17/16 LCVL5-161017 had low responses for the internal standard Scandium(2). All associated analytes were within control limits. No further corrective actions were taken.

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Lab Order: 1610028

CASE NARRATIVE

For Metals analysis performed on 10/13/16, 10/18/16 and 10/19/16 (batches 77488 & 77470) the matrix spikes and matrix spike duplicate recoveries were below control limits for Boron and/or Calcium. These are flagged accordingly in the QC summary report. The samples selected for the matrix spikes and matrix spike duplicates were not from this work order. The LCSs were within control limits for these analytes. No further corrective actions were taken.

For Metals analysis performed on 10/18/16 (batch 77470) the PDS recovery was out of control limits for Calcium. This is flagged accordingly. The serial dilution was within control limits for this analyte. No further corrective actions were taken.

MERCURY ANALYSIS

For Mercury analysis performed on 10/11/16 (batch 77501) the PDS recovery was slightly below control limits. This is flagged accordingly in the QC summary report. The serial dilution was within control limits. No further corrective actions were taken.

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Lab Order: 1610028

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1610028-01	AX-24		10/05/16 09:50 AM	10/5/2016
1610028-02	AX-25		10/05/16 11:00 AM	10/5/2016
1610028-03	AX-22R		10/05/16 11:45 AM	10/5/2016
1610028-04	AX-28		10/05/16 02:15 PM	10/5/2016
1610028-05	AXMW-1		10/05/16 03:05 PM	10/5/2016
1610028-06	AX-23		10/05/16 03:50 PM	10/5/2016
1610028-07	EB-01		10/05/16 09:05 AM	10/5/2016
1610028-08	AX-1		10/05/16	10/5/2016
1610028-09	AX-29		10/06/16 10:30 AM	10/6/2016
1610028-10	AXMW-2		10/06/16 09:05 AM	10/6/2016
1610028-11	AX-27		10/06/16 11:10 AM	10/6/2016
1610028-12	AX-26		10/06/16 11:50 AM	10/6/2016

LUMINANT

& Wheeler

PREP DATES REPORT

Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
10/05/16 09:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/07/16 08:36 AM	77470
10/05/16 09:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/07/16 08:36 AM	77470
10/05/16 09:50 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/10/16 01:05 PM	77501
10/05/16 09:50 AM	Aqueous	E300	Anion Preparation	10/11/16 09:08 AM	77511
10/05/16 09:50 AM	Aqueous	E300	Anion Preparation	10/11/16 09:08 AM	77511
10/05/16 09:50 AM	Aqueous	M4500-H+ B	pH Preparation	10/06/16 10:45 AM	77460
10/05/16 09:50 AM	Aqueous	M2540C	TDS Preparation	10/10/16 11:16 AM	77500
10/05/16 11:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/07/16 08:36 AM	77470
10/05/16 11:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/07/16 08:36 AM	77470
10/05/16 11:00 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/10/16 01:05 PM	77501
10/05/16 11:00 AM	Aqueous	E300	Anion Preparation	10/11/16 09:08 AM	77511
10/05/16 11:00 AM	Aqueous	E300	Anion Preparation	10/11/16 09:08 AM	77511
10/05/16 11:00 AM	Aqueous	M4500-H+ B	pH Preparation	10/06/16 10:45 AM	77460
10/05/16 11:00 AM	Aqueous	M2540C	TDS Preparation	10/10/16 11:16 AM	77500
10/05/16 11:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/07/16 08:36 AM	77470
10/05/16 11:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/07/16 08:36 AM	77470
10/05/16 11:45 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/10/16 01:05 PM	77501
10/05/16 11:45 AM	Aqueous	E300	Anion Preparation	10/11/16 09:08 AM	77511
10/05/16 11:45 AM	Aqueous	E300	Anion Preparation	10/11/16 09:08 AM	77511
10/05/16 11:45 AM	Aqueous	M4500-H+ B	pH Preparation	10/06/16 10:45 AM	77460
10/05/16 11:45 AM	Aqueous	M2540C	TDS Preparation	10/11/16 09:09 AM	77528
10/05/16 02:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/07/16 08:36 AM	77470
10/05/16 02:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/07/16 08:36 AM	77470
10/05/16 02:15 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/10/16 01:05 PM	77501
10/05/16 02:15 PM	Aqueous	E300	Anion Preparation	10/11/16 09:08 AM	77511
10/05/16 02:15 PM	Aqueous	E300	Anion Preparation	10/11/16 09:08 AM	77511
10/05/16 02:15 PM	Aqueous	M4500-H+ B	pH Preparation	10/06/16 10:45 AM	77460
10/05/16 02:15 PM	Aqueous	M2540C	TDS Preparation	10/11/16 09:09 AM	77528

PREP DATES REPORT

Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
10/05/16 03:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/07/16 08:36 AM	77470
10/05/16 03:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/07/16 08:36 AM	77470
10/05/16 03:05 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/10/16 01:05 PM	77501
10/05/16 03:05 PM	Aqueous	E300	Anion Preparation	10/11/16 09:08 AM	77511
10/05/16 03:05 PM	Aqueous	E300	Anion Preparation	10/11/16 09:08 AM	77511
10/05/16 03:05 PM	Aqueous	M4500-H+ B	pH Preparation	10/06/16 10:45 AM	77460
10/05/16 03:05 PM	Aqueous	M2540C	TDS Preparation	10/11/16 09:09 AM	77528
10/05/16 03:50 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/07/16 08:36 AM	77470
10/05/16 03:50 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/07/16 08:36 AM	77470
10/05/16 03:50 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/10/16 01:05 PM	77501
10/05/16 03:50 PM	Aqueous	E300	Anion Preparation	10/11/16 09:08 AM	77511
10/05/16 03:50 PM	Aqueous	E300	Anion Preparation	10/11/16 09:08 AM	77511
10/05/16 03:50 PM	Aqueous	M4500-H+ B	pH Preparation	10/06/16 10:45 AM	77460
10/05/16 03:50 PM	Aqueous	M2540C	TDS Preparation	10/11/16 09:09 AM	77528
10/05/16 09:05 AM	Equip Blank	SW3005A	Aq Prep Metals : ICP-MS	10/07/16 08:36 AM	77470
10/05/16 09:05 AM	Equip Blank	SW3005A	Aq Prep Metals : ICP-MS	10/07/16 08:36 AM	77470
10/05/16 09:05 AM	Equip Blank	SW7470A	Mercury Aq Prep, Total	10/10/16 01:05 PM	77501
10/05/16 09:05 AM	Equip Blank	E300	Anion Preparation	10/11/16 09:08 AM	77511
10/05/16 09:05 AM	Equip Blank	M4500-H+ B	pH Preparation	10/06/16 10:45 AM	77460
10/05/16 09:05 AM	Equip Blank	M2540C	TDS Preparation	10/11/16 09:09 AM	77528
10/05/16	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/07/16 08:36 AM	77470
10/05/16	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/07/16 08:36 AM	77470
10/05/16	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/07/16 08:36 AM	77470
10/05/16	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/07/16 08:36 AM	77470
10/05/16	Aqueous	SW7470A	Mercury Aq Prep, Total	10/10/16 01:05 PM	77501
10/05/16	Aqueous	E300	Anion Preparation	10/11/16 09:08 AM	77511
10/05/16	Aqueous	E300	Anion Preparation	10/11/16 09:08 AM	77511
10/05/16	Aqueous	M4500-H+ B	pH Preparation	10/06/16 10:45 AM	77460

PREP DATES REPORT

Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
10/05/16	Aqueous	M2540C	TDS Preparation	10/11/16 09:09 AM	77528
10/06/16 10:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/07/16 08:36 AM	77470
10/06/16 10:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/07/16 08:36 AM	77470
10/06/16 10:30 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/10/16 01:05 PM	77501
10/06/16 10:30 AM	Aqueous	E300	Anion Preparation	10/11/16 09:08 AM	77511
10/06/16 10:30 AM	Aqueous	E300	Anion Preparation	10/11/16 09:08 AM	77511
10/06/16 10:30 AM	Aqueous	M4500-H+ B	pH Preparation	10/07/16 08:00 AM	77467
10/06/16 10:30 AM	Aqueous	M2540C	TDS Preparation	10/11/16 09:09 AM	77528
10/06/16 09:05 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/07/16 08:36 AM	77470
10/06/16 09:05 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/07/16 08:36 AM	77470
10/06/16 09:05 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/07/16 08:36 AM	77470
10/06/16 09:05 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/10/16 01:05 PM	77501
10/06/16 09:05 AM	Aqueous	E300	Anion Preparation	10/11/16 09:08 AM	77511
10/06/16 09:05 AM	Aqueous	E300	Anion Preparation	10/11/16 09:08 AM	77511
10/06/16 09:05 AM	Aqueous	M4500-H+ B	pH Preparation	10/07/16 08:00 AM	77467
10/06/16 09:05 AM	Aqueous	M2540C	TDS Preparation	10/11/16 09:09 AM	77528
10/06/16 11:10 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/07/16 08:36 AM	77470
10/06/16 11:10 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/07/16 08:36 AM	77470
10/06/16 11:10 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/10/16 01:05 PM	77501
10/06/16 11:10 AM	Aqueous	E300	Anion Preparation	10/11/16 09:08 AM	77511
10/06/16 11:10 AM	Aqueous	E300	Anion Preparation	10/11/16 09:08 AM	77511
10/06/16 11:10 AM	Aqueous	M4500-H+ B	pH Preparation	10/07/16 08:00 AM	77467
10/06/16 11:10 AM	Aqueous	M2540C	TDS Preparation	10/11/16 09:09 AM	77528
10/06/16 11:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/10/16 08:36 AM	77488
10/06/16 11:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/10/16 08:36 AM	77488
10/06/16 11:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/10/16 08:36 AM	77488
10/06/16 11:50 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/10/16 01:05 PM	77501
10/06/16 11:50 AM	Aqueous	E300	Anion Preparation	10/11/16 09:08 AM	77511

PREP DATES REPORT

Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
10/06/16 11:50 AM	Aqueous	E300	Anion Preparation	10/11/16 09:08 AM	77511
10/06/16 11:50 AM	Aqueous	M4500-H+ B	pH Preparation	10/07/16 08:00 AM	77467
10/06/16 11:50 AM	Aqueous	M2540C	TDS Preparation	10/11/16 09:09 AM	77528

ANALYTICAL DATES REPORT

Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
Aqueous	SW7470A	Mercury Total: Aqueous	77501	1	10/11/16 10:50 AM	CETAC2_HG_161011 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77470	50	10/18/16 02:24 PM	ICP-MS4_161018B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77470	1	10/18/16 03:36 PM	ICP-MS4_161018B
Aqueous	E300	Anions by IC method - Water	77511	1	10/11/16 10:47 AM	IC2_161011A
Aqueous	E300	Anions by IC method - Water	77511	100	10/11/16 04:50 PM	IC2_161011A
Aqueous	M4500-H+ B	pH	77460	1	10/06/16 11:25 AM	TITRATOR_161006A
Aqueous	M2540C	Total Dissolved Solids	77500	1	10/11/16 08:47 AM	WC_161010A
Aqueous	SW7470A	Mercury Total: Aqueous	77501	1	10/11/16 10:52 AM	CETAC2_HG_161011 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77470	1	10/18/16 03:38 PM	ICP-MS4_161018B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77470	50	10/18/16 02:26 PM	ICP-MS4_161018B
Aqueous	E300	Anions by IC method - Water	77511	1	10/11/16 11:01 AM	IC2_161011A
Aqueous	E300	Anions by IC method - Water	77511	100	10/11/16 05:04 PM	IC2_161011A
Aqueous	M4500-H+ B	pH	77460	1	10/06/16 11:29 AM	TITRATOR_161006A
Aqueous	M2540C	Total Dissolved Solids	77500	1	10/11/16 08:47 AM	WC_161010A
Aqueous	SW7470A	Mercury Total: Aqueous	77501	1	10/11/16 11:07 AM	CETAC2_HG_161011 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77470	10	10/18/16 02:28 PM	ICP-MS4_161018B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77470	1	10/18/16 03:42 PM	ICP-MS4_161018B
Aqueous	E300	Anions by IC method - Water	77511	1	10/11/16 11:16 AM	IC2_161011A
Aqueous	E300	Anions by IC method - Water	77511	10	10/11/16 05:19 PM	IC2_161011A
Aqueous	M4500-H+ B	pH	77460	1	10/06/16 11:30 AM	TITRATOR_161006A
Aqueous	M2540C	Total Dissolved Solids	77528	1	10/12/16 08:41 AM	WC_161011B
Aqueous	SW7470A	Mercury Total: Aqueous	77501	1	10/11/16 11:09 AM	CETAC2_HG_161011 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77470	50	10/18/16 02:30 PM	ICP-MS4_161018B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77470	1	10/18/16 03:44 PM	ICP-MS4_161018B
Aqueous	E300	Anions by IC method - Water	77511	1	10/11/16 11:30 AM	IC2_161011A
Aqueous	E300	Anions by IC method - Water	77511	100	10/11/16 05:33 PM	IC2_161011A

ANALYTICAL DATES REPORT

Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
Aqueous	M4500-H+ B	pH	77460	1	10/06/16 11:32 AM	TITRATOR_161006A
Aqueous	M2540C	Total Dissolved Solids	77528	1	10/12/16 08:41 AM	WC_161011B
Aqueous	SW7470A	Mercury Total: Aqueous	77501	1	10/11/16 11:11 AM	CETAC2_HG_161011 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77470	50	10/18/16 02:32 PM	ICP-MS4_161018B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77470	1	10/18/16 03:46 PM	ICP-MS4_161018B
Aqueous	E300	Anions by IC method - Water	77511	1	10/11/16 11:45 AM	IC2_161011A
Aqueous	E300	Anions by IC method - Water	77511	100	10/11/16 05:48 PM	IC2_161011A
Aqueous	M4500-H+ B	pH	77460	1	10/06/16 11:33 AM	TITRATOR_161006A
Aqueous	M2540C	Total Dissolved Solids	77528	1	10/12/16 08:41 AM	WC_161011B
Aqueous	SW7470A	Mercury Total: Aqueous	77501	1	10/11/16 11:13 AM	CETAC2_HG_161011 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77470	10	10/18/16 02:34 PM	ICP-MS4_161018B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77470	1	10/18/16 03:48 PM	ICP-MS4_161018B
Aqueous	E300	Anions by IC method - Water	77511	1	10/11/16 12:00 PM	IC2_161011A
Aqueous	E300	Anions by IC method - Water	77511	10	10/12/16 09:37 AM	IC2_161011A
Aqueous	M4500-H+ B	pH	77460	1	10/06/16 11:36 AM	TITRATOR_161006A
Aqueous	M2540C	Total Dissolved Solids	77528	1	10/12/16 08:41 AM	WC_161011B
Equip Blank	SW7470A	Mercury Total: Aqueous	77501	1	10/11/16 11:16 AM	CETAC2_HG_161011 A
Equip Blank	SW6020A	Trace Metals: ICP-MS - Water	77470	1	10/18/16 03:50 PM	ICP-MS4_161018B
Equip Blank	SW6020A	Trace Metals: ICP-MS - Water	77470	10	10/18/16 02:36 PM	ICP-MS4_161018B
Equip Blank	E300	Anions by IC method - Water	77511	1	10/11/16 02:06 PM	IC2_161011A
Equip Blank	M4500-H+ B	pH	77460	1	10/06/16 11:39 AM	TITRATOR_161006A
Equip Blank	M2540C	Total Dissolved Solids	77528	1	10/12/16 08:41 AM	WC_161011B
Aqueous	SW7470A	Mercury Total: Aqueous	77501	1	10/11/16 11:18 AM	CETAC2_HG_161011 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77470	50	10/19/16 01:37 PM	ICP-MS3_161019A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77470	50	10/21/16 03:20 PM	ICP-MS3_161021A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77470	10	10/18/16 02:38 PM	ICP-MS4_161018B

ANALYTICAL DATES REPORT

Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77470	1	10/18/16 04:06 PM	ICP-MS4_161018B
Aqueous	E300	Anions by IC method - Water	77511	1	10/11/16 12:14 PM	IC2_161011A
Aqueous	E300	Anions by IC method - Water	77511	100	10/12/16 09:52 AM	IC2_161011A
Aqueous	M4500-H+ B	pH	77460	1	10/06/16 11:41 AM	TITRATOR_161006A
Aqueous	M2540C	Total Dissolved Solids	77528	1	10/12/16 08:41 AM	WC_161011B
Aqueous	SW7470A	Mercury Total: Aqueous	77501	1	10/11/16 11:20 AM	CETAC2_HG_161011 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77470	100	10/18/16 03:30 PM	ICP-MS4_161018B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77470	1	10/18/16 04:08 PM	ICP-MS4_161018B
Aqueous	E300	Anions by IC method - Water	77511	1	10/11/16 02:21 PM	IC2_161011A
Aqueous	E300	Anions by IC method - Water	77511	100	10/12/16 10:06 AM	IC2_161011A
Aqueous	M4500-H+ B	pH	77467	1	10/07/16 09:37 AM	TITRATOR_161007A
Aqueous	M2540C	Total Dissolved Solids	77528	1	10/12/16 08:41 AM	WC_161011B
Aqueous	SW7470A	Mercury Total: Aqueous	77501	1	10/11/16 11:23 AM	CETAC2_HG_161011 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77470	1	10/18/16 04:10 PM	ICP-MS4_161018B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77470	50	10/18/16 03:32 PM	ICP-MS4_161018B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77470	10	10/18/16 02:40 PM	ICP-MS4_161018B
Aqueous	E300	Anions by IC method - Water	77511	1	10/11/16 02:35 PM	IC2_161011A
Aqueous	E300	Anions by IC method - Water	77511	100	10/12/16 10:22 AM	IC2_161011A
Aqueous	M4500-H+ B	pH	77467	1	10/07/16 09:40 AM	TITRATOR_161007A
Aqueous	M2540C	Total Dissolved Solids	77528	1	10/12/16 08:41 AM	WC_161011B
Aqueous	SW7470A	Mercury Total: Aqueous	77501	1	10/11/16 11:29 AM	CETAC2_HG_161011 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77470	50	10/18/16 03:34 PM	ICP-MS4_161018B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77470	1	10/18/16 04:12 PM	ICP-MS4_161018B
Aqueous	E300	Anions by IC method - Water	77511	1	10/11/16 02:50 PM	IC2_161011A
Aqueous	E300	Anions by IC method - Water	77511	100	10/12/16 10:43 AM	IC2_161011A
Aqueous	M4500-H+ B	pH	77467	1	10/07/16 09:43 AM	TITRATOR_161007A

ANALYTICAL DATA REPORT

Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
Aqueous	M2540C	Total Dissolved Solids	77528	1	10/12/16 08:41 AM	WC_161011B
Aqueous	SW7470A	Mercury Total: Aqueous	77501	1	10/11/16 11:32 AM	CETAC2_HG_161011 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77488	1	10/17/16 07:32 PM	ICP-MS3_161017A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77488	50	10/18/16 04:16 PM	ICP-MS4_161018B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77488	1	10/18/16 04:18 PM	ICP-MS4_161018B
Aqueous	E300	Anions by IC method - Water	77511	1	10/11/16 03:05 PM	IC2_161011A
Aqueous	E300	Anions by IC method - Water	77511	100	10/12/16 10:58 AM	IC2_161011A
Aqueous	M4500-H+ B	pH	77467	1	10/07/16 09:44 AM	TITRATOR_161007A
Aqueous	M2540C	Total Dissolved Solids	77528	1	10/12/16 08:41 AM	WC_161011B

DHL Analytical, Inc.

Date: 09-Nov-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1610028

Client Sample ID: AX-24
Lab ID: 1610028-01
Collection Date: 10/05/16 09:50 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/11/16 10:50 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: CVD			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	10/18/16 03:36 PM
Arsenic	0.00423	0.00200	0.00500	J	mg/L	1	10/18/16 03:36 PM
Barium	0.0294	0.00300	0.0100		mg/L	1	10/18/16 03:36 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	10/18/16 03:36 PM
Boron	0.0921	0.0100	0.0300		mg/L	1	10/18/16 03:36 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	10/18/16 03:36 PM
Calcium	239	5.00	15.0		mg/L	50	10/18/16 02:24 PM
Chromium	0.00591	0.00200	0.00500		mg/L	1	10/18/16 03:36 PM
Cobalt	0.00638	0.00300	0.00500		mg/L	1	10/18/16 03:36 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	10/18/16 03:36 PM
Lithium	0.0709	0.00500	0.0100		mg/L	1	10/18/16 03:36 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	10/18/16 03:36 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	10/18/16 03:36 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	10/18/16 03:36 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	250	30.0	100		mg/L	100	10/11/16 04:50 PM
Fluoride	0.106	0.100	0.400	J	mg/L	1	10/11/16 10:47 AM
Sulfate	768	100	300		mg/L	100	10/11/16 04:50 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.64	0	0		pH Units@20.1°C	1	10/06/16 11:25 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	2290	50.0	50.0		mg/L	1	10/11/16 08:47 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 09-Nov-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1610028

Client Sample ID: AX-25
Lab ID: 1610028-02
Collection Date: 10/05/16 11:00 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/11/16 10:52 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: CVD			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	10/18/16 03:38 PM
Arsenic	0.00414	0.00200	0.00500	J	mg/L	1	10/18/16 03:38 PM
Barium	0.0777	0.00300	0.0100		mg/L	1	10/18/16 03:38 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	10/18/16 03:38 PM
Boron	0.184	0.0100	0.0300		mg/L	1	10/18/16 03:38 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	10/18/16 03:38 PM
Calcium	250	5.00	15.0		mg/L	50	10/18/16 02:26 PM
Chromium	0.00248	0.00200	0.00500	J	mg/L	1	10/18/16 03:38 PM
Cobalt	0.0304	0.00300	0.00500		mg/L	1	10/18/16 03:38 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	10/18/16 03:38 PM
Lithium	0.0266	0.00500	0.0100		mg/L	1	10/18/16 03:38 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	10/18/16 03:38 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	10/18/16 03:38 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	10/18/16 03:38 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	503	30.0	100		mg/L	100	10/11/16 05:04 PM
Fluoride	0.292	0.100	0.400	J	mg/L	1	10/11/16 11:01 AM
Sulfate	446	100	300		mg/L	100	10/11/16 05:04 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.89	0	0		pH Units@19.7°C	1	10/06/16 11:29 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	2710	50.0	50.0		mg/L	1	10/11/16 08:47 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 09-Nov-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1610028

Client Sample ID: AX-22R
Lab ID: 1610028-03
Collection Date: 10/05/16 11:45 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/11/16 11:07 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: CVD			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	10/18/16 03:42 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	10/18/16 03:42 PM
Barium	0.101	0.00300	0.0100		mg/L	1	10/18/16 03:42 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	10/18/16 03:42 PM
Boron	0.0891	0.0100	0.0300		mg/L	1	10/18/16 03:42 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	10/18/16 03:42 PM
Calcium	78.2	1.00	3.00		mg/L	10	10/18/16 02:28 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	10/18/16 03:42 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	10/18/16 03:42 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	10/18/16 03:42 PM
Lithium	0.0496	0.00500	0.0100		mg/L	1	10/18/16 03:42 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	10/18/16 03:42 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	10/18/16 03:42 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	10/18/16 03:42 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	83.5	3.00	10.0		mg/L	10	10/11/16 05:19 PM
Fluoride	0.237	0.100	0.400	J	mg/L	1	10/11/16 11:16 AM
Sulfate	48.5	1.00	3.00		mg/L	1	10/11/16 11:16 AM
PH		M4500-H+ B		Analyst: BJT			
pH	7.14	0	0		pH Units@19.5°C	1	10/06/16 11:30 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	436	10.0	10.0		mg/L	1	10/12/16 08:41 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 09-Nov-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1610028

Client Sample ID: AX-28
Lab ID: 1610028-04
Collection Date: 10/05/16 02:15 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/11/16 11:09 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: CVD			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	10/18/16 03:44 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	10/18/16 03:44 PM
Barium	0.0342	0.00300	0.0100		mg/L	1	10/18/16 03:44 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	10/18/16 03:44 PM
Boron	0.135	0.0100	0.0300		mg/L	1	10/18/16 03:44 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	10/18/16 03:44 PM
Calcium	478	5.00	15.0		mg/L	50	10/18/16 02:30 PM
Chromium	1.24	0.00200	0.00500		mg/L	1	10/18/16 03:44 PM
Cobalt	0.0322	0.00300	0.00500		mg/L	1	10/18/16 03:44 PM
Lead	0.000682	0.000300	0.00100	J	mg/L	1	10/18/16 03:44 PM
Lithium	0.241	0.00500	0.0100		mg/L	1	10/18/16 03:44 PM
Molybdenum	0.0258	0.00200	0.00500		mg/L	1	10/18/16 03:44 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	10/18/16 03:44 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	10/18/16 03:44 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	426	30.0	100		mg/L	100	10/11/16 05:33 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	10/11/16 11:30 AM
Sulfate	1110	100	300		mg/L	100	10/11/16 05:33 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.47	0	0		pH Units@18.5°C	1	10/06/16 11:32 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	3240	50.0	50.0		mg/L	1	10/12/16 08:41 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 09-Nov-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1610028

Client Sample ID: AXMW-1
Lab ID: 1610028-05
Collection Date: 10/05/16 03:05 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/11/16 11:11 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: CVD			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	10/18/16 03:46 PM
Arsenic	0.0175	0.00200	0.00500		mg/L	1	10/18/16 03:46 PM
Barium	0.0166	0.00300	0.0100		mg/L	1	10/18/16 03:46 PM
Beryllium	0.000518	0.000300	0.00100	J	mg/L	1	10/18/16 03:46 PM
Boron	0.497	0.0100	0.0300		mg/L	1	10/18/16 03:46 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	10/18/16 03:46 PM
Calcium	465	5.00	15.0		mg/L	50	10/18/16 02:32 PM
Chromium	0.00781	0.00200	0.00500		mg/L	1	10/18/16 03:46 PM
Cobalt	0.372	0.00300	0.00500		mg/L	1	10/18/16 03:46 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	10/18/16 03:46 PM
Lithium	0.0256	0.00500	0.0100		mg/L	1	10/18/16 03:46 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	10/18/16 03:46 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	10/18/16 03:46 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	10/18/16 03:46 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	325	30.0	100		mg/L	100	10/11/16 05:48 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	10/11/16 11:45 AM
Sulfate	2050	100	300		mg/L	100	10/11/16 05:48 PM
PH		M4500-H+ B		Analyst: BJT			
pH	5.91	0	0		pH Units@18.5°C	1	10/06/16 11:33 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	4140	50.0	50.0		mg/L	1	10/12/16 08:41 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 09-Nov-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1610028

Client Sample ID: AX-23
Lab ID: 1610028-06
Collection Date: 10/05/16 03:50 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/11/16 11:13 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: CVD			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	10/18/16 03:48 PM
Arsenic	0.00879	0.00200	0.00500		mg/L	1	10/18/16 03:48 PM
Barium	0.0740	0.00300	0.0100		mg/L	1	10/18/16 03:48 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	10/18/16 03:48 PM
Boron	0.293	0.0100	0.0300		mg/L	1	10/18/16 03:48 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	10/18/16 03:48 PM
Calcium	246	1.00	3.00		mg/L	10	10/18/16 02:34 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	10/18/16 03:48 PM
Cobalt	0.00320	0.00300	0.00500	J	mg/L	1	10/18/16 03:48 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	10/18/16 03:48 PM
Lithium	0.00709	0.00500	0.0100	J	mg/L	1	10/18/16 03:48 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	10/18/16 03:48 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	10/18/16 03:48 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	10/18/16 03:48 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	156	3.00	10.0		mg/L	10	10/12/16 09:37 AM
Fluoride	0.179	0.100	0.400	J	mg/L	1	10/11/16 12:00 PM
Sulfate	562	10.0	30.0		mg/L	10	10/12/16 09:37 AM
PH		M4500-H+ B		Analyst: BJT			
pH	6.62	0	0		pH Units@18.8°C	1	10/06/16 11:36 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	1680	50.0	50.0		mg/L	1	10/12/16 08:41 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 09-Nov-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1610028

Client Sample ID: EB-01
Lab ID: 1610028-07
Collection Date: 10/05/16 09:05 AM
Matrix: EQUIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/11/16 11:16 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: CVD			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	10/18/16 03:50 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	10/18/16 03:50 PM
Barium	0.0475	0.00300	0.0100		mg/L	1	10/18/16 03:50 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	10/18/16 03:50 PM
Boron	0.0432	0.0100	0.0300		mg/L	1	10/18/16 03:50 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	10/18/16 03:50 PM
Calcium	3.53	1.00	3.00		mg/L	10	10/18/16 02:36 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	10/18/16 03:50 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	10/18/16 03:50 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	10/18/16 03:50 PM
Lithium	<0.00500	0.00500	0.0100		mg/L	1	10/18/16 03:50 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	10/18/16 03:50 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	10/18/16 03:50 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	10/18/16 03:50 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	22.2	0.300	1.00		mg/L	1	10/11/16 02:06 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	10/11/16 02:06 PM
Sulfate	5.73	1.00	3.00		mg/L	1	10/11/16 02:06 PM
PH		M4500-H+ B		Analyst: BJT			
pH	7.12	0	0		pH Units@18.7°C	1	10/06/16 11:39 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	<10.0	10.0	10.0		mg/L	1	10/12/16 08:41 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 09-Nov-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1610028

Client Sample ID: AX-1
Lab ID: 1610028-08
Collection Date: 10/05/16
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/11/16 11:18 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: CVD			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	10/18/16 04:06 PM
Arsenic	0.0172	0.00200	0.00500		mg/L	1	10/18/16 04:06 PM
Barium	0.0162	0.00300	0.0100		mg/L	1	10/18/16 04:06 PM
Beryllium	0.000419	0.000300	0.00100	J	mg/L	1	10/18/16 04:06 PM
Boron	0.534	0.100	0.300		mg/L	10	10/18/16 02:38 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	10/18/16 04:06 PM
Calcium	488	5.00	15.0		mg/L	50	10/21/16 03:20 PM
Chromium	0.00614	0.00200	0.00500		mg/L	1	10/18/16 04:06 PM
Cobalt	0.376	0.00300	0.00500		mg/L	1	10/18/16 04:06 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	10/18/16 04:06 PM
Lithium	0.0259	0.00500	0.0100		mg/L	1	10/18/16 04:06 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	10/18/16 04:06 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	10/18/16 04:06 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	10/18/16 04:06 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	341	30.0	100		mg/L	100	10/12/16 09:52 AM
Fluoride	<0.100	0.100	0.400		mg/L	1	10/11/16 12:14 PM
Sulfate	2080	100	300		mg/L	100	10/12/16 09:52 AM
PH		M4500-H+ B		Analyst: BJT			
pH	5.89	0	0		pH Units@19.1°C	1	10/06/16 11:41 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	4300	50.0	50.0		mg/L	1	10/12/16 08:41 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 09-Nov-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1610028

Client Sample ID: AX-29
Lab ID: 1610028-09
Collection Date: 10/06/16 10:30 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A			Analyst: AH		
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/11/16 11:20 AM
TRACE METALS: ICP-MS - WATER		SW6020A			Analyst: CVD		
Antimony	<0.000800	0.000800	0.00250		mg/L	1	10/18/16 04:08 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	10/18/16 04:08 PM
Barium	0.0328	0.00300	0.0100		mg/L	1	10/18/16 04:08 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	10/18/16 04:08 PM
Boron	0.347	0.0100	0.0300		mg/L	1	10/18/16 04:08 PM
Cadmium	0.00379	0.000300	0.00100		mg/L	1	10/18/16 04:08 PM
Calcium	383	10.0	30.0		mg/L	100	10/18/16 03:30 PM
Chromium	0.00378	0.00200	0.00500	J	mg/L	1	10/18/16 04:08 PM
Cobalt	0.0959	0.00300	0.00500		mg/L	1	10/18/16 04:08 PM
Lead	0.000308	0.000300	0.00100	J	mg/L	1	10/18/16 04:08 PM
Lithium	0.0391	0.00500	0.0100		mg/L	1	10/18/16 04:08 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	10/18/16 04:08 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	10/18/16 04:08 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	10/18/16 04:08 PM
ANIONS BY IC METHOD - WATER		E300			Analyst: AV		
Chloride	282	30.0	100		mg/L	100	10/12/16 10:06 AM
Fluoride	0.123	0.100	0.400	J	mg/L	1	10/11/16 02:21 PM
Sulfate	1130	100	300		mg/L	100	10/12/16 10:06 AM
PH		M4500-H+ B			Analyst: BJT		
pH	6.37	0	0		pH Units@18.6°C	1	10/07/16 09:37 AM
TOTAL DISSOLVED SOLIDS		M2540C			Analyst: AJH		
Total Dissolved Solids (Residue, Filterable)	2940	50.0	50.0		mg/L	1	10/12/16 08:41 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 09-Nov-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1610028

Client Sample ID: AXMW-2
Lab ID: 1610028-10
Collection Date: 10/06/16 09:05 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/11/16 11:23 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: CVD			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	10/18/16 04:10 PM
Arsenic	0.0230	0.00200	0.00500		mg/L	1	10/18/16 04:10 PM
Barium	0.0220	0.00300	0.0100		mg/L	1	10/18/16 04:10 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	10/18/16 04:10 PM
Boron	1.84	0.0100	0.0300		mg/L	1	10/18/16 04:10 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	10/18/16 04:10 PM
Calcium	541	5.00	15.0		mg/L	50	10/18/16 03:32 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	10/18/16 04:10 PM
Cobalt	0.0403	0.00300	0.00500		mg/L	1	10/18/16 04:10 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	10/18/16 04:10 PM
Lithium	0.0774	0.00500	0.0100		mg/L	1	10/18/16 04:10 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	10/18/16 04:10 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	10/18/16 04:10 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	10/18/16 04:10 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	200	30.0	100		mg/L	100	10/12/16 10:22 AM
Fluoride	0.882	0.100	0.400		mg/L	1	10/11/16 02:35 PM
Sulfate	1840	100	300		mg/L	100	10/12/16 10:22 AM
PH		M4500-H+ B		Analyst: BJT			
pH	6.25	0	0		pH Units@18.7°C	1	10/07/16 09:40 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	2950	50.0	50.0		mg/L	1	10/12/16 08:41 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 09-Nov-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1610028

Client Sample ID: AX-27
Lab ID: 1610028-11
Collection Date: 10/06/16 11:10 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/11/16 11:29 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: CVD			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	10/18/16 04:12 PM
Arsenic	0.00320	0.00200	0.00500	J	mg/L	1	10/18/16 04:12 PM
Barium	0.108	0.00300	0.0100		mg/L	1	10/18/16 04:12 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	10/18/16 04:12 PM
Boron	0.216	0.0100	0.0300		mg/L	1	10/18/16 04:12 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	10/18/16 04:12 PM
Calcium	356	5.00	15.0		mg/L	50	10/18/16 03:34 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	10/18/16 04:12 PM
Cobalt	0.0197	0.00300	0.00500		mg/L	1	10/18/16 04:12 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	10/18/16 04:12 PM
Lithium	0.0828	0.00500	0.0100		mg/L	1	10/18/16 04:12 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	10/18/16 04:12 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	10/18/16 04:12 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	10/18/16 04:12 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	600	30.0	100		mg/L	100	10/12/16 10:43 AM
Fluoride	<0.100	0.100	0.400		mg/L	1	10/11/16 02:50 PM
Sulfate	394	100	300		mg/L	100	10/12/16 10:43 AM
PH		M4500-H+ B		Analyst: BJT			
pH	6.60	0	0		pH Units@19°C	1	10/07/16 09:43 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	1740	50.0	50.0		mg/L	1	10/12/16 08:41 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 09-Nov-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1610028

Client Sample ID: AX-26
Lab ID: 1610028-12
Collection Date: 10/06/16 11:50 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/11/16 11:32 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: CVD			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	10/18/16 04:18 PM
Arsenic	0.00230	0.00200	0.00500	J	mg/L	1	10/18/16 04:18 PM
Barium	0.0367	0.00300	0.0100		mg/L	1	10/18/16 04:18 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	10/17/16 07:32 PM
Boron	0.311	0.0100	0.0300		mg/L	1	10/17/16 07:32 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	10/18/16 04:18 PM
Calcium	558	5.00	15.0		mg/L	50	10/18/16 04:16 PM
Chromium	0.00267	0.00200	0.00500	J	mg/L	1	10/17/16 07:32 PM
Cobalt	0.0202	0.00300	0.00500		mg/L	1	10/17/16 07:32 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	10/18/16 04:18 PM
Lithium	0.385	0.00500	0.0100		mg/L	1	10/17/16 07:32 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	10/18/16 04:18 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	10/17/16 07:32 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	10/18/16 04:18 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	875	30.0	100		mg/L	100	10/12/16 10:58 AM
Fluoride	<0.100	0.100	0.400		mg/L	1	10/11/16 03:05 PM
Sulfate	931	100	300		mg/L	100	10/12/16 10:58 AM
PH		M4500-H+ B		Analyst: BJT			
pH	6.58	0	0		pH Units@18.2°C	1	10/07/16 09:44 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	3390	50.0	50.0		mg/L	1	10/12/16 08:41 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610028
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_161011A

The QC data in batch 77501 applies to the following samples: 1610028-01A, 1610028-02A, 1610028-03A, 1610028-04A, 1610028-05A, 1610028-06A, 1610028-07A, 1610028-08A, 1610028-09A, 1610028-10A, 1610028-11A, 1610028-12A

Sample ID MB-77501	Batch ID: 77501	TestNo: SW7470A	Units: mg/L							
SampType: MBLK	Run ID: CETAC2_HG_161011A	Analysis Date: 10/11/2016 10:43:15 A	Prep Date: 10/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	<0.0000800	0.000200								

Sample ID LCS-77501	Batch ID: 77501	TestNo: SW7470A	Units: mg/L							
SampType: LCS	Run ID: CETAC2_HG_161011A	Analysis Date: 10/11/2016 10:45:30 A	Prep Date: 10/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00204	0.000200	0.00200	0	102	85	115			

Sample ID LCSD-77501	Batch ID: 77501	TestNo: SW7470A	Units: mg/L							
SampType: LCSD	Run ID: CETAC2_HG_161011A	Analysis Date: 10/11/2016 10:47:46 A	Prep Date: 10/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00203	0.000200	0.00200	0	102	85	115	0.491	15	

Sample ID 1610028-02A SD	Batch ID: 77501	TestNo: SW7470A	Units: mg/L							
SampType: SD	Run ID: CETAC2_HG_161011A	Analysis Date: 10/11/2016 10:54:34 A	Prep Date: 10/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	<0.000400	0.00100	0	0				0	10	

Sample ID 1610028-02A MS	Batch ID: 77501	TestNo: SW7470A	Units: mg/L							
SampType: MS	Run ID: CETAC2_HG_161011A	Analysis Date: 10/11/2016 10:59:05 A	Prep Date: 10/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00171	0.000200	0.00200	0	85.5	80	120			

Sample ID 1610028-02A MSD	Batch ID: 77501	TestNo: SW7470A	Units: mg/L							
SampType: MSD	Run ID: CETAC2_HG_161011A	Analysis Date: 10/11/2016 11:01:21 A	Prep Date: 10/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00169	0.000200	0.00200	0	84.5	80	120	1.18	15	

Sample ID 1610028-02A PDS	Batch ID: 77501	TestNo: SW7470A	Units: mg/L							
SampType: PDS	Run ID: CETAC2_HG_161011A	Analysis Date: 10/11/2016 11:04:54 A	Prep Date: 10/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00201	0.000200	0.00250	0	80.4	85	115			S

- Qualifiers:**
- B Analyte detected in the associated Method Blank
 - J Analyte detected between MDL and RL
 - ND Not Detected at the Method Detection Limit
 - RL Reporting Limit
 - J Analyte detected between SDL and RL
 - DF Dilution Factor
 - MDL Method Detection Limit
 - R RPD outside accepted control limits
 - S Spike Recovery outside control limits
 - N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610028
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_161011A

Sample ID ICV-161011	Batch ID: R88493	TestNo: SW7470A	Units: mg/L							
SampType: ICV	Run ID: CETAC2_HG_161011A	Analysis Date: 10/11/2016 10:38:41 A	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00399	0.000200	0.00400	0	99.8	90	110
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Sample ID CCV1-161011	Batch ID: R88493	TestNo: SW7470A	Units: mg/L							
SampType: CCV	Run ID: CETAC2_HG_161011A	Analysis Date: 10/11/2016 11:25:19 A	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00193	0.000200	0.00200	0	96.5	90	110
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Sample ID CCV2-161011	Batch ID: R88493	TestNo: SW7470A	Units: mg/L							
SampType: CCV	Run ID: CETAC2_HG_161011A	Analysis Date: 10/11/2016 11:52:39 A	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00195	0.000200	0.00200	0	97.5	90	110
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LUMINAN

Qualifiers:	B Analyte detected in the associated Method Blank	DF Dilution Factor
	J Analyte detected between MDL and RL	MDL Method Detection Limit
	ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
	RL Reporting Limit	S Spike Recovery outside control limits
	J Analyte detected between SDL and RL	N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610028
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_161017A

The QC data in batch 77488 applies to the following samples: 1610028-12A

Sample ID MB-77488	Batch ID: 77488	TestNo: SW6020A	Units: mg/L							
SampType: MBLK	Run ID: ICP-MS3_161017A	Analysis Date: 10/17/2016 5:21:00 PM	Prep Date: 10/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	<0.0100	0.0300								
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Sample ID LCS-77488	Batch ID: 77488	TestNo: SW6020A	Units: mg/L							
SampType: LCS	Run ID: ICP-MS3_161017A	Analysis Date: 10/17/2016 5:27:00 PM	Prep Date: 10/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.182	0.0300	0.200	0	90.8	80	120			
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Sample ID LCSD-77488	Batch ID: 77488	TestNo: SW6020A	Units: mg/L							
SampType: LCSD	Run ID: ICP-MS3_161017A	Analysis Date: 10/17/2016 5:33:00 PM	Prep Date: 10/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.183	0.0300	0.200	0	91.6	80	120	0.932	15	
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Sample ID 1610064-03A SD	Batch ID: 77488	TestNo: SW6020A	Units: mg/L							
SampType: SD	Run ID: ICP-MS3_161017A	Analysis Date: 10/17/2016 7:21:00 PM	Prep Date: 10/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	<0.00400	0.0125	0	0				0	10	
Barium	0.169	0.0500	0	0.177				4.76	10	
Beryllium	<0.00150	0.00500	0	0				0	10	
Cobalt	<0.0150	0.0250	0	0.0110				0	10	
Lithium	<0.0250	0.0500	0	0.0109				0	10	
Molybdenum	<0.0100	0.0250	0	0				0	10	
Selenium	<0.0100	0.0250	0	0				0	10	
Thallium	<0.00250	0.00750	0	0				0	10	

Sample ID 1610064-03A PDS	Batch ID: 77488	TestNo: SW6020A	Units: mg/L							
SampType: PDS	Run ID: ICP-MS3_161017A	Analysis Date: 10/17/2016 7:27:00 PM	Prep Date: 10/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.198	0.00250	0.200	0	99.0	80	120			
Barium	0.364	0.0100	0.200	0.177	93.0	80	120			
Beryllium	0.188	0.00100	0.200	0	94.2	80	120			
Cobalt	0.194	0.00500	0.200	0.0110	91.8	80	120			
Lithium	0.191	0.0100	0.200	0.0109	90.0	80	120			
Molybdenum	0.198	0.00500	0.200	0	98.9	80	120			
Selenium	0.182	0.00500	0.200	0	91.2	80	120			
Thallium	0.201	0.00150	0.200	0	100	80	120			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610028
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_161017A

Sample ID: ICV1-161017	Batch ID: R88590	TestNo: SW6020A	Units: mg/L
SampType: ICV	Run ID: ICP-MS3_161017A	Analysis Date: 10/17/2016 12:36:00 P	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.0997	0.00250	0.100	0	99.7	90	110			
Barium	0.0981	0.0100	0.100	0	98.1	90	110			
Beryllium	0.102	0.00100	0.100	0	102	90	110			
Boron	0.0956	0.0300	0.100	0	95.6	90	110			
Chromium	0.105	0.00500	0.100	0	105	90	110			
Cobalt	0.105	0.00500	0.100	0	105	90	110			
Lithium	0.103	0.0100	0.100	0	103	90	110			
Molybdenum	0.0973	0.00500	0.100	0	97.3	90	110			
Selenium	0.0997	0.00500	0.100	0	99.7	90	110			
Thallium	0.0967	0.00150	0.100	0	96.7	90	110			

Sample ID: ILCVL-161017	Batch ID: R88590	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS3_161017A	Analysis Date: 10/17/2016 12:48:00 P	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00195	0.00250	0.00200	0	97.6	70	130			
Barium	0.00495	0.0100	0.00500	0	99.0	70	130			
Beryllium	0.00114	0.00100	0.00100	0	114	70	130			
Boron	0.0209	0.0300	0.0200	0	104	70	130			
Chromium	0.00525	0.00500	0.00500	0	105	70	130			
Cobalt	0.00533	0.00500	0.00500	0	107	70	130			
Lithium	0.0107	0.0100	0.0100	0	107	70	130			
Molybdenum	0.00518	0.00500	0.00500	0	104	70	130			
Selenium	0.00540	0.00500	0.00500	0	108	70	130			
Thallium	0.00107	0.00150	0.00100	0	107	70	130			

Sample ID: CCV2-161017	Batch ID: R88590	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS3_161017A	Analysis Date: 10/17/2016 4:26:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.203	0.0300	0.200	0	102	90	110			

Sample ID: LCVL2-161017	Batch ID: R88590	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS3_161017A	Analysis Date: 10/17/2016 5:14:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0232	0.0300	0.0200	0	116	70	130			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610028
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_161017A

Sample ID CCV3-161017	Batch ID: R88590	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS3_161017A	Analysis Date: 10/17/2016 6:51:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.213	0.00250	0.200	0	106	90	110			
Barium	0.209	0.0100	0.200	0	104	90	110			
Beryllium	0.216	0.00100	0.200	0	108	90	110			
Boron	0.198	0.0300	0.200	0	99.0	90	110			
Chromium	0.210	0.00500	0.200	0	105	90	110			
Cobalt	0.210	0.00500	0.200	0	105	90	110			
Lithium	0.216	0.0100	0.200	0	108	90	110			
Molybdenum	0.212	0.00500	0.200	0	106	90	110			
Selenium	0.202	0.00500	0.200	0	101	90	110			
Thallium	0.211	0.00150	0.200	0	105	90	110			

Sample ID LCVL3-161017	Batch ID: R88590	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS3_161017A	Analysis Date: 10/17/2016 7:03:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00217	0.00250	0.00200	0	109	70	130			
Barium	0.00527	0.0100	0.00500	0	105	70	130			
Beryllium	0.00111	0.00100	0.00100	0	111	70	130			
Boron	0.0233	0.0300	0.0200	0	117	70	130			
Chromium	0.00523	0.00500	0.00500	0	105	70	130			
Cobalt	0.00526	0.00500	0.00500	0	105	70	130			
Lithium	0.0104	0.0100	0.0100	0	104	70	130			
Molybdenum	0.00524	0.00500	0.00500	0	105	70	130			
Selenium	0.00533	0.00500	0.00500	0	107	70	130			
Thallium	0.00112	0.00150	0.00100	0	112	70	130			

Sample ID CCV4-161017	Batch ID: R88590	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS3_161017A	Analysis Date: 10/17/2016 8:26:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.211	0.00250	0.200	0	106	90	110			
Barium	0.208	0.0100	0.200	0	104	90	110			
Beryllium	0.208	0.00100	0.200	0	104	90	110			
Boron	0.185	0.0300	0.200	0	92.6	90	110			
Chromium	0.203	0.00500	0.200	0	102	90	110			
Cobalt	0.202	0.00500	0.200	0	101	90	110			
Lithium	0.210	0.0100	0.200	0	105	90	110			
Molybdenum	0.208	0.00500	0.200	0	104	90	110			
Selenium	0.203	0.00500	0.200	0	102	90	110			
Thallium	0.211	0.00150	0.200	0	105	90	110			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610028
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_161017A

Sample ID: LCVL4-161017	Batch ID: R88590	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS3_161017A	Analysis Date: 10/17/2016 8:38:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00220	0.00250	0.00200	0	110	70	130			
Barium	0.00527	0.0100	0.00500	0	105	70	130			
Beryllium	0.00111	0.00100	0.00100	0	111	70	130			
Boron	0.0239	0.0300	0.0200	0	120	70	130			
Chromium	0.00537	0.00500	0.00500	0	107	70	130			
Cobalt	0.00518	0.00500	0.00500	0	104	70	130			
Lithium	0.0103	0.0100	0.0100	0	103	70	130			
Molybdenum	0.00522	0.00500	0.00500	0	104	70	130			
Selenium	0.00539	0.00500	0.00500	0	108	70	130			
Thallium	0.00113	0.00150	0.00100	0	113	70	130			

LUMINANT

Qualifiers:	B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1610028
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_161019A

The QC data in batch 77470 applies to the following samples: 1610028-01A, 1610028-02A, 1610028-03A, 1610028-04A, 1610028-05A, 1610028-06A, 1610028-07A, 1610028-08A, 1610028-09A, 1610028-10A, 1610028-11A

Sample ID 1610029-03A SD	Batch ID: 77470	TestNo: SW6020A	Units: mg/L							
SampType: SD	Run ID: ICP-MS3_161019A	Analysis Date: 10/19/2016 1:01:00 PM	Prep Date: 10/7/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.834	0.750	0	0.795				4.73	10	

Sample ID 1610029-03A PDS	Batch ID: 77470	TestNo: SW6020A	Units: mg/L							
SampType: PDS	Run ID: ICP-MS3_161019A	Analysis Date: 10/19/2016 1:07:00 PM	Prep Date: 10/7/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	1.77	0.150	1.00	0.795	97.2	80	120			

LUMINANT

Qualifiers:	B Analyte detected in the associated Method Blank	DF Dilution Factor
	J Analyte detected between MDL and RL	MDL Method Detection Limit
	ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
	RL Reporting Limit	S Spike Recovery outside control limits
	J Analyte detected between SDL and RL	N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610028
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_161019A

The QC data in batch 77488 applies to the following samples: 1610028-12A

Sample ID: 1610064-03A MS	Batch ID: 77488	TestNo: SW6020A	Units: mg/L
SampType: MS	Run ID: ICP-MS3_161019A	Analysis Date: 10/19/2016 1:25:00 PM	Prep Date: 10/10/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.197	0.00250	0.200	0	98.3	80	120			
Arsenic	0.199	0.00500	0.200	0	99.4	80	120			
Barium	0.362	0.0100	0.200	0.169	96.2	80	120			
Beryllium	0.193	0.00100	0.200	0	96.5	80	120			
Boron	2.55	0.0300	0.200	2.42	64.5	80	120			S
Cobalt	0.201	0.00500	0.200	0.0110	95.0	80	120			
Lithium	0.212	0.0100	0.200	0.0114	100	80	120			
Molybdenum	0.193	0.00500	0.200	0	96.6	80	120			
Selenium	0.195	0.00500	0.200	0	97.4	80	120			
Thallium	0.195	0.00150	0.200	0	97.4	80	120			

Sample ID: 1610064-03A MSD	Batch ID: 77488	TestNo: SW6020A	Units: mg/L
SampType: MSD	Run ID: ICP-MS3_161019A	Analysis Date: 10/19/2016 1:31:00 PM	Prep Date: 10/10/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.196	0.00250	0.200	0	98.1	80	120	0.204	15	
Arsenic	0.199	0.00500	0.200	0	99.3	80	120	0.151	15	
Barium	0.358	0.0100	0.200	0.169	94.5	80	120	0.917	15	
Beryllium	0.192	0.00100	0.200	0	96.2	80	120	0.311	15	
Boron	2.53	0.0300	0.200	2.42	56.5	80	120	0.630	15	S
Cobalt	0.200	0.00500	0.200	0.0110	94.6	80	120	0.349	15	
Lithium	0.214	0.0100	0.200	0.0114	101	80	120	0.847	15	
Molybdenum	0.194	0.00500	0.200	0	97.0	80	120	0.362	15	
Selenium	0.196	0.00500	0.200	0	97.8	80	120	0.410	15	
Thallium	0.196	0.00150	0.200	0	97.8	80	120	0.307	15	

Sample ID: 1610064-03A SD	Batch ID: 77488	TestNo: SW6020A	Units: mg/L
SampType: SD	Run ID: ICP-MS3_161019A	Analysis Date: 10/19/2016 1:49:00 PM	Prep Date: 10/10/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	2.60	0.750	0	2.36				9.70	10	

Sample ID: 1610064-03A PDS	Batch ID: 77488	TestNo: SW6020A	Units: mg/L
SampType: PDS	Run ID: ICP-MS3_161019A	Analysis Date: 10/19/2016 1:55:00 PM	Prep Date: 10/10/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	3.48	0.150	1.00	2.36	112	80	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610028
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_161019A

Sample ID ICV1-161019	Batch ID: R88617	TestNo: SW6020A	Units: mg/L
SampType: ICV	Run ID: ICP-MS3_161019A	Analysis Date: 10/19/2016 12:37:00 P	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.0968	0.00250	0.100	0	96.8	90	110			
Arsenic	0.0999	0.00500	0.100	0	99.9	90	110			
Barium	0.0966	0.0100	0.100	0	96.6	90	110			
Beryllium	0.0996	0.00100	0.100	0	99.6	90	110			
Boron	0.0980	0.0300	0.100	0	98.0	90	110			
Cobalt	0.104	0.00500	0.100	0	104	90	110			
Lithium	0.104	0.0100	0.100	0	104	90	110			
Molybdenum	0.0916	0.00500	0.100	0	91.6	90	110			
Selenium	0.100	0.00500	0.100	0	100	90	110			
Thallium	0.0967	0.00150	0.100	0	96.7	90	110			

Sample ID ILCVL-161019	Batch ID: R88617	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS3_161019A	Analysis Date: 10/19/2016 12:49:00 P	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00193	0.00250	0.00200	0	96.6	70	130			
Arsenic	0.00485	0.00500	0.00500	0	97.1	70	130			
Barium	0.00487	0.0100	0.00500	0	97.4	70	130			
Beryllium	0.00106	0.00100	0.00100	0	106	70	130			
Boron	0.0190	0.0300	0.0200	0	95.1	70	130			
Cobalt	0.00510	0.00500	0.00500	0	102	70	130			
Lithium	0.0105	0.0100	0.0100	0	105	70	130			
Molybdenum	0.00437	0.00500	0.00500	0	87.3	70	130			
Selenium	0.00507	0.00500	0.00500	0	101	70	130			
Thallium	0.00103	0.00150	0.00100	0	103	70	130			

Sample ID CCV1-161019	Batch ID: R88617	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS3_161019A	Analysis Date: 10/19/2016 2:37:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.193	0.00250	0.200	0	96.4	90	110			
Arsenic	0.200	0.00500	0.200	0	100	90	110			
Barium	0.194	0.0100	0.200	0	96.8	90	110			
Beryllium	0.201	0.00100	0.200	0	100	90	110			
Boron	0.191	0.0300	0.200	0	95.6	90	110			
Cobalt	0.198	0.00500	0.200	0	98.8	90	110			
Lithium	0.213	0.0100	0.200	0	106	90	110			
Molybdenum	0.188	0.00500	0.200	0	94.0	90	110			
Selenium	0.197	0.00500	0.200	0	98.6	90	110			
Thallium	0.193	0.00150	0.200	0	96.3	90	110			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610028
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_161019A

Sample ID: LCVL1-161019	Batch ID: R88617	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS3_161019A	Analysis Date: 10/19/2016 2:49:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00205	0.00250	0.00200	0	103	70	130			
Arsenic	0.00520	0.00500	0.00500	0	104	70	130			
Barium	0.00497	0.0100	0.00500	0	99.4	70	130			
Beryllium	0.00107	0.00100	0.00100	0	107	70	130			
Boron	0.0239	0.0300	0.0200	0	119	70	130			
Cobalt	0.00498	0.00500	0.00500	0	99.5	70	130			
Lithium	0.0105	0.0100	0.0100	0	105	70	130			
Molybdenum	0.00424	0.00500	0.00500	0	84.8	70	130			
Selenium	0.00526	0.00500	0.00500	0	105	70	130			
Thallium	0.00109	0.00150	0.00100	0	109	70	130			

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1610028
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_161021A

Sample ID ICV1-161021	Batch ID: R88662	TestNo: SW6020A	Units: mg/L							
SampType: ICV	Run ID: ICP-MS3_161021A	Analysis Date: 10/21/2016 12:35:00 P	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	2.43	0.300	2.50	0	97.0	90	110			
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Sample ID ILCVL-161021	Batch ID: R88662	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS3_161021A	Analysis Date: 10/21/2016 12:47:00 P	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	0.0885	0.300	0.100	0	88.5	70	130			
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Sample ID CCV1-161021	Batch ID: R88662	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS3_161021A	Analysis Date: 10/21/2016 2:37:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	4.90	0.300	5.00	0	98.1	90	110			
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Sample ID LCVL1-161021	Batch ID: R88662	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS3_161021A	Analysis Date: 10/21/2016 2:49:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	0.0845	0.300	0.100	0	84.5	70	130			
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Sample ID CCV1-161021	Batch ID: R88662	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS3_161021A	Analysis Date: 10/21/2016 3:32:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	4.90	0.300	5.00	0	97.9	90	110			
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Sample ID LCVL1-161021	Batch ID: R88662	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS3_161021A	Analysis Date: 10/21/2016 3:44:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	0.101	0.300	0.100	0	101	70	130			
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Qualifiers: B Analyte detected in the associated Method Blank
 J Analyte detected between MDL and RL
 ND Not Detected at the Method Detection Limit
 RL Reporting Limit
 J Analyte detected between SDL and RL
 DF Dilution Factor
 MDL Method Detection Limit
 R RPD outside accepted control limits
 S Spike Recovery outside control limits
 N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610028
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161013C

The QC data in batch 77488 applies to the following samples: 1610028-12A

Sample ID MB-77488	Batch ID: 77488	TestNo: SW6020A	Units: mg/L
SampType: MBLK	Run ID: ICP-MS4_161013C	Analysis Date: 10/13/2016 9:35:00 PM	Prep Date: 10/10/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.000800	0.00250								
Arsenic	<0.00200	0.00500								
Barium	<0.00300	0.0100								
Beryllium	<0.000300	0.00100								
Cadmium	<0.000300	0.00100								
Calcium	<0.100	0.300								
Chromium	<0.00200	0.00500								
Cobalt	<0.00300	0.00500								
Lead	<0.000300	0.00100								
Lithium	<0.00500	0.0100								
Molybdenum	<0.00200	0.00500								
Selenium	<0.00200	0.00500								
Thallium	<0.000500	0.00150								

Sample ID LCS-77488	Batch ID: 77488	TestNo: SW6020A	Units: mg/L
SampType: LCS	Run ID: ICP-MS4_161013C	Analysis Date: 10/13/2016 9:37:00 PM	Prep Date: 10/10/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.194	0.00250	0.200	0	97.1	80	120			
Arsenic	0.209	0.00500	0.200	0	105	80	120			
Barium	0.194	0.0100	0.200	0	96.9	80	120			
Beryllium	0.191	0.00100	0.200	0	95.6	80	120			
Cadmium	0.189	0.00100	0.200	0	94.7	80	120			
Calcium	4.68	0.300	5.00	0	93.5	80	120			
Chromium	0.193	0.00500	0.200	0	96.3	80	120			
Cobalt	0.197	0.00500	0.200	0	98.4	80	120			
Lead	0.191	0.00100	0.200	0	95.4	80	120			
Lithium	0.190	0.0100	0.200	0	95.2	80	120			
Molybdenum	0.182	0.00500	0.200	0	91.1	80	120			
Selenium	0.205	0.00500	0.200	0	103	80	120			
Thallium	0.188	0.00150	0.200	0	93.8	80	120			

Sample ID LCSD-77488	Batch ID: 77488	TestNo: SW6020A	Units: mg/L
SampType: LCSD	Run ID: ICP-MS4_161013C	Analysis Date: 10/13/2016 9:39:00 PM	Prep Date: 10/10/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.196	0.00250	0.200	0	97.8	80	120	0.718	15	
Arsenic	0.208	0.00500	0.200	0	104	80	120	0.635	15	
Barium	0.193	0.0100	0.200	0	96.5	80	120	0.445	15	
Beryllium	0.192	0.00100	0.200	0	95.8	80	120	0.217	15	

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
J Analyte detected between MDL and RL MDL Method Detection Limit
ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
RL Reporting Limit S Spike Recovery outside control limits
J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610028
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161013C

Sample ID: LCSD-77488	Batch ID: 77488	TestNo: SW6020A	Units: mg/L
SampType: LCSD	Run ID: ICP-MS4_161013C	Analysis Date: 10/13/2016 9:39:00 PM	Prep Date: 10/10/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.190	0.00100	0.200	0	95.1	80	120	0.387	15	
Calcium	4.66	0.300	5.00	0	93.2	80	120	0.323	15	
Chromium	0.193	0.00500	0.200	0	96.4	80	120	0.131	15	
Cobalt	0.195	0.00500	0.200	0	97.7	80	120	0.715	15	
Lead	0.191	0.00100	0.200	0	95.3	80	120	0.089	15	
Lithium	0.189	0.0100	0.200	0	94.5	80	120	0.782	15	
Molybdenum	0.184	0.00500	0.200	0	91.9	80	120	0.860	15	
Selenium	0.206	0.00500	0.200	0	103	80	120	0.399	15	
Thallium	0.188	0.00150	0.200	0	94.0	80	120	0.228	15	

Sample ID: 1610064-03A SD	Batch ID: 77488	TestNo: SW6020A	Units: mg/L
SampType: SD	Run ID: ICP-MS4_161013C	Analysis Date: 10/13/2016 9:45:00 PM	Prep Date: 10/10/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	<0.100	0.250	0	0				0	10	
Cadmium	<0.0150	0.0500	0	0				0	10	
Calcium	145	15.0	0	146				0.582	10	
Chromium	<0.100	0.250	0	0				0	10	
Lead	<0.0150	0.0500	0	0				0	10	

Sample ID: 1610064-03A PDS	Batch ID: 77488	TestNo: SW6020A	Units: mg/L
SampType: PDS	Run ID: ICP-MS4_161013C	Analysis Date: 10/13/2016 9:55:00 PM	Prep Date: 10/10/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	1.99	0.0500	2.00	0	99.4	80	120			
Cadmium	1.84	0.0100	2.00	0	91.8	80	120			
Calcium	189	3.00	50.0	146	85.1	80	120			
Chromium	1.93	0.0500	2.00	0	96.3	80	120			
Lead	1.86	0.0100	2.00	0	92.9	80	120			

Sample ID: 1610064-03A MS	Batch ID: 77488	TestNo: SW6020A	Units: mg/L
SampType: MS	Run ID: ICP-MS4_161013C	Analysis Date: 10/13/2016 9:57:00 PM	Prep Date: 10/10/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.196	0.0100	0.200	0	97.8	80	120			
Calcium	149	3.00	5.00	146	60.7	80	120			S
Chromium	0.195	0.0500	0.200	0	97.7	80	120			
Lead	0.191	0.0100	0.200	0	95.3	80	120			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610028
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161013C

Sample ID 1610064-03A MSD	Batch ID: 77488	TestNo: SW6020A	Units: mg/L
SampType: MSD	Run ID: ICP-MS4_161013C	Analysis Date: 10/13/2016 9:59:00 PM	Prep Date: 10/10/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.196	0.0100	0.200	0	97.8	80	120	0.040	15	
Calcium	150	3.00	5.00	146	85.6	80	120	0.830	15	
Chromium	0.199	0.0500	0.200	0	99.6	80	120	1.87	15	
Lead	0.195	0.0100	0.200	0	97.7	80	120	2.41	15	

LUMINANT

Qualifiers:	B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified	
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1610028
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161013C

Sample ID ICV-161013	Batch ID: R88546	TestNo: SW6020A	Units: mg/L
SampType: ICV	Run ID: ICP-MS4_161013C	Analysis Date: 10/13/2016 10:34:00 A	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.100	0.00250	0.100	0	100	90	110			
Arsenic	0.101	0.00500	0.100	0	101	90	110			
Barium	0.0990	0.0100	0.100	0	99.0	90	110			
Beryllium	0.0984	0.00100	0.100	0	98.4	90	110			
Cadmium	0.0984	0.00100	0.100	0	98.4	90	110			
Calcium	2.40	0.300	2.50	0	96.0	90	110			
Chromium	0.105	0.00500	0.100	0	105	90	110			
Cobalt	0.105	0.00500	0.100	0	105	90	110			
Lead	0.0992	0.00100	0.100	0	99.2	90	110			
Lithium	0.0948	0.0100	0.100	0	94.8	90	110			
Molybdenum	0.0957	0.00500	0.100	0	95.7	90	110			
Selenium	0.102	0.00500	0.100	0	102	90	110			
Thallium	0.0969	0.00150	0.100	0	96.9	90	110			

Sample ID LCVL-161013	Batch ID: R88546	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_161013C	Analysis Date: 10/13/2016 10:39:00 A	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00191	0.00250	0.00200	0	95.5	70	130			
Arsenic	0.00507	0.00500	0.00500	0	101	70	130			
Barium	0.00485	0.0100	0.00500	0	97.1	70	130			
Beryllium	0.000841	0.00100	0.00100	0	84.1	70	130			
Cadmium	0.000934	0.00100	0.00100	0	93.4	70	130			
Calcium	0.0926	0.300	0.100	0	92.6	70	130			
Chromium	0.00515	0.00500	0.00500	0	103	70	130			
Cobalt	0.00522	0.00500	0.00500	0	104	70	130			
Lead	0.00106	0.00100	0.00100	0	106	70	130			
Lithium	0.00991	0.0100	0.0100	0	99.1	70	130			
Molybdenum	0.00499	0.00500	0.00500	0	99.7	70	130			
Selenium	0.00504	0.00500	0.00500	0	101	70	130			
Thallium	0.000974	0.00150	0.00100	0	97.4	70	130			

Sample ID CCV12-161013	Batch ID: R88546	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_161013C	Analysis Date: 10/13/2016 8:59:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.198	0.00250	0.200	0	99.0	90	110			
Arsenic	0.206	0.00500	0.200	0	103	90	110			
Barium	0.200	0.0100	0.200	0	99.8	90	110			
Beryllium	0.203	0.00100	0.200	0	102	90	110			
Cadmium	0.200	0.00100	0.200	0	99.8	90	110			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1610028
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161013C

Sample ID CCV12-161013	Batch ID: R88546	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_161013C	Analysis Date: 10/13/2016 8:59:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	4.69	0.300	5.00	0	93.7	90	110			
Chromium	0.202	0.00500	0.200	0	101	90	110			
Cobalt	0.205	0.00500	0.200	0	102	90	110			
Lead	0.194	0.00100	0.200	0	96.9	90	110			
Lithium	0.202	0.0100	0.200	0	101	90	110			
Molybdenum	0.195	0.00500	0.200	0	97.3	90	110			
Selenium	0.204	0.00500	0.200	0	102	90	110			
Thallium	0.191	0.00150	0.200	0	95.5	90	110			

Sample ID LCVL12-161013	Batch ID: R88546	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_161013C	Analysis Date: 10/13/2016 9:03:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00199	0.00250	0.00200	0	99.3	70	130			
Arsenic	0.00511	0.00500	0.00500	0	102	70	130			
Barium	0.00485	0.0100	0.00500	0	96.9	70	130			
Beryllium	0.00103	0.00100	0.00100	0	103	70	130			
Cadmium	0.000951	0.00100	0.00100	0	95.1	70	130			
Calcium	0.0804	0.300	0.100	0	80.4	70	130			
Chromium	0.00511	0.00500	0.00500	0	102	70	130			
Cobalt	0.00507	0.00500	0.00500	0	101	70	130			
Lead	0.000907	0.00100	0.00100	0	90.7	70	130			
Lithium	0.0107	0.0100	0.0100	0	107	70	130			
Molybdenum	0.00483	0.00500	0.00500	0	96.5	70	130			
Selenium	0.00582	0.00500	0.00500	0	116	70	130			
Thallium	0.000973	0.00150	0.00100	0	97.3	70	130			

Sample ID CCV13-161013	Batch ID: R88546	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_161013C	Analysis Date: 10/13/2016 10:01:00 P	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.204	0.00250	0.200	0	102	90	110			
Arsenic	0.210	0.00500	0.200	0	105	90	110			
Barium	0.201	0.0100	0.200	0	101	90	110			
Beryllium	0.204	0.00100	0.200	0	102	90	110			
Cadmium	0.202	0.00100	0.200	0	101	90	110			
Calcium	4.86	0.300	5.00	0	97.1	90	110			
Chromium	0.203	0.00500	0.200	0	102	90	110			
Cobalt	0.200	0.00500	0.200	0	99.9	90	110			
Lead	0.197	0.00100	0.200	0	98.5	90	110			
Lithium	0.203	0.0100	0.200	0	102	90	110			

- Qualifiers:**
- B Analyte detected in the associated Method Blank
 - J Analyte detected between MDL and RL
 - ND Not Detected at the Method Detection Limit
 - RL Reporting Limit
 - J Analyte detected between SDL and RL
 - DF Dilution Factor
 - MDL Method Detection Limit
 - R RPD outside accepted control limits
 - S Spike Recovery outside control limits
 - N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610028
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161013C

Sample ID CCV13-161013	Batch ID: R88546	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_161013C	Analysis Date: 10/13/2016 10:01:00 P	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Molybdenum	0.192	0.00500	0.200	0	96.2	90	110			
Selenium	0.207	0.00500	0.200	0	103	90	110			
Thallium	0.194	0.00150	0.200	0	97.1	90	110			

Sample ID LCVL13-161013	Batch ID: R88546	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_161013C	Analysis Date: 10/13/2016 10:05:00 P	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00228	0.00250	0.00200	0	114	70	130			
Arsenic	0.00557	0.00500	0.00500	0	111	70	130			
Barium	0.00486	0.0100	0.00500	0	97.2	70	130			
Beryllium	0.000879	0.00100	0.00100	0	87.9	70	130			
Cadmium	0.000970	0.00100	0.00100	0	97.0	70	130			
Calcium	0.0833	0.300	0.100	0	83.3	70	130			
Chromium	0.00512	0.00500	0.00500	0	102	70	130			
Cobalt	0.00518	0.00500	0.00500	0	104	70	130			
Lead	0.000911	0.00100	0.00100	0	91.1	70	130			
Lithium	0.0106	0.0100	0.0100	0	106	70	130			
Molybdenum	0.00481	0.00500	0.00500	0	96.1	70	130			
Selenium	0.00621	0.00500	0.00500	0	124	70	130			
Thallium	0.000988	0.00150	0.00100	0	98.8	70	130			

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
 Work Order: 1610028
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161018B

The QC data in batch 77470 applies to the following samples: 1610028-01A, 1610028-02A, 1610028-03A, 1610028-04A, 1610028-05A, 1610028-06A, 1610028-07A, 1610028-08A, 1610028-09A, 1610028-10A, 1610028-11A

Sample ID MB-77470	Batch ID: 77470	TestNo: SW6020A	Units: mg/L
SampType: MBLK	Run ID: ICP-MS4_161018B	Analysis Date: 10/18/2016 2:12:00 PM	Prep Date: 10/7/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.000800	0.00250								
Arsenic	<0.00200	0.00500								
Barium	<0.00300	0.0100								
Beryllium	<0.000300	0.00100								
Boron	<0.0100	0.0300								
Cadmium	<0.000300	0.00100								
Calcium	<0.100	0.300								
Chromium	<0.00200	0.00500								
Cobalt	<0.00300	0.00500								
Lead	<0.000300	0.00100								
Lithium	<0.00500	0.0100								
Molybdenum	<0.00200	0.00500								
Selenium	<0.00200	0.00500								
Thallium	<0.000500	0.00150								

Sample ID LCS-77470	Batch ID: 77470	TestNo: SW6020A	Units: mg/L
SampType: LCS	Run ID: ICP-MS4_161018B	Analysis Date: 10/18/2016 2:14:00 PM	Prep Date: 10/7/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.200	0.00250	0.200	0	99.8	80	120			
Arsenic	0.204	0.00500	0.200	0	102	80	120			
Barium	0.200	0.0100	0.200	0	100	80	120			
Beryllium	0.202	0.00100	0.200	0	101	80	120			
Boron	0.187	0.0300	0.200	0	93.6	80	120			
Cadmium	0.199	0.00100	0.200	0	99.3	80	120			
Calcium	4.88	0.300	5.00	0	97.7	80	120			
Chromium	0.209	0.00500	0.200	0	105	80	120			
Cobalt	0.206	0.00500	0.200	0	103	80	120			
Lead	0.200	0.00100	0.200	0	100	80	120			
Lithium	0.199	0.0100	0.200	0	99.4	80	120			
Molybdenum	0.199	0.00500	0.200	0	99.6	80	120			
Selenium	0.202	0.00500	0.200	0	101	80	120			
Thallium	0.203	0.00150	0.200	0	102	80	120			

Sample ID LCSD-77470	Batch ID: 77470	TestNo: SW6020A	Units: mg/L
SampType: LCSD	Run ID: ICP-MS4_161018B	Analysis Date: 10/18/2016 2:16:00 PM	Prep Date: 10/7/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.199	0.00250	0.200	0	99.5	80	120	0.269	15	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1610028
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161018B

Sample ID: LCSD-77470	Batch ID: 77470	TestNo: SW6020A	Units: mg/L
SampType: LCSD	Run ID: ICP-MS4_161018B	Analysis Date: 10/18/2016 2:16:00 PM	Prep Date: 10/7/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.200	0.00500	0.200	0	100	80	120	1.80	15	
Barium	0.195	0.0100	0.200	0	97.5	80	120	2.46	15	
Beryllium	0.199	0.00100	0.200	0	99.6	80	120	1.11	15	
Boron	0.193	0.0300	0.200	0	96.6	80	120	3.22	15	
Cadmium	0.197	0.00100	0.200	0	98.3	80	120	1.02	15	
Calcium	4.95	0.300	5.00	0	98.9	80	120	1.25	15	
Chromium	0.207	0.00500	0.200	0	104	80	120	0.838	15	
Cobalt	0.200	0.00500	0.200	0	100	80	120	2.66	15	
Lead	0.201	0.00100	0.200	0	100	80	120	0.143	15	
Lithium	0.194	0.0100	0.200	0	96.9	80	120	2.60	15	
Molybdenum	0.196	0.00500	0.200	0	98.0	80	120	1.54	15	
Selenium	0.204	0.00500	0.200	0	102	80	120	1.21	15	
Thallium	0.204	0.00150	0.200	0	102	80	120	0.431	15	

Sample ID: 1610029-03A SD	Batch ID: 77470	TestNo: SW6020A	Units: mg/L
SampType: SD	Run ID: ICP-MS4_161018B	Analysis Date: 10/18/2016 2:22:00 PM	Prep Date: 10/7/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.00400	0.0125	0	0				0	10	
Arsenic	<0.0100	0.0250	0	0				0	10	
Barium	0.0847	0.0500	0	0.0824				2.79	10	
Beryllium	<0.00150	0.00500	0	0				0	10	
Cadmium	<0.00150	0.00500	0	0				0	10	
Calcium	203	1.50	0	196				3.72	10	
Chromium	<0.0100	0.0250	0	0				0	10	
Cobalt	<0.0150	0.0250	0	0				0	10	
Lead	<0.00150	0.00500	0	0				0	10	
Lithium	0.0546	0.0500	0	0.0502				8.39	10	
Molybdenum	<0.0100	0.0250	0	0.00530				0	10	
Selenium	<0.0100	0.0250	0	0				0	10	
Thallium	<0.00250	0.00750	0	0				0	10	

Sample ID: 1610029-03A PDS	Batch ID: 77470	TestNo: SW6020A	Units: mg/L
SampType: PDS	Run ID: ICP-MS4_161018B	Analysis Date: 10/18/2016 2:42:00 PM	Prep Date: 10/7/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.199	0.00250	0.200	0	99.4	80	120			
Arsenic	0.194	0.00500	0.200	0	97.1	80	120			
Barium	0.272	0.0100	0.200	0.0824	95.0	80	120			
Beryllium	0.186	0.00100	0.200	0	92.8	80	120			
Cadmium	0.183	0.00100	0.200	0	91.6	80	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1610028
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161018B

Sample ID 1610029-03A PDS	Batch ID: 77470	TestNo: SW6020A	Units: mg/L
SampType: PDS	Run ID: ICP-MS4_161018B	Analysis Date: 10/18/2016 2:42:00 PM	Prep Date: 10/7/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	190	0.300	5.00	196	-118	80	120			S
Chromium	0.197	0.00500	0.200	0	98.7	80	120			
Cobalt	0.185	0.00500	0.200	0	92.6	80	120			
Lead	0.191	0.00100	0.200	0	95.5	80	120			
Lithium	0.217	0.0100	0.200	0.0502	83.6	80	120			
Molybdenum	0.196	0.00500	0.200	0.00530	95.2	80	120			
Selenium	0.188	0.00500	0.200	0	93.9	80	120			
Thallium	0.194	0.00150	0.200	0	97.1	80	120			

Sample ID 1610029-03A MS	Batch ID: 77470	TestNo: SW6020A	Units: mg/L
SampType: MS	Run ID: ICP-MS4_161018B	Analysis Date: 10/18/2016 2:44:00 PM	Prep Date: 10/7/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.199	0.00250	0.200	0	99.7	80	120			
Arsenic	0.205	0.00500	0.200	0	103	80	120			
Barium	0.277	0.0100	0.200	0.0824	97.5	80	120			
Beryllium	0.192	0.00100	0.200	0	96.0	80	120			
Boron	1.01	0.0300	0.200	0.806	101	80	120			
Cadmium	0.190	0.00100	0.200	0	95.0	80	120			
Calcium	199	0.300	5.00	196	73.5	80	120			S
Chromium	0.201	0.00500	0.200	0	101	80	120			
Cobalt	0.192	0.00500	0.200	0	96.0	80	120			
Lead	0.204	0.00100	0.200	0	102	80	120			
Lithium	0.232	0.0100	0.200	0.0502	91.1	80	120			
Molybdenum	0.205	0.00500	0.200	0.00530	99.7	80	120			
Selenium	0.198	0.00500	0.200	0	98.9	80	120			
Thallium	0.210	0.00150	0.200	0	105	80	120			

Sample ID 1610029-03A MSD	Batch ID: 77470	TestNo: SW6020A	Units: mg/L
SampType: MSD	Run ID: ICP-MS4_161018B	Analysis Date: 10/18/2016 2:46:00 PM	Prep Date: 10/7/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.202	0.00250	0.200	0	101	80	120	1.30	15	
Arsenic	0.205	0.00500	0.200	0	103	80	120	0.045	15	
Barium	0.282	0.0100	0.200	0.0824	99.7	80	120	1.57	15	
Beryllium	0.193	0.00100	0.200	0	96.6	80	120	0.671	15	
Boron	1.03	0.0300	0.200	0.806	112	80	120	2.22	15	
Cadmium	0.192	0.00100	0.200	0	95.8	80	120	0.762	15	
Calcium	200	0.300	5.00	196	74.6	80	120	0.026	15	S
Chromium	0.201	0.00500	0.200	0	101	80	120	0.002	15	
Cobalt	0.192	0.00500	0.200	0	96.1	80	120	0.068	15	

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610028
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161018B

Sample ID: 1610029-03A MSD	Batch ID: 77470	TestNo: SW6020A	Units: mg/L
SampType: MSD	Run ID: ICP-MS4_161018B	Analysis Date: 10/18/2016 2:46:00 PM	Prep Date: 10/7/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.204	0.00100	0.200	0	102	80	120	0.049	15	
Lithium	0.230	0.0100	0.200	0.0502	90.1	80	120	0.861	15	
Molybdenum	0.208	0.00500	0.200	0.00530	101	80	120	1.61	15	
Selenium	0.200	0.00500	0.200	0	99.8	80	120	0.939	15	
Thallium	0.209	0.00150	0.200	0	104	80	120	0.438	15	

LUMINANT

Qualifiers:	B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified	
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CLIENT: Pastor, Behling & Wheeler
 Work Order: 1610028
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161018B

Sample ID: ICV-161018	Batch ID: R88599	TestNo: SW6020A	Units: mg/L
SampType: ICV	Run ID: ICP-MS4_161018B	Analysis Date: 10/18/2016 1:01:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.103	0.00250	0.100	0	103	90	110			
Arsenic	0.100	0.00500	0.100	0	100	90	110			
Barium	0.100	0.0100	0.100	0	100	90	110			
Beryllium	0.103	0.00100	0.100	0	103	90	110			
Boron	0.101	0.0300	0.100	0	101	90	110			
Cadmium	0.0989	0.00100	0.100	0	98.9	90	110			
Calcium	2.46	0.300	2.50	0	98.4	90	110			
Chromium	0.108	0.00500	0.100	0	108	90	110			
Cobalt	0.104	0.00500	0.100	0	104	90	110			
Lead	0.105	0.00100	0.100	0	105	90	110			
Lithium	0.0955	0.0100	0.100	0	95.5	90	110			
Molybdenum	0.0982	0.00500	0.100	0	98.2	90	110			
Selenium	0.101	0.00500	0.100	0	101	90	110			
Thallium	0.105	0.00150	0.100	0	105	90	110			

Sample ID: LCVL-161018	Batch ID: R88599	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_161018B	Analysis Date: 10/18/2016 1:03:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00236	0.00250	0.00200	0	118	70	130			
Arsenic	0.00523	0.00500	0.00500	0	105	70	130			
Barium	0.00499	0.0100	0.00500	0	99.7	70	130			
Beryllium	0.00111	0.00100	0.00100	0	111	70	130			
Boron	0.0246	0.0300	0.0200	0	123	70	130			
Cadmium	0.00109	0.00100	0.00100	0	109	70	130			
Calcium	0.104	0.300	0.100	0	104	70	130			
Chromium	0.00551	0.00500	0.00500	0	110	70	130			
Cobalt	0.00531	0.00500	0.00500	0	106	70	130			
Lead	0.00110	0.00100	0.00100	0	110	70	130			
Lithium	0.0111	0.0100	0.0100	0	111	70	130			
Molybdenum	0.00541	0.00500	0.00500	0	108	70	130			
Selenium	0.00607	0.00500	0.00500	0	121	70	130			
Thallium	0.00111	0.00150	0.00100	0	111	70	130			

Sample ID: CCV1-161018	Batch ID: R88599	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_161018B	Analysis Date: 10/18/2016 1:41:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.205	0.00250	0.200	0	103	90	110			
Arsenic	0.207	0.00500	0.200	0	104	90	110			
Barium	0.203	0.0100	0.200	0	102	90	110			

- Qualifiers:**
- B Analyte detected in the associated Method Blank
 - J Analyte detected between MDL and RL
 - ND Not Detected at the Method Detection Limit
 - RL Reporting Limit
 - J Analyte detected between SDL and RL
 - DF Dilution Factor
 - MDL Method Detection Limit
 - R RPD outside accepted control limits
 - S Spike Recovery outside control limits
 - N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610028
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161018B

Sample ID: CCV1-161018	Batch ID: R88599	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_161018B	Analysis Date: 10/18/2016 1:41:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.206	0.00100	0.200	0	103	90	110			
Boron	0.201	0.0300	0.200	0	100	90	110			
Cadmium	0.205	0.00100	0.200	0	103	90	110			
Calcium	4.81	0.300	5.00	0	96.2	90	110			
Chromium	0.211	0.00500	0.200	0	105	90	110			
Cobalt	0.207	0.00500	0.200	0	104	90	110			
Lead	0.203	0.00100	0.200	0	102	90	110			
Lithium	0.196	0.0100	0.200	0	98.2	90	110			
Molybdenum	0.204	0.00500	0.200	0	102	90	110			
Selenium	0.211	0.00500	0.200	0	106	90	110			
Thallium	0.206	0.00150	0.200	0	103	90	110			

Sample ID: LCVL1-161018	Batch ID: R88599	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_161018B	Analysis Date: 10/18/2016 1:56:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00196	0.00250	0.00200	0	98.2	70	130			
Arsenic	0.00530	0.00500	0.00500	0	106	70	130			
Barium	0.00502	0.0100	0.00500	0	100	70	130			
Beryllium	0.000980	0.00100	0.00100	0	98.0	70	130			
Boron	0.0212	0.0300	0.0200	0	106	70	130			
Cadmium	0.000980	0.00100	0.00100	0	98.0	70	130			
Calcium	0.103	0.300	0.100	0	103	70	130			
Chromium	0.00552	0.00500	0.00500	0	110	70	130			
Cobalt	0.00523	0.00500	0.00500	0	105	70	130			
Lead	0.00106	0.00100	0.00100	0	106	70	130			
Lithium	0.0103	0.0100	0.0100	0	103	70	130			
Molybdenum	0.00490	0.00500	0.00500	0	98.0	70	130			
Selenium	0.00558	0.00500	0.00500	0	112	70	130			
Thallium	0.00103	0.00150	0.00100	0	103	70	130			

Sample ID: CCV2-161018	Batch ID: R88599	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_161018B	Analysis Date: 10/18/2016 3:11:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.208	0.00250	0.200	0	104	90	110			
Arsenic	0.211	0.00500	0.200	0	105	90	110			
Barium	0.206	0.0100	0.200	0	103	90	110			
Beryllium	0.210	0.00100	0.200	0	105	90	110			
Boron	0.214	0.0300	0.200	0	107	90	110			
Cadmium	0.207	0.00100	0.200	0	104	90	110			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1610028
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161018B

Sample ID CCV2-161018	Batch ID: R88599	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_161018B	Analysis Date: 10/18/2016 3:11:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	4.93	0.300	5.00	0	98.7	90	110			
Chromium	0.218	0.00500	0.200	0	109	90	110			
Cobalt	0.210	0.00500	0.200	0	105	90	110			
Lead	0.211	0.00100	0.200	0	105	90	110			
Lithium	0.204	0.0100	0.200	0	102	90	110			
Molybdenum	0.208	0.00500	0.200	0	104	90	110			
Selenium	0.213	0.00500	0.200	0	107	90	110			
Thallium	0.213	0.00150	0.200	0	106	90	110			

Sample ID LCVL2-161018	Batch ID: R88599	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_161018B	Analysis Date: 10/18/2016 3:26:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00205	0.00250	0.00200	0	103	70	130			
Arsenic	0.00536	0.00500	0.00500	0	107	70	130			
Barium	0.00523	0.0100	0.00500	0	105	70	130			
Beryllium	0.00102	0.00100	0.00100	0	102	70	130			
Boron	0.0224	0.0300	0.0200	0	112	70	130			
Cadmium	0.00108	0.00100	0.00100	0	108	70	130			
Calcium	0.103	0.300	0.100	0	103	70	130			
Chromium	0.00550	0.00500	0.00500	0	110	70	130			
Cobalt	0.00519	0.00500	0.00500	0	104	70	130			
Lead	0.000995	0.00100	0.00100	0	99.5	70	130			
Lithium	0.00991	0.0100	0.0100	0	99.1	70	130			
Molybdenum	0.00508	0.00500	0.00500	0	102	70	130			
Selenium	0.00538	0.00500	0.00500	0	108	70	130			
Thallium	0.00104	0.00150	0.00100	0	104	70	130			

Sample ID CCV3-161008	Batch ID: R88599	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_161018B	Analysis Date: 10/18/2016 3:52:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.210	0.00250	0.200	0	105	90	110			
Arsenic	0.216	0.00500	0.200	0	108	90	110			
Barium	0.209	0.0100	0.200	0	105	90	110			
Beryllium	0.206	0.00100	0.200	0	103	90	110			
Boron	0.207	0.0300	0.200	0	103	90	110			
Cadmium	0.209	0.00100	0.200	0	104	90	110			
Calcium	4.98	0.300	5.00	0	99.5	90	110			
Chromium	0.216	0.00500	0.200	0	108	90	110			
Cobalt	0.209	0.00500	0.200	0	105	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1610028
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161018B

Sample ID CCV3-161008	Batch ID: R88599	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_161018B	Analysis Date: 10/18/2016 3:52:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.210	0.00100	0.200	0	105	90	110			
Lithium	0.198	0.0100	0.200	0	98.8	90	110			
Molybdenum	0.208	0.00500	0.200	0	104	90	110			
Selenium	0.215	0.00500	0.200	0	107	90	110			
Thallium	0.213	0.00150	0.200	0	106	90	110			

Sample ID LCVL3-161018	Batch ID: R88599	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_161018B	Analysis Date: 10/18/2016 4:00:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00208	0.00250	0.00200	0	104	70	130			
Arsenic	0.00526	0.00500	0.00500	0	105	70	130			
Barium	0.00536	0.0100	0.00500	0	107	70	130			
Beryllium	0.00110	0.00100	0.00100	0	110	70	130			
Boron	0.0239	0.0300	0.0200	0	120	70	130			
Cadmium	0.00101	0.00100	0.00100	0	101	70	130			
Calcium	0.105	0.300	0.100	0	105	70	130			
Chromium	0.00531	0.00500	0.00500	0	106	70	130			
Cobalt	0.00523	0.00500	0.00500	0	105	70	130			
Lead	0.00102	0.00100	0.00100	0	102	70	130			
Lithium	0.00972	0.0100	0.0100	0	97.2	70	130			
Molybdenum	0.00530	0.00500	0.00500	0	106	70	130			
Selenium	0.00564	0.00500	0.00500	0	113	70	130			
Thallium	0.00105	0.00150	0.00100	0	105	70	130			

Sample ID CCV4-161018	Batch ID: R88599	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_161018B	Analysis Date: 10/18/2016 4:25:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.212	0.00250	0.200	0	106	90	110			
Arsenic	0.217	0.00500	0.200	0	109	90	110			
Barium	0.210	0.0100	0.200	0	105	90	110			
Beryllium	0.211	0.00100	0.200	0	105	90	110			
Boron	0.216	0.0300	0.200	0	108	90	110			
Cadmium	0.211	0.00100	0.200	0	106	90	110			
Calcium	4.97	0.300	5.00	0	99.4	90	110			
Chromium	0.217	0.00500	0.200	0	109	90	110			
Cobalt	0.214	0.00500	0.200	0	107	90	110			
Lead	0.209	0.00100	0.200	0	105	90	110			
Lithium	0.203	0.0100	0.200	0	101	90	110			
Molybdenum	0.211	0.00500	0.200	0	105	90	110			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610028
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161018B

Sample ID CCV4-161018	Batch ID: R88599	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_161018B	Analysis Date: 10/18/2016 4:25:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.217	0.00500	0.200	0	109	90	110			
Thallium	0.213	0.00150	0.200	0	107	90	110			

Sample ID LCVL4-161018	Batch ID: R88599	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_161018B	Analysis Date: 10/18/2016 4:47:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00204	0.00250	0.00200	0	102	70	130			
Arsenic	0.00547	0.00500	0.00500	0	109	70	130			
Barium	0.00528	0.0100	0.00500	0	106	70	130			
Beryllium	0.00106	0.00100	0.00100	0	106	70	130			
Boron	0.0185	0.0300	0.0200	0	92.6	70	130			
Cadmium	0.00105	0.00100	0.00100	0	105	70	130			
Calcium	0.107	0.300	0.100	0	107	70	130			
Chromium	0.00545	0.00500	0.00500	0	109	70	130			
Cobalt	0.00525	0.00500	0.00500	0	105	70	130			
Lead	0.000992	0.00100	0.00100	0	99.2	70	130			
Lithium	0.00998	0.0100	0.0100	0	99.8	70	130			
Molybdenum	0.00504	0.00500	0.00500	0	101	70	130			
Selenium	0.00621	0.00500	0.00500	0	124	70	130			
Thallium	0.00104	0.00150	0.00100	0	104	70	130			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610028
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_161011A

The QC data in batch 77511 applies to the following samples: 1610028-01D, 1610028-02D, 1610028-03D, 1610028-04D, 1610028-05D, 1610028-06D, 1610028-07D, 1610028-08D, 1610028-09D, 1610028-10D, 1610028-11D, 1610028-12D

Sample ID MB-77511	Batch ID: 77511	TestNo: E300	Units: mg/L							
SampType: MBLK	Run ID: IC2_161011A	Analysis Date: 10/11/2016 9:44:27 AM	Prep Date: 10/11/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	<0.300	1.00								
Fluoride	<0.100	0.400								
Sulfate	<1.00	3.00								

Sample ID LCS-77511	Batch ID: 77511	TestNo: E300	Units: mg/L							
SampType: LCS	Run ID: IC2_161011A	Analysis Date: 10/11/2016 9:59:04 AM	Prep Date: 10/11/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	9.83	1.00	10.00	0	98.3	90	110			
Fluoride	3.80	0.400	4.000	0	95.0	90	110			
Sulfate	29.6	3.00	30.00	0	98.6	90	110			

Sample ID LCS-D-77511	Batch ID: 77511	TestNo: E300	Units: mg/L							
SampType: LCS-D	Run ID: IC2_161011A	Analysis Date: 10/11/2016 10:13:40 A	Prep Date: 10/11/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	9.89	1.00	10.00	0	98.9	90	110	0.640	20	
Fluoride	3.91	0.400	4.000	0	97.8	90	110	2.90	20	
Sulfate	29.7	3.00	30.00	0	99.0	90	110	0.372	20	

Sample ID 1610068-01AMS	Batch ID: 77511	TestNo: E300	Units: mg/L							
SampType: MS	Run ID: IC2_161011A	Analysis Date: 10/11/2016 3:51:41 PM	Prep Date: 10/11/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	327	10.0	200.0	122.6	102	90	110			
Fluoride	200	4.00	200.0	0	100	90	110			
Sulfate	251	30.0	200.0	59.04	95.9	90	110			

Sample ID 1610068-01AMSD	Batch ID: 77511	TestNo: E300	Units: mg/L							
SampType: MSD	Run ID: IC2_161011A	Analysis Date: 10/11/2016 4:06:18 PM	Prep Date: 10/11/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	326	10.0	200.0	122.6	102	90	110	0.241	20	
Fluoride	201	4.00	200.0	0	100	90	110	0.448	20	
Sulfate	245	30.0	200.0	59.04	92.9	90	110	2.45	20	

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1610028
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_161011A

Sample ID: 1610068-02AMS	Batch ID: 77511	TestNo: E300	Units: mg/L							
SampType: MS	Run ID: IC2_161011A	Analysis Date: 10/11/2016 4:20:54 PM	Prep Date: 10/11/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	336	10.0	200.0	128.1	104	90	110			
Fluoride	203	4.00	200.0	0	101	90	110			
Sulfate	241	30.0	200.0	48.89	96.0	90	110			

Sample ID: 1610068-02AMSD	Batch ID: 77511	TestNo: E300	Units: mg/L							
SampType: MSD	Run ID: IC2_161011A	Analysis Date: 10/11/2016 4:35:31 PM	Prep Date: 10/11/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	329	10.0	200.0	128.1	100	90	110	2.13	20	
Fluoride	203	4.00	200.0	0	102	90	110	0.308	20	
Sulfate	241	30.0	200.0	48.89	95.9	90	110	0.047	20	

LUMINANT

<p>Qualifiers:</p> <p>B Analyte detected in the associated Method Blank</p> <p>J Analyte detected between MDL and RL</p> <p>ND Not Detected at the Method Detection Limit</p> <p>RL Reporting Limit</p> <p>J Analyte detected between SDL and RL</p>	<p>DF Dilution Factor</p> <p>MDL Method Detection Limit</p> <p>R RPD outside accepted control limits</p> <p>S Spike Recovery outside control limits</p> <p>N Parameter not NELAC certified</p>
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1610028
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_161011A

Sample ID ICV-161011	Batch ID: R88515	TestNo: E300	Units: mg/L
SampType: ICV	Run ID: IC2_161011A	Analysis Date: 10/11/2016 9:06:57 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	25.0	1.00	25.00	0	99.9	90	110			
Fluoride	9.70	0.400	10.00	0	97.0	90	110			
Sulfate	75.2	3.00	75.00	0	100	90	110			

Sample ID CCV1-161011	Batch ID: R88515	TestNo: E300	Units: mg/L
SampType: CCV	Run ID: IC2_161011A	Analysis Date: 10/11/2016 1:24:31 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.82	1.00	10.00	0	98.2	90	110			
Fluoride	3.94	0.400	4.000	0	98.4	90	110			
Sulfate	29.6	3.00	30.00	0	98.8	90	110			

Sample ID CCV2-161011	Batch ID: R88515	TestNo: E300	Units: mg/L
SampType: CCV	Run ID: IC2_161011A	Analysis Date: 10/11/2016 6:03:10 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.83	1.00	10.00	0	98.3	90	110			
Fluoride	4.04	0.400	4.000	0	101	90	110			
Sulfate	29.7	3.00	30.00	0	99.1	90	110			

Sample ID CCV3-161011	Batch ID: R88515	TestNo: E300	Units: mg/L
SampType: CCV	Run ID: IC2_161011A	Analysis Date: 10/12/2016 9:06:14 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.68	1.00	10.00	0	96.8	90	110			
Fluoride	3.70	0.400	4.000	0	92.4	90	110			
Sulfate	29.1	3.00	30.00	0	97.2	90	110			

Sample ID CCV4-161011	Batch ID: R88515	TestNo: E300	Units: mg/L
SampType: CCV	Run ID: IC2_161011A	Analysis Date: 10/12/2016 11:16:08 A	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.92	1.00	10.00	0	99.2	90	110			
Fluoride	3.85	0.400	4.000	0	96.3	90	110			
Sulfate	29.7	3.00	30.00	0	98.9	90	110			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610028
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_161006A

The QC data in batch 77460 applies to the following samples: 1610028-01D, 1610028-02D, 1610028-03D, 1610028-04D, 1610028-05D, 1610028-06D, 1610028-07D, 1610028-08D

Sample ID: 1610028-01D-DUP	Batch ID: 77460	TestNo: M4500-H+ B	Units: pH Units@19.3°C
SampType: DUP	Run ID: TITRATOR_161006A	Analysis Date: 10/6/2016 11:26:00 AM	Prep Date: 10/6/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	6.54	0	0	6.640				1.52	5	

LUMINANT

Qualifiers:	B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1610028
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_161006A

Sample ID: ICV-161006	Batch ID: R88423	TestNo: M4500-H+ B	Units: pH Units@21.5°C
SampType: ICV	Run ID: TITRATOR_161006A	Analysis Date: 10/6/2016 10:47:00 AM	Prep Date: 10/6/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	9.90	0	10.00	0	99.0	99	101			

Sample ID: CCV1-161006	Batch ID: R88423	TestNo: M4500-H+ B	Units: pH Units@21.2°C
SampType: CCV	Run ID: TITRATOR_161006A	Analysis Date: 10/6/2016 11:42:00 AM	Prep Date: 10/6/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	6.96	0	7.000	0	99.4	97.1	102.9			

LUMINANT

<p>Qualifiers:</p> <p>B Analyte detected in the associated Method Blank</p> <p>J Analyte detected between MDL and RL</p> <p>ND Not Detected at the Method Detection Limit</p> <p>RL Reporting Limit</p> <p>J Analyte detected between SDL and RL</p>	<p>DF Dilution Factor</p> <p>MDL Method Detection Limit</p> <p>R RPD outside accepted control limits</p> <p>S Spike Recovery outside control limits</p> <p>N Parameter not NELAC certified</p>
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1610028
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_161007A

The QC data in batch 77467 applies to the following samples: 1610028-09D, 1610028-10D, 1610028-11D, 1610028-12D

Sample ID	1610028-09D-DUP	Batch ID:	77467	TestNo:	M4500-H+ B	Units:	pH Units@18.2°C			
SampType:	DUP	Run ID:	TITRATOR_161007A	Analysis Date:	10/7/2016 9:39:00 AM	Prep Date:	10/7/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	6.40	0	0	6.370				0.470		5

Sample ID	1610036-07D-DUP	Batch ID:	77467	TestNo:	M4500-H+ B	Units:	pH Units@17.9°C			
SampType:	DUP	Run ID:	TITRATOR_161007A	Analysis Date:	10/7/2016 10:05:00 AM	Prep Date:	10/7/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	6.79	0	0	6.770				0.295		5

LUMINANT

Qualifiers:	B Analyte detected in the associated Method Blank	DF Dilution Factor
	J Analyte detected between MDL and RL	MDL Method Detection Limit
	ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
	RL Reporting Limit	S Spike Recovery outside control limits
	J Analyte detected between SDL and RL	N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610028
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_161007A

Sample ID ICV-161007	Batch ID: R88450	TestNo: M4500-H+ B	Units: pH Units@21.6°C							
SampType: ICV	Run ID: TITRATOR_161007A	Analysis Date: 10/7/2016 8:13:00 AM	Prep Date: 10/7/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	9.91	0	10.00	0	99.1	99	101			
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Sample ID CCV1-161007	Batch ID: R88450	TestNo: M4500-H+ B	Units: pH Units@21.3°C							
SampType: CCV	Run ID: TITRATOR_161007A	Analysis Date: 10/7/2016 9:58:00 AM	Prep Date: 10/7/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	6.97	0	7.000	0	99.6	97.1	102.9			
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Sample ID CCV2-161007	Batch ID: R88450	TestNo: M4500-H+ B	Units: pH Units@21.1°C							
SampType: CCV	Run ID: TITRATOR_161007A	Analysis Date: 10/7/2016 10:24:00 AM	Prep Date: 10/7/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	6.97	0	7.000	0	99.6	97.1	102.9			
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LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1610028
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: WC_161010A

The QC data in batch 77500 applies to the following samples: 1610028-01D, 1610028-02D

Sample ID MB-77500	Batch ID: 77500	TestNo: M2540C	Units: mg/L							
SampType: MBLK	Run ID: WC_161010A	Analysis Date: 10/11/2016 8:47:00 AM	Prep Date: 10/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	<10.0	10.0								

Sample ID LCS-77500	Batch ID: 77500	TestNo: M2540C	Units: mg/L							
SampType: LCS	Run ID: WC_161010A	Analysis Date: 10/11/2016 8:47:00 AM	Prep Date: 10/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	764	10.0	745.6	0	102	90	113			

Sample ID 1610028-01D-DUP	Batch ID: 77500	TestNo: M2540C	Units: mg/L							
SampType: DUP	Run ID: WC_161010A	Analysis Date: 10/11/2016 8:47:00 AM	Prep Date: 10/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	2350	50.0	0	2290				2.59	5	

Sample ID 1610047-05A-DUP	Batch ID: 77500	TestNo: M2540C	Units: mg/L							
SampType: DUP	Run ID: WC_161010A	Analysis Date: 10/11/2016 8:47:00 AM	Prep Date: 10/10/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	12300	200	0	11780				3.99	5	

Qualifiers:	<p>B Analyte detected in the associated Method Blank</p> <p>J Analyte detected between MDL and RL</p> <p>ND Not Detected at the Method Detection Limit</p> <p>RL Reporting Limit</p> <p>J Analyte detected between SDL and RL</p>	<p>DF Dilution Factor</p> <p>MDL Method Detection Limit</p> <p>R RPD outside accepted control limits</p> <p>S Spike Recovery outside control limits</p> <p>N Parameter not NELAC certified</p>
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1610028
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: WC_161011B

The QC data in batch 77528 applies to the following samples: 1610028-03D, 1610028-04D, 1610028-05D, 1610028-06D, 1610028-07D, 1610028-08D, 1610028-09D, 1610028-10D, 1610028-11D, 1610028-12D

Sample ID MB-77528	Batch ID: 77528	TestNo: M2540C	Units: mg/L							
SampType: MBLK	Run ID: WC_161011B	Analysis Date: 10/12/2016 8:41:00 AM	Prep Date: 10/11/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera		<10.0	10.0							

Sample ID LCS-77528	Batch ID: 77528	TestNo: M2540C	Units: mg/L							
SampType: LCS	Run ID: WC_161011B	Analysis Date: 10/12/2016 8:41:00 AM	Prep Date: 10/11/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera		751	10.0	745.6	0	101	90	113		

Sample ID 1610028-03D-DUP	Batch ID: 77528	TestNo: M2540C	Units: mg/L							
SampType: DUP	Run ID: WC_161011B	Analysis Date: 10/12/2016 8:41:00 AM	Prep Date: 10/11/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera		447	10.0	0	436.0			2.49	5	

Sample ID 1610058-14B-DUP	Batch ID: 77528	TestNo: M2540C	Units: mg/L							
SampType: DUP	Run ID: WC_161011B	Analysis Date: 10/12/2016 8:41:00 AM	Prep Date: 10/11/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera		3140	50.0	0	3065			2.42	5	

Qualifiers:	<p>B Analyte detected in the associated Method Blank</p> <p>J Analyte detected between MDL and RL</p> <p>ND Not Detected at the Method Detection Limit</p> <p>RL Reporting Limit</p> <p>J Analyte detected between SDL and RL</p>	<p>DF Dilution Factor</p> <p>MDL Method Detection Limit</p> <p>R RPD outside accepted control limits</p> <p>S Spike Recovery outside control limits</p> <p>N Parameter not NELAC certified</p>
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Case Narrative

Lab No: 20160978

This report contains the analytical results for the 12 sample(s) received under chain of custody by ESC Lab Sciences on 10/10/2016 10:31:31 AM. These samples are associated with your 1609028 project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted below:

The test results in this report meet all NELAC requirements unless noted below:

This report shall not be reproduced, except in full, without the written approval of ESC Lab Sciences.

All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client.

Results have been reviewed by the Director of Radiochemistry or their designees and is approved for release.

Observations / Nonconformances



Client : DHL Analytical, Inc.
 Client Project : 1609028
 Lab Number : 20160978
 Date Reported : 11/08/16
 Date Received : 10/10/16
 Page Number : 2 of 5

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
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Lab ID : 20160978-01
Client ID : AX-24
Date Sampled : 10/5/2016 9:50:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		2.83 +/- 1.14	0.768	pCi/l				
Radium-226	SM 7500 Ra B M*	0.643 +/- 0.294	0.268	pCi/l		10/26/16	10/28/16	RE
Radium-228	EPA 904*/9320*	2.19 +/- 0.848	0.500	pCi/l		10/21/16	10/26/16	JR

Lab ID : 20160978-02
Client ID : AX-25
Date Sampled : 10/5/2016 11:00:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.63 +/- 1.33	1.04	pCi/l				
Radium-226	SM 7500 Ra B M*	0.632 +/- 0.308	0.310	pCi/l		10/26/16	10/28/16	RE
Radium-228	EPA 904*/9320*	1.00 +/- 1.02	0.734	pCi/l		10/21/16	10/31/16	JR

Lab ID : 20160978-03
Client ID : AX-22R
Date Sampled : 10/5/2016 11:45:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.532 +/- 1.26	0.879	pCi/l				
Radium-226	SM 7500 Ra B M*	0.532 +/- 0.252	0.249	pCi/l		10/26/16	10/28/16	RE
Radium-228	EPA 904*/9320*	-0.620 +/- 1.01	0.630	pCi/l		10/21/16	10/26/16	JR

Lab ID : 20160978-04
Client ID : AX-28
Date Sampled : 10/5/2016 2:15:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.63 +/- 0.982	0.676	pCi/l				
Radium-226	SM 7500 Ra B M*	0.247 +/- 0.180	0.206	pCi/l		10/26/16	10/28/16	RE
Radium-228	EPA 904*/9320*	1.38 +/- 0.802	0.470	pCi/l		10/21/16	10/26/16	JR



Client : DHL Analytical, Inc.
 Client Project : 1609028
 Lab Number : 20160978
 Date Reported : 11/08/16
 Date Received : 10/10/16
 Page Number : 3 of 5

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
--------	--------	----	-------	------	-----------	---------------	---------

Lab ID : 20160978-05
Client ID : AXMW-1
Date Sampled : 10/5/2016 3:05:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		2.57 +/- 1.11	0.631	pCi/l			
Radium-226	SM 7500 Ra B M*	0.713 +/- 0.197	0.081	pCi/l	11/02/16	11/07/16	AK
Radium-228	EPA 904*/9320*	1.86 +/- 0.911	0.550	pCi/l	10/21/16	10/26/16	JR

Lab ID : 20160978-06
Client ID : AX-23
Date Sampled : 10/5/2016 3:50:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		2.07 +/- 1.18	0.831	pCi/l			
Radium-226	SM 7500 Ra B M*	1.00 +/- 0.373	0.361	pCi/l	10/26/16	10/28/16	RE
Radium-228	EPA 904*/9320*	1.07 +/- 0.806	0.470	pCi/l	10/21/16	10/26/16	JR

Lab ID : 20160978-07
Client ID : EB-01
Date Sampled : 10/5/2016 9:05:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.23 +/- 1.06	0.800	pCi/l			
Radium-226	SM 7500 Ra B M*	0.461 +/- 0.303	0.364	pCi/l	10/26/16	10/28/16	RE
Radium-228	EPA 904*/9320*	0.770 +/- 0.752	0.436	pCi/l	10/21/16	10/26/16	JR

Lab ID : 20160978-08
Client ID : AX-1
Date Sampled : 10/5/2016
Matrix : NPW

Radiochemical Analyses

Combined Radium		2.78 +/- 0.976	0.551	pCi/l			
Radium-226	SM 7500 Ra B M*	0.911 +/- 0.249	0.144	pCi/l	11/02/16	11/07/16	AK
Radium-228	EPA 904*/9320*	1.87 +/- 0.727	0.407	pCi/l	10/21/16	10/26/16	JR



Client : DHL Analytical, Inc.
 Client Project : 1609028
 Lab Number : 20160978
 Date Reported : 11/08/16
 Date Received : 10/10/16
 Page Number : 4 of 5

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
--------	--------	----	-------	------	-----------	---------------	---------

Lab ID : 20160978-09
Client ID : AX-29
Date Sampled : 10/6/2016 10:30:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.785 +/- 1.20	0.724	pCi/l			
Radium-226	SM 7500 Ra B M*	0.622 +/- 0.190	0.120	pCi/l	11/02/16	11/07/16	AK
Radium-228	EPA 904*/9320*	0.163 +/- 1.01	0.604	pCi/l	10/21/16	10/26/16	JR

Lab ID : 20160978-10
Client ID : AXMW-2
Date Sampled : 10/6/2016 9:05:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.884 +/- 0.888	0.568	pCi/l			
Radium-226	SM 7500 Ra B M*	0.239 +/- 0.132	0.103	pCi/l	11/02/16	11/07/16	AK
Radium-228	EPA 904*/9320*	0.645 +/- 0.756	0.465	pCi/l	10/21/16	10/26/16	JR

Lab ID : 20160978-11
Client ID : AX-27
Date Sampled : 10/6/2016 11:10:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		2.18 +/- 1.42	1.06	pCi/l			
Radium-226	SM 7500 Ra B M*	0.889 +/- 0.402	0.417	pCi/l	10/26/16	10/28/16	RE
Radium-228	EPA 904*/9320*	1.29 +/- 1.02	0.638	pCi/l	10/21/16	10/26/16	JR

Lab ID : 20160978-12
Client ID : AX-26
Date Sampled : 10/6/2016 11:50:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		3.22 +/- 1.16	0.665	pCi/l			
Radium-226	SM 7500 Ra B M*	0.454 +/- 0.170	0.093	pCi/l	11/02/16	11/07/16	AK
Radium-228	EPA 904*/9320*	2.77 +/- 0.988	0.572	pCi/l	10/21/16	10/26/16	JR



Client : DHL Analytical, Inc.
 Client Project : 1609028
 Lab Number : 20160978
 Date Reported : 11/08/16
 Date Received : 10/10/16
 Page Number : 5 of 5

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	RPD	Batch ID
Radium-226	-0.019	107.0			NC	0.357	123.0	115.0	6.4	R1153
Radium-226	0.053	103.0			NC	0.410	101.0	102.0	0.8	R1149
Radium-228	-0.091	89.4			NC	1.290	91.7	98.4	9.9	R3868

Lab Approval:

Ron Eidson
 Director of Radiochemistry

LUMINANT

DHL Analytical, Inc.

2300 Double Creek Drive
Round Rock, TX 78664

TEL: (512) 388-8222

FAX: (512) 388-8229

Work Order: 1610028

CHAIN-OF-CUSTODY REC

Subcontractor:

ESC Laboratory
311 North Aspen
Broken Arrow, Oklahoma 74012

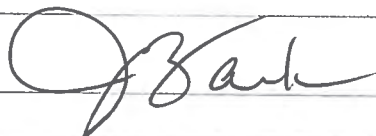
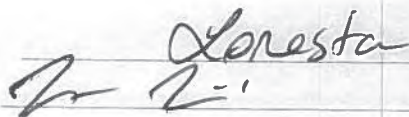
TEL: (918) 251-2515
FAX:
Acct #: DHLRRTX

Sample Id	Matrix	DHL#	Date Collected	Bottle Type	Requested Tests		
					E904.0	SM7500Ra-B M	
1	AX-24	Aqueous -01B	10/05/16 09:50 AM	500HDPEHNO3	1		
	AX-24	Aqueous -01C	10/05/16 09:50 AM	500HDPEHNO3		1	
2	AX-25	Aqueous -02B	10/05/16 11:00 AM	500HDPEHNO3	1		
	AX-25	Aqueous -02C	10/05/16 11:00 AM	500HDPEHNO3		1	
3	AX-22R	Aqueous -03B	10/05/16 11:45 AM	500HDPEHNO3	1		
	AX-22R	Aqueous -03C	10/05/16 11:45 AM	500HDPEHNO3		1	
4	AX-28	Aqueous -04B	10/05/16 02:15 PM	500HDPEHNO3	1		
	AX-28	Aqueous -04C	10/05/16 02:15 PM	500HDPEHNO3		1	
5	AXMW-1	Aqueous -05B	10/05/16 03:05 PM	500HDPEHNO3	1		
	AXMW-1	Aqueous -05C	10/05/16 03:05 PM	500HDPEHNO3		1	
6	AX-23	Aqueous -06B	10/05/16 03:50 PM	500HDPEHNO3	1		
	AX-23	Aqueous -06C	10/05/16 03:50 PM	500HDPEHNO3		1	
7	EB-01	Equip Blank -07B	10/05/16 09:05 AM	500HDPEHNO3	1		
	EB-01	Equip Blank -07C	10/05/16 09:05 AM	500HDPEHNO3		1	
8	AX-1	Aqueous -08B	10/05/16	500HDPEHNO3	1		
	AX-1	Aqueous -08C	10/05/16	500HDPEHNO3		1	
9	AX-29	Aqueous -09B	10/06/16 10:30 AM	500HDPEHNO3	1		
	AX-29	Aqueous -09C	10/06/16 10:30 AM	500HDPEHNO3		1	

General Comments:

Please analyze these samples with Normal Turnaround Time.
Report RA-226, Ra-228 & Combined per Specs DHLRRTX033116S.
Quality Control Package Needed: Standard - NELAC Rad Test compliant
Email to cac@dhlanalytical.com & dupont@dhlanalytical.com

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Relinquished by: 	Date/Time: 10/16/16 12:30	Received by: 
Relinquished by:		Received by:

DHL Analytical, Inc.

2300 Double Creek Drive

Round Rock, TX 78664

TEL: (512) 388-8222

FAX: (512) 388-8229

Work Order: 1610028

CHAIN-OF-CUSTODY REC

Subcontractor:

ESC Laboratory
311 North Aspen
Broken Arrow, Oklahoma 74012



TEL: (918) 251-2515
FAX:
Acct #: DHLRRTX

Sample Id	Matrix	DHL#	Date Collected	Bottle Type	Requested Tests			
					E904.0	SM7500Ra-B M		
10	AXMW-2	Aqueous	-10B	10/06/16 09:05 AM	500HDPEHNO3	1		
	AXMW-2	Aqueous	-10C	10/06/16 09:05 AM	500HDPEHNO3		1	
11	AX-27	Aqueous	-11B	10/06/16 11:10 AM	500HDPEHNO3	1		
	AX-27	Aqueous	-11C	10/06/16 11:10 AM	500HDPEHNO3		1	
12	AX-26	Aqueous	-12B	10/06/16 11:50 AM	500HDPEHNO3	1		
	AX-26	Aqueous	-12C	10/06/16 11:50 AM	500HDPEHNO3		1	

General Comments:

Please analyze these samples with Normal Turnaround Time.
Report RA-226, Ra-228 & Combined per Specs DHLRRTX033116S.
Quality Control Package Needed: Standard - NELAC Rad Test compliant
Email to cac@dhlanalytical.com & dupont@dhlanalytical.com

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Relinquished by: <u></u>	Date/Time: <u>10/6/16 1730</u>	Received by: <u></u>
Relinquished by: _____	Received by: _____	Received by: _____

SAMPLE LOGIN

Date Received: 10/10/2016 10:31:

Lab Number: 20160978

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon
20160978-01 B	AX-24	NPW	10/05/16	Plastic	500 ml	HNO3, pH < 2	
20160978-01 A	AX-24	NPW	10/05/16	Plastic	500 ml	HNO3, pH < 2	
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				
20160978-02 A	AX-25	NPW	10/05/16	Plastic	500 ml	HNO3, pH < 2	
20160978-02 B	AX-25	NPW	10/05/16	Plastic	500 ml	HNO3, pH < 2	
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				
20160978-03 A	AX-22R	NPW	10/05/16	Plastic	500 ml	HNO3, pH < 2	
20160978-03 B	AX-22R	NPW	10/05/16	Plastic	500 ml	HNO3, pH < 2	
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				
20160978-04 A	AX-28	NPW	10/05/16	Plastic	500 ml	HNO3, pH < 2	
20160978-04 B	AX-28	NPW	10/05/16	Plastic	500 ml	HNO3, pH < 2	
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				
20160978-05 A	AXMW-1	NPW	10/05/16	Plastic	500 ml	HNO3, pH < 2	
20160978-05 B	AXMW-1	NPW	10/05/16	Plastic	500 ml	HNO3, pH < 2	
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				
20160978-06 B	AX-23	NPW	10/05/16	Plastic	500 ml	HNO3, pH < 2	
20160978-06 A	AX-23	NPW	10/05/16	Plastic	500 ml	HNO3, pH < 2	
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				
20160978-07 B	EB-01	NPW	10/05/16	Plastic	500 ml	HNO3, pH < 2	
20160978-07 A	EB-01	NPW	10/05/16	Plastic	500 ml	HNO3, pH < 2	
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				

20160978-08 A	AX-1	NPW	10/05/16	Plastic	500 ml	HNO ₃ , pH < 2
20160978-08 B	AX-1	NPW	10/05/16	Plastic	500 ml	HNO ₃ , pH < 2
Radium-226			SM 7500 Ra B M*			
Radium-228			EPA 904*/9320*			
20160978-09 A	AX-29	NPW	10/06/16	Plastic	500 ml	HNO ₃ , pH < 2
20160978-09 B	AX-29	NPW	10/06/16	Plastic	500 ml	HNO ₃ , pH < 2
Radium-226			SM 7500 Ra B M*			
Radium-228			EPA 904*/9320*			
20160978-10 A	AXMW-2	NPW	10/06/16	Plastic	500 ml	HNO ₃ , pH < 2
20160978-10 B	AXMW-2	NPW	10/06/16	Plastic	500 ml	HNO ₃ , pH < 2
Radium-226			SM 7500 Ra B M*			
Radium-228			EPA 904*/9320*			
20160978-11 A	AX-27	NPW	10/06/16	Plastic	500 ml	HNO ₃ , pH < 2
20160978-11 B	AX-27	NPW	10/06/16	Plastic	500 ml	HNO ₃ , pH < 2
Radium-226			SM 7500 Ra B M*			
Radium-228			EPA 904*/9320*			
20160978-12 B	AX-26	NPW	10/06/16	Plastic	500 ml	HNO ₃ , pH < 2
20160978-12 A	AX-26	NPW	10/06/16	Plastic	500 ml	HNO ₃ , pH < 2
Radium-226			SM 7500 Ra B M*			
Radium-228			EPA 904*/9320*			

LUMINANT

CONTAINER INSPECTION

Coolers 1 Custody Seals Broken Temperature: *Amb* Ice Radiation Survey: <300 cpm

SAMPLE INSPECTION

Sample Seal Broken Chain of Custody Record Labels in Tact Radiation Survey Complete *N/A*

Anomalies *Several labels had water damage and had to be paired together to identify AXMW-2, AX-1, ED-01*

Inspected By: *[Signature]* DATE *10/10/16*

QA or Designee Review: _____ DATE _____

Sample Custodian Review: *Juan Munoz* DATE *10/10/16*

Project Notes:

LUMINANT



November 14, 2016

Will Vienne
Pastor, Behling & Wheeler
2201 Double Creek Dr #4004
Round Rock, Texas 78664
TEL: (512) 671-3434
FAX (512) 671-3446
RE: Sandow CCR

Order No.: 1611030

Dear Will Vienne:

DHL Analytical, Inc. received 2 sample(s) on 11/3/2016 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

A handwritten signature in orange ink, appearing to read "John DuPont".

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-16-17



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LUMINANT

DHL Analytical, Inc.

Sample Receipt Checklist

Client Name Pastor, Behling & Wheeler

Date Received: 11/3/2016

Work Order Number 1611030

Received by JT

Checklist completed by: [Signature] 11/3/2016
Signature Date

Reviewed by: [Initials] 11/3/2016
Initials Date

Carrier name Hand Delivered

- 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 8.7 °C
- Water - VOA vials have zero headspace? Yes No No VOA vials submitted
- Water - pH<2 acceptable upon receipt? Yes No NA LOT # 8086
Adjusted? no Checked by [Signature]
- Water - pH>9 (S) or pH>12 (CN) acceptable upon receipt? Yes No NA LOT #
Adjusted? _____ Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Lab Order: 1611030

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Method SW6020A - Metals Analysis

LOG IN

The samples were received and log-in performed on 11/3/2016. A total of 1 sample was received and analyzed. The sample arrived in good condition and was properly packaged. Additional analysis was declined per the client on 11/14/2016. All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

LUMINANT

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Lab Order: 1611030

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1611030-01	AX-28		11/03/16 11:00 AM	11/3/2016
1611030-02	AX-B		11/03/16 11:00 AM	11/3/2016

LUMINANT

PREP DATES REPORT

Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
11/03/16 11:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	11/08/16 08:28 AM	77818

LUMINANT

& Wheeler

ANALYTICAL DATES REPORT

Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77818	1	11/08/16 03:23 PM	ICP-MS4_161108B

LUMINANT

DHL Analytical, Inc.

Date: 14-Nov-16

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1611030

Client Sample ID: AX-28
Lab ID: 1611030-01
Collection Date: 11/03/16 11:00 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER							Analyst: CVD
Chromium	<0.00200	0.00200	0.00500		mg/L	1	11/08/16 03:23 PM

LUMINANT

- Qualifiers:**
- * Value exceeds TCLP Maximum Concentration Level
 - C Sample Result or QC discussed in the Case Narrative
 - E TPH pattern not Gas or Diesel Range Pattern
 - MDL Method Detection Limit
 - RL Reporting Limit
 - N Parameter not NELAC certified
 - B Analyte detected in the associated Method Blank
 - DF Dilution Factor
 - J Analyte detected between MDL and RL
 - ND Not Detected at the Method Detection Limit
 - S Spike Recovery outside control limits

CLIENT: Pastor, Behling & Wheeler
Work Order: 1611030
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161108B

The QC data in batch 77818 applies to the following samples: 1611030-01A

Sample ID MB-77818	Batch ID: 77818	TestNo: SW6020A	Units: mg/L							
SampType: MBLK	Run ID: ICP-MS4_161108B	Analysis Date: 11/8/2016 2:59:00 PM	Prep Date: 11/8/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chromium <0.00200 0.00500

Sample ID LCS-77818	Batch ID: 77818	TestNo: SW6020A	Units: mg/L							
SampType: LCS	Run ID: ICP-MS4_161108B	Analysis Date: 11/8/2016 3:01:00 PM	Prep Date: 11/8/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chromium 0.200 0.00500 0.200 0 100 80 120

Sample ID LCSD-77818	Batch ID: 77818	TestNo: SW6020A	Units: mg/L							
SampType: LCSD	Run ID: ICP-MS4_161108B	Analysis Date: 11/8/2016 3:03:00 PM	Prep Date: 11/8/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chromium 0.200 0.00500 0.200 0 99.8 80 120 0.146 15

Sample ID 1610240-01A SD	Batch ID: 77818	TestNo: SW6020A	Units: mg/L							
SampType: SD	Run ID: ICP-MS4_161108B	Analysis Date: 11/8/2016 3:07:00 PM	Prep Date: 11/8/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chromium <0.0100 0.0250 0 0 0 0 10

Sample ID 1610240-01A PDS	Batch ID: 77818	TestNo: SW6020A	Units: mg/L							
SampType: PDS	Run ID: ICP-MS4_161108B	Analysis Date: 11/8/2016 3:27:00 PM	Prep Date: 11/8/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chromium 0.202 0.00500 0.200 0 101 80 120

Sample ID 1610240-01A MS	Batch ID: 77818	TestNo: SW6020A	Units: mg/L							
SampType: MS	Run ID: ICP-MS4_161108B	Analysis Date: 11/8/2016 3:29:00 PM	Prep Date: 11/8/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chromium 0.193 0.00500 0.200 0 96.5 80 120

Sample ID 1610240-01A MSD	Batch ID: 77818	TestNo: SW6020A	Units: mg/L							
SampType: MSD	Run ID: ICP-MS4_161108B	Analysis Date: 11/8/2016 3:31:00 PM	Prep Date: 11/8/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chromium 0.198 0.00500 0.200 0 98.9 80 120 2.51 15

- Qualifiers:**
- B Analyte detected in the associated Method Blank
 - J Analyte detected between MDL and RL
 - ND Not Detected at the Method Detection Limit
 - RL Reporting Limit
 - J Analyte detected between SDL and RL
 - DF Dilution Factor
 - MDL Method Detection Limit
 - R RPD outside accepted control limits
 - S Spike Recovery outside control limits
 - N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1611030
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161108B

Sample ID ICV-161108	Batch ID: R88896	TestNo: SW6020A	Units: mg/L							
SampType: ICV	Run ID: ICP-MS4_161108B	Analysis Date: 11/8/2016 12:31:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chromium	0.108	0.00500	0.100	0	108	90	110			
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Sample ID LCVL-161108	Batch ID: R88896	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_161108B	Analysis Date: 11/8/2016 12:33:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chromium	0.00532	0.00500	0.00500	0	106	70	130			
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Sample ID CCV2-161108	Batch ID: R88896	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_161108B	Analysis Date: 11/8/2016 2:06:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chromium	0.208	0.00500	0.200	0	104	90	110			
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Sample ID LCVL2-161108	Batch ID: R88896	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_161108B	Analysis Date: 11/8/2016 2:28:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chromium	0.00535	0.00500	0.00500	0	107	70	130			
----------	---------	---------	---------	---	-----	----	-----	--	--	--

Sample ID CCV3-161108	Batch ID: R88896	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_161108B	Analysis Date: 11/8/2016 4:00:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chromium	0.206	0.00500	0.200	0	103	90	110			
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Sample ID LCVL3-161108	Batch ID: R88896	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_161108B	Analysis Date: 11/8/2016 4:32:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chromium	0.00540	0.00500	0.00500	0	108	70	130			
----------	---------	---------	---------	---	-----	----	-----	--	--	--

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified



January 31, 2017

Will Vienne
Pastor, Behling & Wheeler
2201 Double Creek Dr #4004
Round Rock, Texas 78664
TEL: (512) 671-3434
FAX (512) 671-3446
RE: Sandow CCR

Order No.: 1612246

Dear Will Vienne:

DHL Analytical, Inc. received 12 sample(s) on 12/21/2016 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

A handwritten signature in orange ink, appearing to read "John DuPont".

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-16-17



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LUMINANT



2300 Double Creek Dr. ■ Round Rock, TX 78664
 Phone (512) 388-8222 ■ FAX (512) 388-8229
 Web: www.dhlanalytical.com
 E-Mail: login@dhlanalytical.com



CHA

CLIENT: Pastor, Behling & Wheeler
 ADDRESS: 2201 Double Creek Dr Ste 4004
 PHONE: (512) 671-3434 FAX/E-MAIL: _____
 DATA REPORTED TO: Will Vienne
 ADDITIONAL REPORT COPIES TO: Karla Henson

DATE: 12/21/2016
 PO #: _____ DHL WORK ORDER # _____
 PROJECT LOCATION OR NAME: Sandow Creek
 CLIENT PROJECT #: S104E COL # _____

Authorize 5% surcharge for TRRP Report?
 Yes No

S=SOIL P=PAINT
 W=WATER SL=SLUDGE
 A=AIR O=OTHER
 L=LIQUID SO=SOLID
 SE=SEDIMENT

Field Sample I.D. | DHL Lab # | Date | Time | Matrix | Container Type | # of Containers | HCl | HNO₃ | H₂SO₄ | NaOH | ICE | UNPRESERVED

- ANALYSES**
- BTEX MTBE IMETHOD 8021 HOLD 1006
 - TPH 1005 TPH 1006 DRO VOC 8260/5035
 - GRO IMETHOD 8015 VOC 824 VOC 8260/5035
 - VOC 8260 VOC 824 HOLD PAH SVOC PCB
 - SVOC 8270/PAH 8270 HOLD PAH SVOC PCB
 - 8270 PEST 825 PEST/PCB 8082 PCB 8270 PCB
 - 8270 O-P PEST 8082 PCB 8270 PCB
 - 8271 HERB T-PHS: AMMONIA
 - METALS 8020 METALS 2008 DISS. METALS
 - PH TX11
 - HEX CHROM ALKALINITY
 - CHLORIDE ANIONS
 - TCLP-SVOC VOC
 - TCLP-METALS
 - RCI FI

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	HCl	HNO ₃	H ₂ SO ₄	NaOH	ICE	UNPRESERVED
AX-24	01	12/21/16	10:50	W	P	1	X	X				
AX-25	02		11:50									
AX-22R	03		12:55									
AX-29	04		14:05									
AX-28	05		14:45									
AX-23	06		15:40									
EB-01	07		10:00									

RELINQUISHED BY: (Signature) Ann Tamba DATE/TIME 12/21/2016 17:00 RECEIVED BY: (Signature) [Signature]
 RELINQUISHED BY: (Signature) _____ DATE/TIME _____ RECEIVED BY: (Signature) _____
 RELINQUISHED BY: (Signature) _____ DATE/TIME _____ RECEIVED BY: (Signature) _____

DHL DISPOSAL @ \$5.00 each Return

TURN AROUND TIME
 RUSH CALL FIRST
 1 DAY CALL FIRST
 2 DAY
 NORMAL
 OTHER

LABORATORY USE ONLY
 RECEIVING TEMP: 16
 CUSTODY SEALS:
 CARRIER: LONE STAR
 COURIER DELIVERY
 HAND DELIVERED



2300 Double Creek Dr. ■ Round Rock, TX 78664
 Phone (512) 388-8222 ■ FAX (512) 388-8229
 Web: www.dhlanalytical.com
 E-Mail: login@dhlanalytical.com



CHA

CLIENT: Pastor, Behling & Wheeler
 ADDRESS: 2201 Double Creek Dr ste 4004
 PHONE: (512) 471-3434 FAX/E-MAIL: _____
 DATA REPORTED TO: Will Vienne
 ADDITIONAL REPORT COPIES TO: Karla Henson

DATE: 12/22/2016
 PO #: _____ DHL WORK ORD _____
 PROJECT LOCATION OR NAME: Sandow CC
 CLIENT PROJECT #: SIUAE COLLECTOR _____

Field Sample I.D.	DHL Lab #	Date	Time	Matrix	Container Type	# of Containers	PRESERVATION					ANALYSES
							HCl	HNO ₃	H ₂ SO ₄	NaOH	ICE	
AXMW-1	108	12/22/16	10:35	W	P	4	X	X				
AXMW-2	209		12:35									
AX-27	310		13:20									
AX-26	411		14:25									
MW-1	512		-									

- ANALYSES**
- BIEX MTBE (METHOD 8021)
 - TPH 1005 TPH 1006 HOLD 1006
 - GRO (METHOD 8015) DRO (METHOD 8105)
 - VOC 8260 VOC 624 VOC 8260/5035
 - SVOC 8270 PAH 8270 HOLD PAH SVOC 623
 - 8270 PEST 625 PEST/PCB 608 PCB 8270 PCB
 - 8321 HERB T PHOS, AMMONIA
 - METALS 6020 METALS 200.8 DISS. METALS
 - PH HEX CHROM ALKALINITY
 - CHLORIDE ANIONS
 - TCLP-SVOC VOC
 - TCLP-METALS
 - RCL FLA
 - TDS

RELINQUISHED BY: (Signature) <u>[Signature]</u>	DATE/TIME <u>12/22/16 10:00</u>	RECEIVED BY: (Signature) <u>[Signature]</u>
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)

TURN AROUND TIME

RUSH CALL FIRST
 1 DAY CALL FIRST
 2 DAY
 NORMAL
 OTHER

LABORATORY USE ONLY

RECEIVING TEMP: 11
 CUSTODY SEALS:
 CARRIER: LONE STAR
 COURIER DELIVERY
 HAND DELIVERED

Sample Receipt Checklist

Client Name Pastor, Behling & Wheeler

Date Received: 12/21/2016

Work Order Number 1612246

Received by JT

Checklist completed by: [Signature] 12/21/2016

Reviewed by [Initials] 12/21/2016

Signature

Date

Initials

Date

Carrier name Hand Delivered

- 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 1.8 °C, 1.9
- Water - VOA vials have zero headspace? Yes No No VOA vials submitted
- Water - pH<2 acceptable upon receipt? Yes No NA LOT # 8086
- Adjusted? no Checked by [Signature]
- Water - pH>9 (S) or pH>12 (CN) acceptable upon receipt? Yes No NA LOT #
- Adjusted? _____ Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Lab Order: 1612246

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

- Method SW6020A - Metals Analysis
- Method SW7470A - Mercury Analysis
- Method E300 - Anions Analysis
- Method M4500-H+ B - pH of a Water Analysis
- Method M2540C - TDS Analysis
- Sub-contract - Radium-228 and Radium-226 analyses by methods E904/9320 and SM 7500 Ra B M. Analyzed at ESC Lab Sciences.

LOG IN

The samples were received and log-in performed on 12/21/16 and 12/27/17. A total of 12 samples were received. The samples arrived in good condition and were properly packaged.

METALS ANALYSIS

For Metals analysis performed on 1/7/17 the matrix spike and matrix spike duplicate recoveries were out of control limits for Calcium. These are flagged accordingly in the QC summary report. The sample selected for the matrix spike and matrix spike duplicate was from this work order. The LCS was within control limits for this analyte. No further corrective actions were taken.

For Metals analysis performed on 1/8/17 the PDS recovery was above control limits for Calcium. This is flagged accordingly. The serial dilution was within control limits for this analyte. No further corrective actions were taken.

For Metals analysis performed on 1/7/17 the RPD for the serial dilution was slightly above control limits for Boron. This is flagged accordingly. The PDS was within control limits for this analyte. No further corrective actions were taken.

ANIONS ANALYSIS

For Anions analysis performed on 12/29/16 Chloride was detected below the reporting in ICB-161229. All associated samples were either below detection limits for greater than 10 times the amount in the ICB. No further corrective actions were taken.

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Lab Order: 1612246

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1612246-01	AX-24		12/21/16 10:50 AM	12/21/2016
1612246-02	AX-25		12/21/16 11:50 AM	12/21/2016
1612246-03	AX-22R		12/21/16 12:55 PM	12/21/2016
1612246-04	AX-29		12/21/16 02:05 PM	12/21/2016
1612246-05	AX-28		12/21/16 02:45 PM	12/21/2016
1612246-06	AX-23		12/21/16 03:40 PM	12/21/2016
1612246-07	EB-01		12/21/16 10:00 AM	12/21/2016
1612246-08	AXMW-1		12/22/16 10:35 AM	12/22/2016
1612246-09	AXMW-2		12/22/16 12:35 PM	12/22/2016
1612246-10	AX-27		12/22/16 01:20 PM	12/22/2016
1612246-11	AX-26		12/22/16 02:25 PM	12/22/2016
1612246-12	MW-1		12/22/16	12/22/2016

LUMINANT

PREP DATES REPORT

Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
12/21/16 10:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/16 08:24 AM	78492
12/21/16 10:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/16 08:24 AM	78492
12/21/16 10:50 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/27/16 10:29 AM	78483
12/21/16 10:50 AM	Aqueous	E300	Anion Preparation	12/29/16 09:26 AM	78518
12/21/16 10:50 AM	Aqueous	E300	Anion Preparation	12/29/16 09:26 AM	78518
12/21/16 10:50 AM	Aqueous	M4500-H+ B	pH Preparation	12/23/16 09:27 AM	78459
12/21/16 10:50 AM	Aqueous	M2540C	TDS Preparation	12/22/16 03:42 PM	78447
12/21/16 11:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/16 08:24 AM	78492
12/21/16 11:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/16 08:24 AM	78492
12/21/16 11:50 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/27/16 10:29 AM	78483
12/21/16 11:50 AM	Aqueous	E300	Anion Preparation	12/29/16 09:26 AM	78518
12/21/16 11:50 AM	Aqueous	E300	Anion Preparation	12/29/16 09:26 AM	78518
12/21/16 11:50 AM	Aqueous	M4500-H+ B	pH Preparation	12/23/16 09:27 AM	78459
12/21/16 11:50 AM	Aqueous	M2540C	TDS Preparation	12/22/16 03:42 PM	78447
12/21/16 12:55 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/16 08:24 AM	78492
12/21/16 12:55 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/16 08:24 AM	78492
12/21/16 12:55 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/29/16 09:04 AM	78517
12/21/16 12:55 PM	Aqueous	E300	Anion Preparation	12/29/16 09:26 AM	78518
12/21/16 12:55 PM	Aqueous	E300	Anion Preparation	12/29/16 09:26 AM	78518
12/21/16 12:55 PM	Aqueous	M4500-H+ B	pH Preparation	12/23/16 09:27 AM	78459
12/21/16 12:55 PM	Aqueous	M2540C	TDS Preparation	12/22/16 03:42 PM	78447
12/21/16 02:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/16 08:24 AM	78492
12/21/16 02:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/16 08:24 AM	78492
12/21/16 02:05 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/29/16 09:04 AM	78517
12/21/16 02:05 PM	Aqueous	E300	Anion Preparation	12/29/16 09:26 AM	78518
12/21/16 02:05 PM	Aqueous	E300	Anion Preparation	12/29/16 09:26 AM	78518
12/21/16 02:05 PM	Aqueous	M4500-H+ B	pH Preparation	12/23/16 09:27 AM	78459
12/21/16 02:05 PM	Aqueous	M2540C	TDS Preparation	12/22/16 03:42 PM	78447

PREP DATES REPORT

Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
12/21/16 02:45 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/16 08:24 AM	78492
12/21/16 02:45 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/16 08:24 AM	78492
12/21/16 02:45 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/29/16 09:04 AM	78517
12/21/16 02:45 PM	Aqueous	E300	Anion Preparation	12/29/16 09:26 AM	78518
12/21/16 02:45 PM	Aqueous	E300	Anion Preparation	12/29/16 09:26 AM	78518
12/21/16 02:45 PM	Aqueous	M4500-H+ B	pH Preparation	12/23/16 09:27 AM	78459
12/21/16 02:45 PM	Aqueous	M2540C	TDS Preparation	12/22/16 03:42 PM	78447
12/21/16 03:40 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/16 08:24 AM	78492
12/21/16 03:40 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/16 08:24 AM	78492
12/21/16 03:40 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/29/16 09:04 AM	78517
12/21/16 03:40 PM	Aqueous	E300	Anion Preparation	12/29/16 09:26 AM	78518
12/21/16 03:40 PM	Aqueous	E300	Anion Preparation	12/29/16 09:26 AM	78518
12/21/16 03:40 PM	Aqueous	M4500-H+ B	pH Preparation	12/23/16 09:27 AM	78459
12/21/16 03:40 PM	Aqueous	M2540C	TDS Preparation	12/22/16 03:42 PM	78447
12/21/16 10:00 AM	Equip Blank	SW3005A	Aq Prep Metals : ICP-MS	12/28/16 08:24 AM	78492
12/21/16 10:00 AM	Equip Blank	SW7470A	Mercury Aq Prep, Total	12/29/16 09:04 AM	78517
12/21/16 10:00 AM	Equip Blank	E300	Anion Preparation	12/29/16 09:26 AM	78518
12/21/16 10:00 AM	Equip Blank	E300	Anion Preparation	12/29/16 09:26 AM	78518
12/21/16 10:00 AM	Equip Blank	M4500-H+ B	pH Preparation	12/23/16 09:27 AM	78459
12/21/16 10:00 AM	Equip Blank	M2540C	TDS Preparation	12/22/16 03:42 PM	78447
12/22/16 10:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/16 08:24 AM	78492
12/22/16 10:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/16 08:24 AM	78492
12/22/16 10:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/16 08:24 AM	78492
12/22/16 10:35 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/29/16 09:04 AM	78517
12/22/16 10:35 AM	Aqueous	E300	Anion Preparation	12/29/16 09:26 AM	78518
12/22/16 10:35 AM	Aqueous	E300	Anion Preparation	12/29/16 09:26 AM	78518
12/22/16 10:35 AM	Aqueous	M4500-H+ B	pH Preparation	12/23/16 09:27 AM	78459
12/22/16 10:35 AM	Aqueous	M2540C	TDS Preparation	12/27/16 03:09 PM	78478

PREP DATES REPORT

Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
12/22/16 12:35 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/16 08:24 AM	78492
12/22/16 12:35 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/16 08:24 AM	78492
12/22/16 12:35 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/16 08:24 AM	78492
12/22/16 12:35 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/16 08:24 AM	78492
12/22/16 12:35 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/16 08:24 AM	78492
12/22/16 12:35 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/29/16 09:04 AM	78517
12/22/16 12:35 PM	Aqueous	E300	Anion Preparation	12/29/16 09:26 AM	78518
12/22/16 12:35 PM	Aqueous	E300	Anion Preparation	12/29/16 09:26 AM	78518
12/22/16 12:35 PM	Aqueous	M4500-H+ B	pH Preparation	12/23/16 09:27 AM	78459
12/22/16 12:35 PM	Aqueous	M2540C	TDS Preparation	12/27/16 03:09 PM	78478
12/22/16 01:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/16 08:24 AM	78492
12/22/16 01:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/16 08:24 AM	78492
12/22/16 01:20 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/29/16 09:04 AM	78517
12/22/16 01:20 PM	Aqueous	E300	Anion Preparation	12/29/16 09:26 AM	78518
12/22/16 01:20 PM	Aqueous	E300	Anion Preparation	12/29/16 09:26 AM	78518
12/22/16 01:20 PM	Aqueous	M4500-H+ B	pH Preparation	12/23/16 09:27 AM	78459
12/22/16 01:20 PM	Aqueous	M2540C	TDS Preparation	12/27/16 03:09 PM	78478
12/22/16 02:25 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/16 08:24 AM	78492
12/22/16 02:25 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/16 08:24 AM	78492
12/22/16 02:25 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/16 08:24 AM	78492
12/22/16 02:25 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/29/16 09:04 AM	78517
12/22/16 02:25 PM	Aqueous	E300	Anion Preparation	12/29/16 09:26 AM	78518
12/22/16 02:25 PM	Aqueous	E300	Anion Preparation	12/29/16 09:26 AM	78518
12/22/16 02:25 PM	Aqueous	M4500-H+ B	pH Preparation	12/23/16 09:27 AM	78459
12/22/16 02:25 PM	Aqueous	M2540C	TDS Preparation	12/27/16 03:09 PM	78478
12/22/16	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/16 08:24 AM	78492
12/22/16	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/16 08:24 AM	78492
12/22/16	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/16 08:24 AM	78492

PREP DATES REPORT

Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
12/22/16	Aqueous	SW7470A	Mercury Aq Prep, Total	12/29/16 09:04 AM	78517
12/22/16	Aqueous	E300	Anion Preparation	12/29/16 09:26 AM	78518
12/22/16	Aqueous	E300	Anion Preparation	12/29/16 09:26 AM	78518
12/22/16	Aqueous	M4500-H+ B	pH Preparation	12/23/16 09:27 AM	78459
12/22/16	Aqueous	M2540C	TDS Preparation	12/27/16 03:09 PM	78478

ANALYTICAL DATES REPORT

Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
Aqueous	SW7470A	Mercury Total: Aqueous	78483	1	12/29/16 10:44 AM	CETAC2_HG_161229 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78492	1	01/07/17 06:42 PM	ICP-MS4_170107D
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78492	100	01/08/17 01:30 PM	ICP-MS4_170108C
Aqueous	E300	Anions by IC method - Water	78518	1	12/29/16 11:12 AM	IC4_161229A
Aqueous	E300	Anions by IC method - Water	78518	100	12/29/16 04:44 PM	IC4_161229A
Aqueous	M4500-H+ B	pH	78459	1	12/23/16 10:59 AM	TITRATOR_161223A
Aqueous	M2540C	Total Dissolved Solids	78447	1	12/23/16 08:39 AM	WC_161222A
Aqueous	SW7470A	Mercury Total: Aqueous	78483	1	12/29/16 10:46 AM	CETAC2_HG_161229 A
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78492	1	01/07/17 06:44 PM	ICP-MS4_170107D
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78492	100	01/08/17 01:53 PM	ICP-MS4_170108C
Aqueous	E300	Anions by IC method - Water	78518	1	12/29/16 11:27 AM	IC4_161229A
Aqueous	E300	Anions by IC method - Water	78518	100	12/29/16 04:59 PM	IC4_161229A
Aqueous	M4500-H+ B	pH	78459	1	12/23/16 11:00 AM	TITRATOR_161223A
Aqueous	M2540C	Total Dissolved Solids	78447	1	12/23/16 08:39 AM	WC_161222A
Aqueous	SW7470A	Mercury Total: Aqueous	78517	1	12/30/16 10:34 AM	CETAC2_HG_161230 B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78492	1	01/07/17 06:46 PM	ICP-MS4_170107D
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78492	10	01/08/17 01:55 PM	ICP-MS4_170108C
Aqueous	E300	Anions by IC method - Water	78518	1	12/29/16 11:42 AM	IC4_161229A
Aqueous	E300	Anions by IC method - Water	78518	10	12/29/16 05:44 PM	IC4_161229A
Aqueous	M4500-H+ B	pH	78459	1	12/23/16 11:02 AM	TITRATOR_161223A
Aqueous	M2540C	Total Dissolved Solids	78447	1	12/23/16 08:39 AM	WC_161222A
Aqueous	SW7470A	Mercury Total: Aqueous	78517	1	12/30/16 10:46 AM	CETAC2_HG_161230 B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78492	100	01/08/17 01:49 PM	ICP-MS4_170108C
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78492	1	01/07/17 06:38 PM	ICP-MS4_170107D
Aqueous	E300	Anions by IC method - Water	78518	1	12/29/16 11:57 AM	IC4_161229A
Aqueous	E300	Anions by IC method - Water	78518	100	12/29/16 06:29 PM	IC4_161229A

ANALYTICAL DATES REPORT

Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
Aqueous	M4500-H+ B	pH	78459	1	12/23/16 11:04 AM	TITRATOR_161223A
Aqueous	M2540C	Total Dissolved Solids	78447	1	12/23/16 08:39 AM	WC_161222A
Aqueous	SW7470A	Mercury Total: Aqueous	78517	1	12/30/16 10:48 AM	CETAC2_HG_161230 B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78492	1	01/07/17 06:48 PM	ICP-MS4_170107D
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78492	100	01/08/17 01:57 PM	ICP-MS4_170108C
Aqueous	E300	Anions by IC method - Water	78518	100	12/29/16 06:44 PM	IC4_161229A
Aqueous	E300	Anions by IC method - Water	78518	1	12/29/16 12:12 PM	IC4_161229A
Aqueous	M4500-H+ B	pH	78459	1	12/23/16 11:06 AM	TITRATOR_161223A
Aqueous	M2540C	Total Dissolved Solids	78447	1	12/23/16 08:39 AM	WC_161222A
Aqueous	SW7470A	Mercury Total: Aqueous	78517	1	12/30/16 10:50 AM	CETAC2_HG_161230 B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78492	1	01/07/17 06:50 PM	ICP-MS4_170107D
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78492	100	01/08/17 01:59 PM	ICP-MS4_170108C
Aqueous	E300	Anions by IC method - Water	78518	1	12/29/16 12:27 PM	IC4_161229A
Aqueous	E300	Anions by IC method - Water	78518	10	12/29/16 06:59 PM	IC4_161229A
Aqueous	M4500-H+ B	pH	78459	1	12/23/16 11:07 AM	TITRATOR_161223A
Aqueous	M2540C	Total Dissolved Solids	78447	1	12/23/16 08:39 AM	WC_161222A
Equip Blank	SW7470A	Mercury Total: Aqueous	78517	1	12/30/16 10:53 AM	CETAC2_HG_161230 B
Equip Blank	SW6020A	Trace Metals: ICP-MS - Water	78492	1	01/07/17 06:52 PM	ICP-MS4_170107D
Equip Blank	E300	Anions by IC method - Water	78518	1	12/29/16 12:42 PM	IC4_161229A
Equip Blank	E300	Anions by IC method - Water	78518	1	12/29/16 02:32 PM	IC4_161229A
Equip Blank	M4500-H+ B	pH	78459	1	12/23/16 11:10 AM	TITRATOR_161223A
Equip Blank	M2540C	Total Dissolved Solids	78447	1	12/23/16 08:39 AM	WC_161222A
Aqueous	SW7470A	Mercury Total: Aqueous	78517	1	12/30/16 10:55 AM	CETAC2_HG_161230 B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78492	1	01/07/17 06:55 PM	ICP-MS4_170107D
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78492	2	01/08/17 01:14 PM	ICP-MS4_170108C
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78492	100	01/08/17 02:02 PM	ICP-MS4_170108C

ANALYTICAL DATES REPORT

Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
Aqueous	E300	Anions by IC method - Water	78518	1	12/29/16 12:57 PM	IC4_161229A
Aqueous	E300	Anions by IC method - Water	78518	100	12/29/16 07:59 PM	IC4_161229A
Aqueous	M4500-H+ B	pH	78459	1	12/23/16 11:11 AM	TITRATOR_161223A
Aqueous	M2540C	Total Dissolved Solids	78478	1	12/28/16 08:41 AM	WC_161227C
Aqueous	SW7470A	Mercury Total: Aqueous	78517	1	12/30/16 10:57 AM	CETAC2_HG_161230 B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78492	5	01/07/17 06:57 PM	ICP-MS4_170107D
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78492	1	01/07/17 11:57 PM	ICP-MS4_170107D
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78492	500	01/08/17 02:04 PM	ICP-MS4_170108C
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78492	1	01/08/17 07:25 PM	ICP-MS4_170108C
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78492	1	01/11/17 08:41 PM	ICP-MS4_170111E
Aqueous	E300	Anions by IC method - Water	78518	1	12/29/16 01:12 PM	IC4_161229A
Aqueous	E300	Anions by IC method - Water	78518	100	12/29/16 08:14 PM	IC4_161229A
Aqueous	M4500-H+ B	pH	78459	1	12/23/16 11:15 AM	TITRATOR_161223A
Aqueous	M2540C	Total Dissolved Solids	78478	1	12/28/16 08:41 AM	WC_161227C
Aqueous	SW7470A	Mercury Total: Aqueous	78517	1	12/30/16 10:59 AM	CETAC2_HG_161230 B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78492	1	01/07/17 06:59 PM	ICP-MS4_170107D
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78492	100	01/08/17 02:06 PM	ICP-MS4_170108C
Aqueous	E300	Anions by IC method - Water	78518	1	12/29/16 02:47 PM	IC4_161229A
Aqueous	E300	Anions by IC method - Water	78518	100	12/29/16 08:29 PM	IC4_161229A
Aqueous	M4500-H+ B	pH	78459	1	12/23/16 11:19 AM	TITRATOR_161223A
Aqueous	M2540C	Total Dissolved Solids	78478	1	12/28/16 08:41 AM	WC_161227C
Aqueous	SW7470A	Mercury Total: Aqueous	78517	1	12/30/16 11:02 AM	CETAC2_HG_161230 B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78492	100	01/08/17 02:08 PM	ICP-MS4_170108C
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78492	1	01/07/17 08:04 PM	ICP-MS4_170107D
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78492	1	01/08/17 01:16 PM	ICP-MS4_170108C
Aqueous	E300	Anions by IC method - Water	78518	1	12/29/16 03:02 PM	IC4_161229A

ANALYTICAL DATES REPORT

Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
Aqueous	E300	Anions by IC method - Water	78518	100	12/29/16 08:44 PM	IC4_161229A
Aqueous	M4500-H+ B	pH	78459	1	12/23/16 11:20 AM	TITRATOR_161223A
Aqueous	M2540C	Total Dissolved Solids	78478	1	12/28/16 08:41 AM	WC_161227C
Aqueous	SW7470A	Mercury Total: Aqueous	78517	1	12/30/16 11:04 AM	CETAC2_HG_161230 B
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78492	1	01/07/17 08:06 PM	ICP-MS4_170107D
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78492	2	01/08/17 01:18 PM	ICP-MS4_170108C
Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78492	100	01/08/17 02:10 PM	ICP-MS4_170108C
Aqueous	E300	Anions by IC method - Water	78518	1	12/29/16 03:17 PM	IC4_161229A
Aqueous	E300	Anions by IC method - Water	78518	100	12/29/16 08:59 PM	IC4_161229A
Aqueous	M4500-H+ B	pH	78459	1	12/23/16 11:22 AM	TITRATOR_161223A
Aqueous	M2540C	Total Dissolved Solids	78478	1	12/28/16 08:41 AM	WC_161227C

DHL Analytical, Inc.

Date: 31-Jan-17

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164-E
Lab Order: 1612246

Client Sample ID: AX-24
Lab ID: 1612246-01
Collection Date: 12/21/16 10:50 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A			Analyst: AH		
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/29/16 10:44 AM
TRACE METALS: ICP-MS - WATER		SW6020A			Analyst: CVD		
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/07/17 06:42 PM
Arsenic	0.00531	0.00200	0.00500		mg/L	1	01/07/17 06:42 PM
Barium	0.0326	0.00300	0.0100		mg/L	1	01/07/17 06:42 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	01/07/17 06:42 PM
Boron	0.112	0.0100	0.0300		mg/L	1	01/07/17 06:42 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	01/07/17 06:42 PM
Calcium	228	10.0	30.0		mg/L	100	01/08/17 01:30 PM
Chromium	0.00471	0.00200	0.00500	J	mg/L	1	01/07/17 06:42 PM
Cobalt	0.00659	0.00300	0.00500		mg/L	1	01/07/17 06:42 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	01/07/17 06:42 PM
Lithium	0.0747	0.00500	0.0100		mg/L	1	01/07/17 06:42 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	01/07/17 06:42 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	01/07/17 06:42 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/07/17 06:42 PM
ANIONS BY IC METHOD - WATER		E300			Analyst: AV		
Chloride	365	30.0	100		mg/L	100	12/29/16 04:44 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	12/29/16 11:12 AM
Sulfate	1010	100	300		mg/L	100	12/29/16 04:44 PM
PH		M4500-H+ B			Analyst: BJT		
pH	6.37	0	0		pH Units@17.6°C	1	12/23/16 10:59 AM
TOTAL DISSOLVED SOLIDS		M2540C			Analyst: AJH		
Total Dissolved Solids (Residue, Filterable)	1890	50.0	50.0		mg/L	1	12/23/16 08:39 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 31-Jan-17

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164-E
Lab Order: 1612246

Client Sample ID: AX-25
Lab ID: 1612246-02
Collection Date: 12/21/16 11:50 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A			Analyst: AH		
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/29/16 10:46 AM
TRACE METALS: ICP-MS - WATER		SW6020A			Analyst: CVD		
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/07/17 06:44 PM
Arsenic	0.00470	0.00200	0.00500	J	mg/L	1	01/07/17 06:44 PM
Barium	0.0740	0.00300	0.0100		mg/L	1	01/07/17 06:44 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	01/07/17 06:44 PM
Boron	0.214	0.0100	0.0300		mg/L	1	01/07/17 06:44 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	01/07/17 06:44 PM
Calcium	244	10.0	30.0		mg/L	100	01/08/17 01:53 PM
Chromium	0.00498	0.00200	0.00500	J	mg/L	1	01/07/17 06:44 PM
Cobalt	0.0342	0.00300	0.00500		mg/L	1	01/07/17 06:44 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	01/07/17 06:44 PM
Lithium	0.0313	0.00500	0.0100		mg/L	1	01/07/17 06:44 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	01/07/17 06:44 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	01/07/17 06:44 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/07/17 06:44 PM
ANIONS BY IC METHOD - WATER		E300			Analyst: AV		
Chloride	637	30.0	100		mg/L	100	12/29/16 04:59 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	12/29/16 11:27 AM
Sulfate	613	100	300		mg/L	100	12/29/16 04:59 PM
PH		M4500-H+ B			Analyst: BJT		
pH	6.58	0	0		pH Units@16.8°C	1	12/23/16 11:00 AM
TOTAL DISSOLVED SOLIDS		M2540C			Analyst: AJH		
Total Dissolved Solids (Residue, Filterable)	2360	50.0	50.0		mg/L	1	12/23/16 08:39 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 31-Jan-17

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164-E
Lab Order: 1612246

Client Sample ID: AX-22R
Lab ID: 1612246-03
Collection Date: 12/21/16 12:55 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/30/16 10:34 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: CVD			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/07/17 06:46 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	01/07/17 06:46 PM
Barium	0.110	0.00300	0.0100		mg/L	1	01/07/17 06:46 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	01/07/17 06:46 PM
Boron	0.102	0.0100	0.0300		mg/L	1	01/07/17 06:46 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	01/07/17 06:46 PM
Calcium	77.2	1.00	3.00		mg/L	10	01/08/17 01:55 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	01/07/17 06:46 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	01/07/17 06:46 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	01/07/17 06:46 PM
Lithium	0.0553	0.00500	0.0100		mg/L	1	01/07/17 06:46 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	01/07/17 06:46 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	01/07/17 06:46 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/07/17 06:46 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	95.4	3.00	10.0		mg/L	10	12/29/16 05:44 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	12/29/16 11:42 AM
Sulfate	51.3	1.00	3.00		mg/L	1	12/29/16 11:42 AM
PH		M4500-H+ B		Analyst: BJT			
pH	7.10	0	0		pH Units@17.5°C	1	12/23/16 11:02 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	498	10.0	10.0		mg/L	1	12/23/16 08:39 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 31-Jan-17

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164-E
Lab Order: 1612246

Client Sample ID: AX-29
Lab ID: 1612246-04
Collection Date: 12/21/16 02:05 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A			Analyst: AH		
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/30/16 10:46 AM
TRACE METALS: ICP-MS - WATER		SW6020A			Analyst: CVD		
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/07/17 06:38 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	01/07/17 06:38 PM
Barium	0.0304	0.00300	0.0100		mg/L	1	01/07/17 06:38 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	01/07/17 06:38 PM
Boron	0.337	0.0100	0.0300		mg/L	1	01/07/17 06:38 PM
Cadmium	0.00475	0.000300	0.00100		mg/L	1	01/07/17 06:38 PM
Calcium	339	10.0	30.0		mg/L	100	01/08/17 01:49 PM
Chromium	0.00333	0.00200	0.00500	J	mg/L	1	01/07/17 06:38 PM
Cobalt	0.105	0.00300	0.00500		mg/L	1	01/07/17 06:38 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	01/07/17 06:38 PM
Lithium	0.0438	0.00500	0.0100		mg/L	1	01/07/17 06:38 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	01/07/17 06:38 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	01/07/17 06:38 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/07/17 06:38 PM
ANIONS BY IC METHOD - WATER		E300			Analyst: AV		
Chloride	306	30.0	100		mg/L	100	12/29/16 06:29 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	12/29/16 11:57 AM
Sulfate	1110	100	300		mg/L	100	12/29/16 06:29 PM
PH		M4500-H+ B			Analyst: BJT		
pH	6.28	0	0		pH Units@16.6°C	1	12/23/16 11:04 AM
TOTAL DISSOLVED SOLIDS		M2540C			Analyst: AJH		
Total Dissolved Solids (Residue, Filterable)	2610	50.0	50.0		mg/L	1	12/23/16 08:39 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 31-Jan-17

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164-E
Lab Order: 1612246

Client Sample ID: AX-28
Lab ID: 1612246-05
Collection Date: 12/21/16 02:45 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/30/16 10:48 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: CVD			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/07/17 06:48 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	01/07/17 06:48 PM
Barium	0.0383	0.00300	0.0100		mg/L	1	01/07/17 06:48 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	01/07/17 06:48 PM
Boron	0.313	0.0100	0.0300		mg/L	1	01/07/17 06:48 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	01/07/17 06:48 PM
Calcium	507	10.0	30.0		mg/L	100	01/08/17 01:57 PM
Chromium	0.147	0.00200	0.00500		mg/L	1	01/07/17 06:48 PM
Cobalt	0.0266	0.00300	0.00500		mg/L	1	01/07/17 06:48 PM
Lead	0.000581	0.000300	0.00100	J	mg/L	1	01/07/17 06:48 PM
Lithium	0.271	0.00500	0.0100		mg/L	1	01/07/17 06:48 PM
Molybdenum	0.00466	0.00200	0.00500	J	mg/L	1	01/07/17 06:48 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	01/07/17 06:48 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/07/17 06:48 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	563	30.0	100		mg/L	100	12/29/16 06:44 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	12/29/16 12:12 PM
Sulfate	1290	100	300		mg/L	100	12/29/16 06:44 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.41	0	0		pH Units@17°C	1	12/23/16 11:06 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	3400	50.0	50.0		mg/L	1	12/23/16 08:39 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 31-Jan-17

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164-E
Lab Order: 1612246

Client Sample ID: AX-23
Lab ID: 1612246-06
Collection Date: 12/21/16 03:40 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A			Analyst: AH		
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/30/16 10:50 AM
TRACE METALS: ICP-MS - WATER		SW6020A			Analyst: CVD		
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/07/17 06:50 PM
Arsenic	0.00889	0.00200	0.00500		mg/L	1	01/07/17 06:50 PM
Barium	0.0727	0.00300	0.0100		mg/L	1	01/07/17 06:50 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	01/07/17 06:50 PM
Boron	0.311	0.0100	0.0300		mg/L	1	01/07/17 06:50 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	01/07/17 06:50 PM
Calcium	243	10.0	30.0		mg/L	100	01/08/17 01:59 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	01/07/17 06:50 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	01/07/17 06:50 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	01/07/17 06:50 PM
Lithium	0.00906	0.00500	0.0100	J	mg/L	1	01/07/17 06:50 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	01/07/17 06:50 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	01/07/17 06:50 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/07/17 06:50 PM
ANIONS BY IC METHOD - WATER		E300			Analyst: AV		
Chloride	170	3.00	10.0		mg/L	10	12/29/16 06:59 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	12/29/16 12:27 PM
Sulfate	582	10.0	30.0		mg/L	10	12/29/16 06:59 PM
PH		M4500-H+ B			Analyst: BJT		
pH	6.53	0	0		pH Units@16.6°C	1	12/23/16 11:07 AM
TOTAL DISSOLVED SOLIDS		M2540C			Analyst: AJH		
Total Dissolved Solids (Residue, Filterable)	1550	50.0	50.0		mg/L	1	12/23/16 08:39 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 31-Jan-17

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164-E
Lab Order: 1612246

Client Sample ID: EB-01
Lab ID: 1612246-07
Collection Date: 12/21/16 10:00 AM
Matrix: EQUIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A			Analyst: AH		
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/30/16 10:53 AM
TRACE METALS: ICP-MS - WATER		SW6020A			Analyst: CVD		
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/07/17 06:52 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	01/07/17 06:52 PM
Barium	<0.00300	0.00300	0.0100		mg/L	1	01/07/17 06:52 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	01/07/17 06:52 PM
Boron	0.0257	0.0100	0.0300	J	mg/L	1	01/07/17 06:52 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	01/07/17 06:52 PM
Calcium	0.226	0.100	0.300	J	mg/L	1	01/07/17 06:52 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	01/07/17 06:52 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	01/07/17 06:52 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	01/07/17 06:52 PM
Lithium	<0.00500	0.00500	0.0100		mg/L	1	01/07/17 06:52 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	01/07/17 06:52 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	01/07/17 06:52 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/07/17 06:52 PM
ANIONS BY IC METHOD - WATER		E300			Analyst: AV		
Chloride	<0.300	0.300	1.00		mg/L	1	12/29/16 02:32 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	12/29/16 02:32 PM
Sulfate	<1.00	1.00	3.00		mg/L	1	12/29/16 02:32 PM
PH		M4500-H+ B			Analyst: BJT		
pH	7.11	0	0		pH Units@16.8°C	1	12/23/16 11:10 AM
TOTAL DISSOLVED SOLIDS		M2540C			Analyst: AJH		
Total Dissolved Solids (Residue, Filterable)	<10.0	10.0	10.0		mg/L	1	12/23/16 08:39 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 31-Jan-17

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164-E
Lab Order: 1612246

Client Sample ID: AXMW-1
Lab ID: 1612246-08
Collection Date: 12/22/16 10:35 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/30/16 10:55 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: CVD			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/07/17 06:55 PM
Arsenic	0.0189	0.00200	0.00500		mg/L	1	01/07/17 06:55 PM
Barium	0.0184	0.00300	0.0100		mg/L	1	01/07/17 06:55 PM
Beryllium	0.000337	0.000300	0.00100	J	mg/L	1	01/07/17 06:55 PM
Boron	0.553	0.0200	0.0600		mg/L	2	01/08/17 01:14 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	01/07/17 06:55 PM
Calcium	443	10.0	30.0		mg/L	100	01/08/17 02:02 PM
Chromium	0.00968	0.00200	0.00500		mg/L	1	01/07/17 06:55 PM
Cobalt	0.412	0.00300	0.00500		mg/L	1	01/07/17 06:55 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	01/07/17 06:55 PM
Lithium	0.0253	0.00500	0.0100		mg/L	1	01/07/17 06:55 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	01/07/17 06:55 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	01/07/17 06:55 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/07/17 06:55 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	394	30.0	100		mg/L	100	12/29/16 07:59 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	12/29/16 12:57 PM
Sulfate	2120	100	300		mg/L	100	12/29/16 07:59 PM
PH		M4500-H+ B		Analyst: BJT			
pH	5.84	0	0		pH Units@17.4°C	1	12/23/16 11:11 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	4220	50.0	50.0		mg/L	1	12/28/16 08:41 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 31-Jan-17

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164-E
Lab Order: 1612246

Client Sample ID: AXMW-2
Lab ID: 1612246-09
Collection Date: 12/22/16 12:35 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A			Analyst: AH		
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/30/16 10:57 AM
TRACE METALS: ICP-MS - WATER		SW6020A			Analyst: CVD		
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/11/17 08:41 PM
Arsenic	0.0292	0.00200	0.00500		mg/L	1	01/11/17 08:41 PM
Barium	0.0263	0.00300	0.0100		mg/L	1	01/07/17 11:57 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	01/07/17 11:57 PM
Boron	1.96	0.0500	0.150		mg/L	5	01/07/17 06:57 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	01/07/17 11:57 PM
Calcium	503	50.0	150		mg/L	500	01/08/17 02:04 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	01/07/17 11:57 PM
Cobalt	0.0441	0.00300	0.00500		mg/L	1	01/07/17 11:57 PM
Lead	0.000489	0.000300	0.00100	J	mg/L	1	01/11/17 08:41 PM
Lithium	0.0891	0.00500	0.0100		mg/L	1	01/07/17 11:57 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	01/11/17 08:41 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	01/07/17 11:57 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/07/17 11:57 PM
ANIONS BY IC METHOD - WATER		E300			Analyst: AV		
Chloride	210	30.0	100		mg/L	100	12/29/16 08:14 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	12/29/16 01:12 PM
Sulfate	1840	100	300		mg/L	100	12/29/16 08:14 PM
PH		M4500-H+ B			Analyst: BJT		
pH	6.14	0	0		pH Units@18.5°C	1	12/23/16 11:15 AM
TOTAL DISSOLVED SOLIDS		M2540C			Analyst: AJH		
Total Dissolved Solids (Residue, Filterable)	3630	50.0	50.0		mg/L	1	12/28/16 08:41 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 31-Jan-17

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164-E
Lab Order: 1612246

Client Sample ID: AX-27
Lab ID: 1612246-10
Collection Date: 12/22/16 01:20 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A			Analyst: AH		
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/30/16 10:59 AM
TRACE METALS: ICP-MS - WATER		SW6020A			Analyst: CVD		
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/07/17 06:59 PM
Arsenic	0.00270	0.00200	0.00500	J	mg/L	1	01/07/17 06:59 PM
Barium	0.0969	0.00300	0.0100		mg/L	1	01/07/17 06:59 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	01/07/17 06:59 PM
Boron	0.209	0.0100	0.0300		mg/L	1	01/07/17 06:59 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	01/07/17 06:59 PM
Calcium	366	10.0	30.0		mg/L	100	01/08/17 02:06 PM
Chromium	0.00698	0.00200	0.00500		mg/L	1	01/07/17 06:59 PM
Cobalt	0.0235	0.00300	0.00500		mg/L	1	01/07/17 06:59 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	01/07/17 06:59 PM
Lithium	0.102	0.00500	0.0100		mg/L	1	01/07/17 06:59 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	01/07/17 06:59 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	01/07/17 06:59 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/07/17 06:59 PM
ANIONS BY IC METHOD - WATER		E300			Analyst: AV		
Chloride	741	30.0	100		mg/L	100	12/29/16 08:29 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	12/29/16 02:47 PM
Sulfate	478	100	300		mg/L	100	12/29/16 08:29 PM
PH		M4500-H+ B			Analyst: BJT		
pH	6.38	0	0		pH Units@18.4°C	1	12/23/16 11:19 AM
TOTAL DISSOLVED SOLIDS		M2540C			Analyst: AJH		
Total Dissolved Solids (Residue, Filterable)	2640	50.0	50.0		mg/L	1	12/28/16 08:41 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 31-Jan-17

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164-E
Lab Order: 1612246

Client Sample ID: AX-26
Lab ID: 1612246-11
Collection Date: 12/22/16 02:25 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A			Analyst: AH		
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/30/16 11:02 AM
TRACE METALS: ICP-MS - WATER		SW6020A			Analyst: CVD		
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/07/17 08:04 PM
Arsenic	0.00205	0.00200	0.00500	J	mg/L	1	01/07/17 08:04 PM
Barium	0.0394	0.00300	0.0100		mg/L	1	01/07/17 08:04 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	01/07/17 08:04 PM
Boron	0.358	0.0100	0.0300		mg/L	1	01/08/17 01:16 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	01/07/17 08:04 PM
Calcium	567	10.0	30.0		mg/L	100	01/08/17 02:08 PM
Chromium	0.0179	0.00200	0.00500		mg/L	1	01/07/17 08:04 PM
Cobalt	0.0226	0.00300	0.00500		mg/L	1	01/07/17 08:04 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	01/07/17 08:04 PM
Lithium	0.526	0.00500	0.0100		mg/L	1	01/07/17 08:04 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	01/07/17 08:04 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	01/07/17 08:04 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/07/17 08:04 PM
ANIONS BY IC METHOD - WATER		E300			Analyst: AV		
Chloride	1170	30.0	100		mg/L	100	12/29/16 08:44 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	12/29/16 03:02 PM
Sulfate	941	100	300		mg/L	100	12/29/16 08:44 PM
PH		M4500-H+ B			Analyst: BJT		
pH	6.44	0	0		pH Units@18.6°C	1	12/23/16 11:20 AM
TOTAL DISSOLVED SOLIDS		M2540C			Analyst: AJH		
Total Dissolved Solids (Residue, Filterable)	4250	50.0	50.0		mg/L	1	12/28/16 08:41 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 31-Jan-17

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164-E
Lab Order: 1612246

Client Sample ID: MW-1
Lab ID: 1612246-12
Collection Date: 12/22/16
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/30/16 11:04 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: CVD			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/07/17 08:06 PM
Arsenic	0.0192	0.00200	0.00500		mg/L	1	01/07/17 08:06 PM
Barium	0.0187	0.00300	0.0100		mg/L	1	01/07/17 08:06 PM
Beryllium	0.000406	0.000300	0.00100	J	mg/L	1	01/07/17 08:06 PM
Boron	0.557	0.0200	0.0600		mg/L	2	01/08/17 01:18 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	01/07/17 08:06 PM
Calcium	455	10.0	30.0		mg/L	100	01/08/17 02:10 PM
Chromium	0.00865	0.00200	0.00500		mg/L	1	01/07/17 08:06 PM
Cobalt	0.413	0.00300	0.00500		mg/L	1	01/07/17 08:06 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	01/07/17 08:06 PM
Lithium	0.0254	0.00500	0.0100		mg/L	1	01/07/17 08:06 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	01/07/17 08:06 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	01/07/17 08:06 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/07/17 08:06 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	399	30.0	100		mg/L	100	12/29/16 08:59 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	12/29/16 03:17 PM
Sulfate	2110	100	300		mg/L	100	12/29/16 08:59 PM
PH		M4500-H+ B		Analyst: BJT			
pH	5.87	0	0		pH Units@19.2°C	1	12/23/16 11:22 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	4130	50.0	50.0		mg/L	1	12/28/16 08:41 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
RL	Reporting Limit	S	Spike Recovery outside control limits
N	Parameter not NELAC certified		

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612246
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_161229A

The QC data in batch 78483 applies to the following samples: 1612246-01A, 1612246-02A

Sample ID MB-78483	Batch ID: 78483	TestNo: SW7470A	Units: mg/L							
SampType: MBLK	Run ID: CETAC2_HG_161229A	Analysis Date: 12/29/2016 9:54:23 AM	Prep Date: 12/27/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury <0.0000800 0.000200

Sample ID LCS-78483	Batch ID: 78483	TestNo: SW7470A	Units: mg/L							
SampType: LCS	Run ID: CETAC2_HG_161229A	Analysis Date: 12/29/2016 9:56:39 AM	Prep Date: 12/27/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00195 0.000200 0.00200 0 97.5 85 115

Sample ID LCSD-78483	Batch ID: 78483	TestNo: SW7470A	Units: mg/L							
SampType: LCSD	Run ID: CETAC2_HG_161229A	Analysis Date: 12/29/2016 9:58:55 AM	Prep Date: 12/27/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00200 0.000200 0.00200 0 100 85 115 2.53 15

Sample ID 1612206-04A SD	Batch ID: 78483	TestNo: SW7470A	Units: mg/L							
SampType: SD	Run ID: CETAC2_HG_161229A	Analysis Date: 12/29/2016 10:10:14 A	Prep Date: 12/27/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury <0.000400 0.00100 0 0 0 0 10

Sample ID 1612206-04A PDS	Batch ID: 78483	TestNo: SW7470A	Units: mg/L							
SampType: PDS	Run ID: CETAC2_HG_161229A	Analysis Date: 12/29/2016 10:12:30 A	Prep Date: 12/27/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00232 0.000200 0.00250 0 92.8 85 115

Sample ID 1612206-04A MS	Batch ID: 78483	TestNo: SW7470A	Units: mg/L							
SampType: MS	Run ID: CETAC2_HG_161229A	Analysis Date: 12/29/2016 10:14:46 A	Prep Date: 12/27/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00192 0.000200 0.00200 0 96.0 80 120

Sample ID 1612206-04A MSD	Batch ID: 78483	TestNo: SW7470A	Units: mg/L							
SampType: MSD	Run ID: CETAC2_HG_161229A	Analysis Date: 12/29/2016 10:17:02 A	Prep Date: 12/27/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00194 0.000200 0.00200 0 97.0 80 120 1.04 15

- Qualifiers:**
- B Analyte detected in the associated Method Blank
 - J Analyte detected between MDL and RL
 - ND Not Detected at the Method Detection Limit
 - RL Reporting Limit
 - J Analyte detected between SDL and RL
 - DF Dilution Factor
 - MDL Method Detection Limit
 - R RPD outside accepted control limits
 - S Spike Recovery outside control limits
 - N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612246
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_161229A

Sample ID ICV-161229	Batch ID: R89699	TestNo: SW7470A	Units: mg/L							
SampType: ICV	Run ID: CETAC2_HG_161229A	Analysis Date: 12/29/2016 9:49:49 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00397	0.000200	0.00400	0	99.2	90	110			
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Sample ID CCV1-161229	Batch ID: R89699	TestNo: SW7470A	Units: mg/L							
SampType: CCV	Run ID: CETAC2_HG_161229A	Analysis Date: 12/29/2016 10:32:56 A	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00201	0.000200	0.00200	0	101	90	110			
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Sample ID CCV2-161229	Batch ID: R89699	TestNo: SW7470A	Units: mg/L							
SampType: CCV	Run ID: CETAC2_HG_161229A	Analysis Date: 12/29/2016 11:02:31 A	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00200	0.000200	0.00200	0	100	90	110			
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LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1612246
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_161230B

The QC data in batch 78517 applies to the following samples: 1612246-03A, 1612246-04A, 1612246-05A, 1612246-06A, 1612246-07A, 1612246-08A, 1612246-09A, 1612246-10A, 1612246-11A, 1612246-12A

Sample ID MB-78517	Batch ID: 78517	TestNo: SW7470A	Units: mg/L							
SampType: MBLK	Run ID: CETAC2_HG_161230B	Analysis Date: 12/30/2016 10:28:07 A	Prep Date: 12/29/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	<0.0000800	0.000200								

Sample ID LCS-78517	Batch ID: 78517	TestNo: SW7470A	Units: mg/L							
SampType: LCS	Run ID: CETAC2_HG_161230B	Analysis Date: 12/30/2016 10:30:23 A	Prep Date: 12/29/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00189	0.000200	0.00200	0	94.5	85	115			

Sample ID LCSD-78517	Batch ID: 78517	TestNo: SW7470A	Units: mg/L							
SampType: LCSD	Run ID: CETAC2_HG_161230B	Analysis Date: 12/30/2016 10:32:39 A	Prep Date: 12/29/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00191	0.000200	0.00200	0	95.5	85	115	1.05	15	

Sample ID 1612246-03A SD	Batch ID: 78517	TestNo: SW7470A	Units: mg/L							
SampType: SD	Run ID: CETAC2_HG_161230B	Analysis Date: 12/30/2016 10:37:11 A	Prep Date: 12/29/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	<0.000400	0.00100	0	0				0	10	

Sample ID 1612246-03A PDS	Batch ID: 78517	TestNo: SW7470A	Units: mg/L							
SampType: PDS	Run ID: CETAC2_HG_161230B	Analysis Date: 12/30/2016 10:39:27 A	Prep Date: 12/29/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00229	0.000200	0.00250	0	91.6	85	115			

Sample ID 1612246-03A MS	Batch ID: 78517	TestNo: SW7470A	Units: mg/L							
SampType: MS	Run ID: CETAC2_HG_161230B	Analysis Date: 12/30/2016 10:41:43 A	Prep Date: 12/29/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00196	0.000200	0.00200	0	98.0	80	120			

Sample ID 1612246-03A MSD	Batch ID: 78517	TestNo: SW7470A	Units: mg/L							
SampType: MSD	Run ID: CETAC2_HG_161230B	Analysis Date: 12/30/2016 10:44:00 A	Prep Date: 12/29/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00196	0.000200	0.00200	0	98.0	80	120	0	15	

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612246
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_161230B

Sample ID ICV-161230	Batch ID: R89725	TestNo: SW7470A	Units: mg/L							
SampType: ICV	Run ID: CETAC2_HG_161230B	Analysis Date: 12/30/2016 9:49:30 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

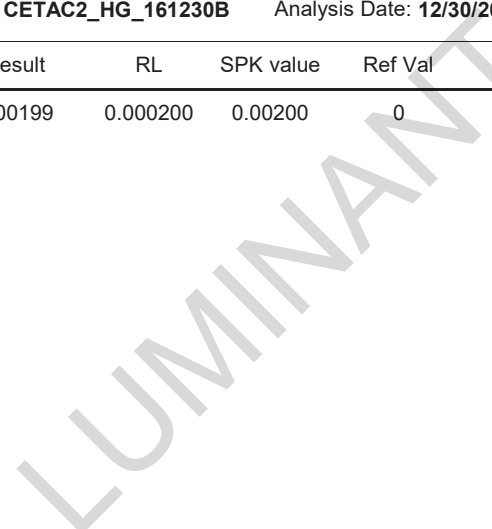
Mercury	0.00394	0.000200	0.00400	0	98.5	90	110			
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Sample ID CCV1-161230	Batch ID: R89725	TestNo: SW7470A	Units: mg/L							
SampType: CCV	Run ID: CETAC2_HG_161230B	Analysis Date: 12/30/2016 10:23:33 A	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00200	0.000200	0.00200	0	100	90	110			
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Sample ID CCV2-161230	Batch ID: R89725	TestNo: SW7470A	Units: mg/L							
SampType: CCV	Run ID: CETAC2_HG_161230B	Analysis Date: 12/30/2016 11:06:45 A	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00199	0.000200	0.00200	0	99.5	90	110			
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Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
 Work Order: 1612246
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_170107D

The QC data in batch 78492 applies to the following samples: 1612246-01A, 1612246-02A, 1612246-03A, 1612246-04A, 1612246-05A, 1612246-06A, 1612246-07A, 1612246-08A, 1612246-09A, 1612246-10A, 1612246-11A, 1612246-12A

Sample ID: MB-78492	Batch ID: 78492	TestNo: SW6020A	Units: mg/L
SampType: MBLK	Run ID: ICP-MS4_170107D	Analysis Date: 1/7/2017 6:30:00 PM	Prep Date: 12/28/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.000800	0.00250								
Arsenic	<0.00200	0.00500								
Barium	<0.00300	0.0100								
Beryllium	<0.000300	0.00100								
Boron	<0.0100	0.0300								
Cadmium	<0.000300	0.00100								
Calcium	<0.100	0.300								
Chromium	<0.00200	0.00500								
Cobalt	<0.00300	0.00500								
Lead	<0.000300	0.00100								
Lithium	<0.00500	0.0100								
Molybdenum	<0.00200	0.00500								
Selenium	<0.00200	0.00500								
Thallium	<0.000500	0.00150								

Sample ID: LCS-78492	Batch ID: 78492	TestNo: SW6020A	Units: mg/L
SampType: LCS	Run ID: ICP-MS4_170107D	Analysis Date: 1/7/2017 6:32:00 PM	Prep Date: 12/28/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.203	0.00250	0.200	0	102	80	120			
Arsenic	0.213	0.00500	0.200	0	106	80	120			
Barium	0.203	0.0100	0.200	0	102	80	120			
Beryllium	0.211	0.00100	0.200	0	105	80	120			
Boron	0.208	0.0300	0.200	0	104	80	120			
Cadmium	0.207	0.00100	0.200	0	104	80	120			
Calcium	5.00	0.300	5.00	0	100	80	120			
Chromium	0.208	0.00500	0.200	0	104	80	120			
Cobalt	0.210	0.00500	0.200	0	105	80	120			
Lead	0.202	0.00100	0.200	0	101	80	120			
Lithium	0.205	0.0100	0.200	0	103	80	120			
Molybdenum	0.203	0.00500	0.200	0	102	80	120			
Selenium	0.210	0.00500	0.200	0	105	80	120			
Thallium	0.202	0.00150	0.200	0	101	80	120			

Sample ID: LCSD-78492	Batch ID: 78492	TestNo: SW6020A	Units: mg/L
SampType: LCSD	Run ID: ICP-MS4_170107D	Analysis Date: 1/7/2017 6:34:00 PM	Prep Date: 12/28/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.205	0.00250	0.200	0	102	80	120	0.682	15	

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|--|---|
| Qualifiers:
B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL | DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified |
|--|---|

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1612246
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_170107D

Sample ID: LCSD-78492	Batch ID: 78492	TestNo: SW6020A	Units: mg/L
SampType: LCSD	Run ID: ICP-MS4_170107D	Analysis Date: 1/7/2017 6:34:00 PM	Prep Date: 12/28/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.214	0.00500	0.200	0	107	80	120	0.821	15	
Barium	0.205	0.0100	0.200	0	103	80	120	0.935	15	
Beryllium	0.217	0.00100	0.200	0	108	80	120	2.77	15	
Boron	0.212	0.0300	0.200	0	106	80	120	1.92	15	
Cadmium	0.208	0.00100	0.200	0	104	80	120	0.260	15	
Calcium	4.97	0.300	5.00	0	99.4	80	120	0.616	15	
Chromium	0.210	0.00500	0.200	0	105	80	120	1.14	15	
Cobalt	0.213	0.00500	0.200	0	106	80	120	1.33	15	
Lead	0.205	0.00100	0.200	0	103	80	120	1.53	15	
Lithium	0.208	0.0100	0.200	0	104	80	120	1.21	15	
Molybdenum	0.202	0.00500	0.200	0	101	80	120	0.444	15	
Selenium	0.211	0.00500	0.200	0	106	80	120	0.882	15	
Thallium	0.204	0.00150	0.200	0	102	80	120	0.908	15	

Sample ID: 1612246-04A SD	Batch ID: 78492	TestNo: SW6020A	Units: mg/L
SampType: SD	Run ID: ICP-MS4_170107D	Analysis Date: 1/7/2017 6:40:00 PM	Prep Date: 12/28/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.00400	0.0125	0	0				0	10	
Arsenic	<0.0100	0.0250	0	0				0	10	
Barium	0.0303	0.0500	0	0.0304				0.372	10	
Beryllium	<0.00150	0.00500	0	0				0	10	
Boron	0.388	0.150	0	0.337				14.0	10	R
Cadmium	0.00485	0.00500	0	0.00475				2.00	10	
Chromium	<0.0100	0.0250	0	0.00333				0	10	
Cobalt	0.108	0.0250	0	0.105				3.07	10	
Lead	<0.00150	0.00500	0	0				0	10	
Lithium	0.0471	0.0500	0	0.0438				7.26	10	
Molybdenum	<0.0100	0.0250	0	0				0	10	
Selenium	<0.0100	0.0250	0	0				0	10	
Thallium	<0.00250	0.00750	0	0				0	10	

Sample ID: 1612246-04A PDS	Batch ID: 78492	TestNo: SW6020A	Units: mg/L
SampType: PDS	Run ID: ICP-MS4_170107D	Analysis Date: 1/7/2017 7:01:00 PM	Prep Date: 12/28/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.211	0.00250	0.200	0	106	80	120			
Arsenic	0.224	0.00500	0.200	0	112	80	120			
Barium	0.235	0.0100	0.200	0.0304	102	80	120			
Beryllium	0.210	0.00100	0.200	0	105	80	120			
Boron	0.515	0.0300	0.200	0.337	89.0	80	120			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1612246
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_170107D

Sample ID 1612246-04A PDS	Batch ID: 78492	TestNo: SW6020A	Units: mg/L
SampType: PDS	Run ID: ICP-MS4_170107D	Analysis Date: 1/7/2017 7:01:00 PM	Prep Date: 12/28/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.203	0.00100	0.200	0.00475	99.3	80	120			
Chromium	0.213	0.00500	0.200	0.00333	105	80	120			
Cobalt	0.307	0.00500	0.200	0.105	101	80	120			
Lead	0.208	0.00100	0.200	0	104	80	120			
Lithium	0.232	0.0100	0.200	0.0438	94.0	80	120			
Molybdenum	0.203	0.00500	0.200	0	101	80	120			
Selenium	0.217	0.00500	0.200	0	108	80	120			
Thallium	0.207	0.00150	0.200	0	104	80	120			

Sample ID 1612246-04A MS	Batch ID: 78492	TestNo: SW6020A	Units: mg/L
SampType: MS	Run ID: ICP-MS4_170107D	Analysis Date: 1/7/2017 7:03:00 PM	Prep Date: 12/28/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.209	0.00250	0.200	0	104	80	120			
Arsenic	0.219	0.00500	0.200	0	110	80	120			
Barium	0.238	0.0100	0.200	0.0304	104	80	120			
Beryllium	0.201	0.00100	0.200	0	100	80	120			
Boron	0.548	0.0300	0.200	0.337	105	80	120			
Cadmium	0.207	0.00100	0.200	0.00475	101	80	120			
Calcium	357	0.300	5.00	355	52.0	80	120			S
Chromium	0.203	0.00500	0.200	0.00333	99.7	80	120			
Cobalt	0.304	0.00500	0.200	0.105	99.6	80	120			
Lead	0.205	0.00100	0.200	0	102	80	120			
Lithium	0.230	0.0100	0.200	0.0438	93.3	80	120			
Molybdenum	0.209	0.00500	0.200	0	104	80	120			
Selenium	0.212	0.00500	0.200	0	106	80	120			
Thallium	0.206	0.00150	0.200	0	103	80	120			

Sample ID 1612246-04A MSD	Batch ID: 78492	TestNo: SW6020A	Units: mg/L
SampType: MSD	Run ID: ICP-MS4_170107D	Analysis Date: 1/7/2017 7:05:00 PM	Prep Date: 12/28/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.209	0.00250	0.200	0	104	80	120	0.127	15	
Arsenic	0.225	0.00500	0.200	0	112	80	120	2.39	15	
Barium	0.239	0.0100	0.200	0.0304	104	80	120	0.435	15	
Beryllium	0.207	0.00100	0.200	0	104	80	120	3.39	15	
Boron	0.540	0.0300	0.200	0.337	101	80	120	1.40	15	
Cadmium	0.205	0.00100	0.200	0.00475	100	80	120	1.06	15	
Calcium	365	0.300	5.00	355	211	80	120	2.21	15	S
Chromium	0.206	0.00500	0.200	0.00333	102	80	120	1.87	15	
Cobalt	0.309	0.00500	0.200	0.105	102	80	120	1.62	15	

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612246
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_170107D

Sample ID: 1612246-04A MSD	Batch ID: 78492	TestNo: SW6020A	Units: mg/L
SampType: MSD	Run ID: ICP-MS4_170107D	Analysis Date: 1/7/2017 7:05:00 PM	Prep Date: 12/28/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.207	0.00100	0.200	0	104	80	120	1.21	15	
Lithium	0.240	0.0100	0.200	0.0438	98.0	80	120	3.95	15	
Molybdenum	0.208	0.00500	0.200	0	104	80	120	0.478	15	
Selenium	0.218	0.00500	0.200	0	109	80	120	2.83	15	
Thallium	0.210	0.00150	0.200	0	105	80	120	2.06	15	

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
 Work Order: 1612246
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_170107D

Sample ID: ICV-170107	Batch ID: R89825	TestNo: SW6020A	Units: mg/L
SampType: ICV	Run ID: ICP-MS4_170107D	Analysis Date: 1/7/2017 12:28:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.0993	0.00250	0.100	0	99.3	90	110			
Arsenic	0.102	0.00500	0.100	0	102	90	110			
Barium	0.103	0.0100	0.100	0	103	90	110			
Beryllium	0.101	0.00100	0.100	0	101	90	110			
Boron	0.100	0.0300	0.100	0	100	90	110			
Cadmium	0.102	0.00100	0.100	0	102	90	110			
Calcium	2.32	0.300	2.50	0	92.7	90	110			
Chromium	0.107	0.00500	0.100	0	107	90	110			
Cobalt	0.106	0.00500	0.100	0	106	90	110			
Lead	0.102	0.00100	0.100	0	102	90	110			
Lithium	0.100	0.0100	0.100	0	100	90	110			
Molybdenum	0.0993	0.00500	0.100	0	99.3	90	110			
Selenium	0.103	0.00500	0.100	0	103	90	110			
Thallium	0.101	0.00150	0.100	0	101	90	110			

Sample ID: LCVL-170107	Batch ID: R89825	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_170107D	Analysis Date: 1/7/2017 12:32:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00190	0.00250	0.00200	0	95.0	70	130			
Arsenic	0.00504	0.00500	0.00500	0	101	70	130			
Barium	0.00514	0.0100	0.00500	0	103	70	130			
Beryllium	0.000982	0.00100	0.00100	0	98.2	70	130			
Boron	0.0210	0.0300	0.0200	0	105	70	130			
Cadmium	0.00104	0.00100	0.00100	0	104	70	130			
Calcium	0.105	0.300	0.100	0	105	70	130			
Chromium	0.00526	0.00500	0.00500	0	105	70	130			
Cobalt	0.00522	0.00500	0.00500	0	104	70	130			
Lead	0.00107	0.00100	0.00100	0	107	70	130			
Lithium	0.00973	0.0100	0.0100	0	97.3	70	130			
Molybdenum	0.00532	0.00500	0.00500	0	106	70	130			
Selenium	0.00521	0.00500	0.00500	0	104	70	130			
Thallium	0.00102	0.00150	0.00100	0	102	70	130			

Sample ID: CCV5-170107	Batch ID: R89825	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_170107D	Analysis Date: 1/7/2017 6:06:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.205	0.00250	0.200	0	103	90	110			
Arsenic	0.217	0.00500	0.200	0	108	90	110			
Barium	0.205	0.0100	0.200	0	102	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1612246
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_170107D

Sample ID: CCV5-170107	Batch ID: R89825	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_170107D	Analysis Date: 1/7/2017 6:06:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.206	0.00100	0.200	0	103	90	110			
Boron	0.202	0.0300	0.200	0	101	90	110			
Cadmium	0.207	0.00100	0.200	0	103	90	110			
Calcium	4.93	0.300	5.00	0	98.7	90	110			
Chromium	0.204	0.00500	0.200	0	102	90	110			
Cobalt	0.212	0.00500	0.200	0	106	90	110			
Lead	0.207	0.00100	0.200	0	103	90	110			
Lithium	0.198	0.0100	0.200	0	99.2	90	110			
Molybdenum	0.202	0.00500	0.200	0	101	90	110			
Selenium	0.216	0.00500	0.200	0	108	90	110			
Thallium	0.206	0.00150	0.200	0	103	90	110			

Sample ID: LCVL5-170107	Batch ID: R89825	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_170107D	Analysis Date: 1/7/2017 6:24:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00181	0.00250	0.00200	0	90.5	70	130			
Arsenic	0.00542	0.00500	0.00500	0	108	70	130			
Barium	0.00498	0.0100	0.00500	0	99.5	70	130			
Beryllium	0.00101	0.00100	0.00100	0	101	70	130			
Boron	0.0236	0.0300	0.0200	0	118	70	130			
Cadmium	0.00102	0.00100	0.00100	0	102	70	130			
Calcium	0.0994	0.300	0.100	0	99.4	70	130			
Chromium	0.00517	0.00500	0.00500	0	103	70	130			
Cobalt	0.00526	0.00500	0.00500	0	105	70	130			
Lead	0.000946	0.00100	0.00100	0	94.6	70	130			
Lithium	0.00994	0.0100	0.0100	0	99.4	70	130			
Molybdenum	0.00483	0.00500	0.00500	0	96.6	70	130			
Selenium	0.00597	0.00500	0.00500	0	119	70	130			
Thallium	0.00100	0.00150	0.00100	0	100	70	130			

Sample ID: CCV6-170107	Batch ID: R89825	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_170107D	Analysis Date: 1/7/2017 7:16:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.201	0.00250	0.200	0	100	90	110			
Arsenic	0.218	0.00500	0.200	0	109	90	110			
Barium	0.203	0.0100	0.200	0	101	90	110			
Beryllium	0.214	0.00100	0.200	0	107	90	110			
Boron	0.215	0.0300	0.200	0	108	90	110			
Cadmium	0.205	0.00100	0.200	0	103	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1612246
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_170107D

Sample ID CCV6-170107	Batch ID: R89825	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_170107D	Analysis Date: 1/7/2017 7:16:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	4.93	0.300	5.00	0	98.7	90	110			
Chromium	0.206	0.00500	0.200	0	103	90	110			
Cobalt	0.215	0.00500	0.200	0	108	90	110			
Lead	0.205	0.00100	0.200	0	103	90	110			
Lithium	0.205	0.0100	0.200	0	103	90	110			
Molybdenum	0.199	0.00500	0.200	0	99.4	90	110			
Selenium	0.220	0.00500	0.200	0	110	90	110			
Thallium	0.206	0.00150	0.200	0	103	90	110			

Sample ID LCVL6-170107	Batch ID: R89825	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_170107D	Analysis Date: 1/7/2017 8:02:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00178	0.00250	0.00200	0	89.0	70	130			
Arsenic	0.00517	0.00500	0.00500	0	103	70	130			
Barium	0.00493	0.0100	0.00500	0	98.7	70	130			
Beryllium	0.00113	0.00100	0.00100	0	113	70	130			
Boron	0.0234	0.0300	0.0200	0	117	70	130			
Cadmium	0.00102	0.00100	0.00100	0	102	70	130			
Calcium	0.0962	0.300	0.100	0	96.2	70	130			
Chromium	0.00491	0.00500	0.00500	0	98.2	70	130			
Cobalt	0.00526	0.00500	0.00500	0	105	70	130			
Lead	0.000928	0.00100	0.00100	0	92.8	70	130			
Lithium	0.00949	0.0100	0.0100	0	94.9	70	130			
Molybdenum	0.00486	0.00500	0.00500	0	97.1	70	130			
Selenium	0.00519	0.00500	0.00500	0	104	70	130			
Thallium	0.000958	0.00150	0.00100	0	95.8	70	130			

Sample ID CCV7-170107	Batch ID: R89825	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_170107D	Analysis Date: 1/7/2017 8:24:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.200	0.00250	0.200	0	100	90	110			
Arsenic	0.219	0.00500	0.200	0	110	90	110			
Barium	0.200	0.0100	0.200	0	100	90	110			
Beryllium	0.209	0.00100	0.200	0	104	90	110			
Cadmium	0.204	0.00100	0.200	0	102	90	110			
Chromium	0.203	0.00500	0.200	0	102	90	110			
Cobalt	0.211	0.00500	0.200	0	106	90	110			
Lead	0.204	0.00100	0.200	0	102	90	110			
Lithium	0.202	0.0100	0.200	0	101	90	110			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
 Work Order: 1612246
 Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_170107D

Sample ID CCV7-170107	Batch ID: R89825	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_170107D	Analysis Date: 1/7/2017 8:24:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Molybdenum	0.196	0.00500	0.200	0	97.9	90	110			
Selenium	0.218	0.00500	0.200	0	109	90	110			
Thallium	0.201	0.00150	0.200	0	101	90	110			

Sample ID LCVL7-170107	Batch ID: R89825	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_170107D	Analysis Date: 1/7/2017 8:33:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00182	0.00250	0.00200	0	91.2	70	130			
Arsenic	0.00542	0.00500	0.00500	0	108	70	130			
Barium	0.00483	0.0100	0.00500	0	96.5	70	130			
Beryllium	0.00115	0.00100	0.00100	0	115	70	130			
Cadmium	0.00102	0.00100	0.00100	0	102	70	130			
Chromium	0.00494	0.00500	0.00500	0	98.7	70	130			
Cobalt	0.00514	0.00500	0.00500	0	103	70	130			
Lead	0.000931	0.00100	0.00100	0	93.1	70	130			
Lithium	0.0101	0.0100	0.0100	0	101	70	130			
Molybdenum	0.00461	0.00500	0.00500	0	92.2	70	130			
Selenium	0.00587	0.00500	0.00500	0	117	70	130			
Thallium	0.000962	0.00150	0.00100	0	96.2	70	130			

Sample ID CCV12-170107	Batch ID: R89825	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_170107D	Analysis Date: 1/7/2017 11:26:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.202	0.0100	0.200	0	101	90	110			
Beryllium	0.209	0.00100	0.200	0	105	90	110			
Cadmium	0.205	0.00100	0.200	0	103	90	110			
Chromium	0.203	0.00500	0.200	0	102	90	110			
Cobalt	0.214	0.00500	0.200	0	107	90	110			
Lithium	0.201	0.0100	0.200	0	101	90	110			
Selenium	0.219	0.00500	0.200	0	109	90	110			
Thallium	0.204	0.00150	0.200	0	102	90	110			

Sample ID LCVL12-170107	Batch ID: R89825	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_170107D	Analysis Date: 1/7/2017 11:30:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.00499	0.0100	0.00500	0	99.8	70	130			
Beryllium	0.00113	0.00100	0.00100	0	113	70	130			
Cadmium	0.00110	0.00100	0.00100	0	110	70	130			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612246
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_170107D

Sample ID: LCVL12-170107	Batch ID: R89825	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_170107D	Analysis Date: 1/7/2017 11:30:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.00503	0.00500	0.00500	0	101	70	130			
Cobalt	0.00540	0.00500	0.00500	0	108	70	130			
Lithium	0.00995	0.0100	0.0100	0	99.5	70	130			
Selenium	0.00604	0.00500	0.00500	0	121	70	130			
Thallium	0.00109	0.00150	0.00100	0	109	70	130			

Sample ID: CCV13-170107	Batch ID: R89825	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_170107D	Analysis Date: 1/8/2017 12:01:00 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.200	0.0100	0.200	0	100	90	110			
Beryllium	0.209	0.00100	0.200	0	104	90	110			
Cadmium	0.204	0.00100	0.200	0	102	90	110			
Chromium	0.203	0.00500	0.200	0	102	90	110			
Cobalt	0.210	0.00500	0.200	0	105	90	110			
Lithium	0.193	0.0100	0.200	0	96.6	90	110			
Selenium	0.220	0.00500	0.200	0	110	90	110			
Thallium	0.203	0.00150	0.200	0	102	90	110			

Sample ID: LCVL13-170107	Batch ID: R89825	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_170107D	Analysis Date: 1/8/2017 12:05:00 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.00515	0.0100	0.00500	0	103	70	130			
Beryllium	0.00124	0.00100	0.00100	0	124	70	130			
Cadmium	0.00108	0.00100	0.00100	0	108	70	130			
Chromium	0.00509	0.00500	0.00500	0	102	70	130			
Cobalt	0.00540	0.00500	0.00500	0	108	70	130			
Lithium	0.00977	0.0100	0.0100	0	97.7	70	130			
Selenium	0.00649	0.00500	0.00500	0	130	70	130			
Thallium	0.00106	0.00150	0.00100	0	106	70	130			

Qualifiers:

B Analyte detected in the associated Method Blank	DF Dilution Factor
J Analyte detected between MDL and RL	MDL Method Detection Limit
ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
RL Reporting Limit	S Spike Recovery outside control limits
J Analyte detected between SDL and RL	N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612246
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_170108C

The QC data in batch 78492 applies to the following samples: 1612246-01A, 1612246-02A, 1612246-03A, 1612246-04A, 1612246-05A, 1612246-06A, 1612246-07A, 1612246-08A, 1612246-09A, 1612246-10A, 1612246-11A, 1612246-12A

Sample ID 1612246-04A SD	Batch ID: 78492	TestNo: SW6020A	Units: mg/L							
SampType: SD	Run ID: ICP-MS4_170108C	Analysis Date: 1/8/2017 1:51:00 PM	Prep Date: 12/28/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	339	150	0	339				0.120	10	

Sample ID 1612246-04A PDS	Batch ID: 78492	TestNo: SW6020A	Units: mg/L							
SampType: PDS	Run ID: ICP-MS4_170108C	Analysis Date: 1/8/2017 2:12:00 PM	Prep Date: 12/28/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	817	30.0	5.00	339	9550	80	120			S

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1612246
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_170108C

Sample ID ICV-170108	Batch ID: R89833	TestNo: SW6020A	Units: mg/L							
SampType: ICV	Run ID: ICP-MS4_170108C	Analysis Date: 1/8/2017 11:44:00 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.104	0.0300	0.100	0	104	90	110			
Calcium	2.27	0.300	2.50	0	90.9	90	110			

Sample ID LCVL-170108	Batch ID: R89833	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_170108C	Analysis Date: 1/8/2017 11:49:00 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0195	0.0300	0.0200	0	97.3	70	130			
Calcium	0.0957	0.300	0.100	0	95.7	70	130			

Sample ID CCV2-170108	Batch ID: R89833	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_170108C	Analysis Date: 1/8/2017 1:02:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.212	0.0300	0.200	0	106	90	110			
Calcium	4.72	0.300	5.00	0	94.5	90	110			

Sample ID LCVL2-170108	Batch ID: R89833	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_170108C	Analysis Date: 1/8/2017 1:06:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0189	0.0300	0.0200	0	94.3	70	130			
Calcium	0.0988	0.300	0.100	0	98.8	70	130			

Sample ID CCV3-170108	Batch ID: R89833	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_170108C	Analysis Date: 1/8/2017 1:41:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.207	0.0300	0.200	0	103	90	110			
Calcium	4.80	0.300	5.00	0	95.9	90	110			

Sample ID LCVL3-170108	Batch ID: R89833	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_170108C	Analysis Date: 1/8/2017 1:45:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0151	0.0300	0.0200	0	75.3	70	130			
Calcium	0.0987	0.300	0.100	0	98.7	70	130			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612246
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_170108C

Sample ID: CCV4-170108	Batch ID: R89833	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_170108C	Analysis Date: 1/8/2017 2:17:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	4.79	0.300	5.00	0	95.7	90	110			

Sample ID: LCVL4-170108	Batch ID: R89833	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_170108C	Analysis Date: 1/8/2017 2:21:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.0957	0.300	0.100	0	95.7	70	130			

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1612246
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_170111E

Sample ID ICV-170111	Batch ID: R89913	TestNo: SW6020A	Units: mg/L
SampType: ICV	Run ID: ICP-MS4_170111E	Analysis Date: 1/11/2017 1:37:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.101	0.00250	0.100	0	101	90	110			
Arsenic	0.0975	0.00500	0.100	0	97.5	90	110			
Lead	0.0975	0.00100	0.100	0	97.5	90	110			
Molybdenum	0.0993	0.00500	0.100	0	99.3	90	110			

Sample ID LCVL-170111	Batch ID: R89913	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_170111E	Analysis Date: 1/11/2017 1:41:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00197	0.00250	0.00200	0	98.4	70	130			
Arsenic	0.00484	0.00500	0.00500	0	96.7	70	130			
Lead	0.00108	0.00100	0.00100	0	108	70	130			
Molybdenum	0.00522	0.00500	0.00500	0	104	70	130			

Sample ID CCV7-170111	Batch ID: R89913	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_170111E	Analysis Date: 1/11/2017 8:23:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.205	0.00250	0.200	0	103	90	110			
Arsenic	0.198	0.00500	0.200	0	99.2	90	110			
Lead	0.191	0.00100	0.200	0	95.3	90	110			
Molybdenum	0.199	0.00500	0.200	0	99.6	90	110			

Sample ID LCVL7-170111	Batch ID: R89913	TestNo: SW6020A	Units: mg/L
SampType: LCVL	Run ID: ICP-MS4_170111E	Analysis Date: 1/11/2017 8:27:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00205	0.00250	0.00200	0	102	70	130			
Arsenic	0.00477	0.00500	0.00500	0	95.3	70	130			
Lead	0.000996	0.00100	0.00100	0	99.6	70	130			
Molybdenum	0.00504	0.00500	0.00500	0	101	70	130			

Sample ID CCV8-170111	Batch ID: R89913	TestNo: SW6020A	Units: mg/L
SampType: CCV	Run ID: ICP-MS4_170111E	Analysis Date: 1/11/2017 8:51:00 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.204	0.00250	0.200	0	102	90	110			
Arsenic	0.197	0.00500	0.200	0	98.7	90	110			
Lead	0.190	0.00100	0.200	0	95.1	90	110			
Molybdenum	0.196	0.00500	0.200	0	98.1	90	110			

Qualifiers: B Analyte detected in the associated Method Blank DF Dilution Factor
 J Analyte detected between MDL and RL MDL Method Detection Limit
 ND Not Detected at the Method Detection Limit R RPD outside accepted control limits
 RL Reporting Limit S Spike Recovery outside control limits
 J Analyte detected between SDL and RL N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612246
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_170111E

Sample ID	LCVL8-170111	Batch ID:	R89913	TestNo:	SW6020A	Units:	mg/L
SampType:	LCVL	Run ID:	ICP-MS4_170111E	Analysis Date:	1/11/2017 8:55:00 PM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00202	0.00250	0.00200	0	101	70	130			
Arsenic	0.00477	0.00500	0.00500	0	95.5	70	130			
Lead	0.000942	0.00100	0.00100	0	94.2	70	130			
Molybdenum	0.00488	0.00500	0.00500	0	97.7	70	130			

LUMINANT

Qualifiers:	B Analyte detected in the associated Method Blank	DF Dilution Factor
	J Analyte detected between MDL and RL	MDL Method Detection Limit
	ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
	RL Reporting Limit	S Spike Recovery outside control limits
	J Analyte detected between SDL and RL	N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612246
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC4_161229A

The QC data in batch 78518 applies to the following samples: 1612246-01D, 1612246-02D, 1612246-03D, 1612246-04D, 1612246-05D, 1612246-06D, 1612246-07D, 1612246-08D, 1612246-09D, 1612246-10D, 1612246-11D, 1612246-12D

Sample ID: LCS-78518	Batch ID: 78518	TestNo: E300	Units: mg/L
SampType: LCS	Run ID: IC4_161229A	Analysis Date: 12/29/2016 10:21:13 A	Prep Date: 12/29/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.85	1.00	10.00	0	98.5	90	110			
Fluoride	3.79	0.400	4.000	0	94.8	90	110			
Sulfate	29.8	3.00	30.00	0	99.4	90	110			

Sample ID: LCSD-78518	Batch ID: 78518	TestNo: E300	Units: mg/L
SampType: LCSD	Run ID: IC4_161229A	Analysis Date: 12/29/2016 10:36:13 A	Prep Date: 12/29/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.69	1.00	10.00	0	96.9	90	110	1.63	20	
Fluoride	3.73	0.400	4.000	0	93.1	90	110	1.77	20	
Sulfate	29.9	3.00	30.00	0	99.6	90	110	0.179	20	

Sample ID: MB-78518	Batch ID: 78518	TestNo: E300	Units: mg/L
SampType: MBLK	Run ID: IC4_161229A	Analysis Date: 12/29/2016 2:17:16 PM	Prep Date: 12/29/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	<0.300	1.00								
Fluoride	<0.100	0.400								
Sulfate	<1.00	3.00								

Sample ID: 1612246-02DMS	Batch ID: 78518	TestNo: E300	Units: mg/L
SampType: MS	Run ID: IC4_161229A	Analysis Date: 12/29/2016 5:14:14 PM	Prep Date: 12/29/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	2490	100	2000	636.5	92.6	90	110			
Fluoride	1960	40.0	2000	0	97.8	90	110			
Sulfate	2490	300	2000	612.9	93.8	90	110			

Sample ID: 1612246-02DMSD	Batch ID: 78518	TestNo: E300	Units: mg/L
SampType: MSD	Run ID: IC4_161229A	Analysis Date: 12/29/2016 5:29:14 PM	Prep Date: 12/29/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	2460	100	2000	636.5	91.3	90	110	1.09	20	
Fluoride	1950	40.0	2000	0	97.3	90	110	0.521	20	
Sulfate	2450	300	2000	612.9	92.1	90	110	1.41	20	

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1612246
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC4_161229A

Sample ID: 1612246-03DMS	Batch ID: 78518	TestNo: E300	Units: mg/L							
SampType: MS	Run ID: IC4_161229A	Analysis Date: 12/29/2016 5:59:14 PM	Prep Date: 12/29/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	277	10.0	200.0	95.44	90.6	90	110			
Fluoride	195	4.00	200.0	0	97.5	90	110			
Sulfate	248	30.0	200.0	49.27	99.2	90	110			

Sample ID: 1612246-03DMSD	Batch ID: 78518	TestNo: E300	Units: mg/L							
SampType: MSD	Run ID: IC4_161229A	Analysis Date: 12/29/2016 6:14:14 PM	Prep Date: 12/29/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	278	10.0	200.0	95.44	91.2	90	110	0.490	20	
Fluoride	196	4.00	200.0	0	98.1	90	110	0.607	20	
Sulfate	249	30.0	200.0	49.27	99.9	90	110	0.581	20	

LUMINANT

<p>Qualifiers:</p> <p>B Analyte detected in the associated Method Blank</p> <p>J Analyte detected between MDL and RL</p> <p>ND Not Detected at the Method Detection Limit</p> <p>RL Reporting Limit</p> <p>J Analyte detected between SDL and RL</p>	<p>DF Dilution Factor</p> <p>MDL Method Detection Limit</p> <p>R RPD outside accepted control limits</p> <p>S Spike Recovery outside control limits</p> <p>N Parameter not NELAC certified</p>
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1612246
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC4_161229A

Sample ID ICV-161229	Batch ID: R89718	TestNo: E300	Units: mg/L
SampType: ICV	Run ID: IC4_161229A	Analysis Date: 12/29/2016 9:25:55 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	24.0	1.00	25.00	0	96.0	90	110			
Fluoride	9.23	0.400	10.00	0	92.3	90	110			
Sulfate	74.9	3.00	75.00	0	99.8	90	110			

Sample ID CCV1-161229	Batch ID: R89718	TestNo: E300	Units: mg/L
SampType: CCV	Run ID: IC4_161229A	Analysis Date: 12/29/2016 1:42:05 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.97	1.00	10.00	0	99.7	90	110			
Fluoride	3.79	0.400	4.000	0	94.7	90	110			
Sulfate	32.3	3.00	30.00	0	108	90	110			

Sample ID CCV2-161229	Batch ID: R89718	TestNo: E300	Units: mg/L
SampType: CCV	Run ID: IC4_161229A	Analysis Date: 12/29/2016 7:29:14 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.2	1.00	10.00	0	102	90	110			
Fluoride	3.93	0.400	4.000	0	98.3	90	110			
Sulfate	30.1	3.00	30.00	0	100	90	110			

Sample ID CCV3-161229	Batch ID: R89718	TestNo: E300	Units: mg/L
SampType: CCV	Run ID: IC4_161229A	Analysis Date: 12/29/2016 9:29:14 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.0	1.00	10.00	0	100	90	110			
Fluoride	3.87	0.400	4.000	0	96.7	90	110			
Sulfate	30.1	3.00	30.00	0	100	90	110			

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1612246
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_161223A

The QC data in batch 78459 applies to the following samples: 1612246-01D, 1612246-02D, 1612246-03D, 1612246-04D, 1612246-05D, 1612246-06D, 1612246-07D, 1612246-08D, 1612246-09D, 1612246-10D, 1612246-11D, 1612246-12D

Sample ID: 1612244-01A-DUP	Batch ID: 78459	TestNo: M4500-H+ B	Units: pH Units@18°C
SampType: DUP	Run ID: TITRATOR_161223A	Analysis Date: 12/23/2016 10:57:00 A	Prep Date: 12/23/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	7.49	0	0	7.410				1.07	5	

Sample ID: 1612246-09D-DUP	Batch ID: 78459	TestNo: M4500-H+ B	Units: pH Units@18.3°C
SampType: DUP	Run ID: TITRATOR_161223A	Analysis Date: 12/23/2016 11:17:00 A	Prep Date: 12/23/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	6.12	0	0	6.140				0.326	5	

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1612246
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_161223A

Sample ID ICV-161223	Batch ID: R89624	TestNo: M4500-H+ B	Units: pH Units@21.5°C							
SampType: ICV	Run ID: TITRATOR_161223A	Analysis Date: 12/23/2016 9:49:00 AM	Prep Date: 12/23/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	9.94	0	10.00	0	99.4	99	101			
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Sample ID CCV1-161223	Batch ID: R89624	TestNo: M4500-H+ B	Units: pH Units@20.8°C							
SampType: CCV	Run ID: TITRATOR_161223A	Analysis Date: 12/23/2016 11:12:00 A	Prep Date: 12/23/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	6.98	0	7.000	0	99.7	97.1	102.9			
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Sample ID CCV2-161223	Batch ID: R89624	TestNo: M4500-H+ B	Units: pH Units@21.5°C							
SampType: CCV	Run ID: TITRATOR_161223A	Analysis Date: 12/23/2016 12:10:00 P	Prep Date: 12/23/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	6.99	0	7.000	0	99.9	97.1	102.9			
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LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit RL Reporting Limit J Analyte detected between SDL and RL	DF Dilution Factor MDL Method Detection Limit R RPD outside accepted control limits S Spike Recovery outside control limits N Parameter not NELAC certified
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CLIENT: Pastor, Behling & Wheeler
Work Order: 1612246
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: WC_161222A

The QC data in batch 78447 applies to the following samples: 1612246-01D, 1612246-02D, 1612246-03D, 1612246-04D, 1612246-05D, 1612246-06D, 1612246-07D

Sample ID MB-78447	Batch ID: 78447	TestNo: M2540C	Units: mg/L							
SampType: MBLK	Run ID: WC_161222A	Analysis Date: 12/23/2016 8:39:00 AM	Prep Date: 12/22/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	<10.0	10.0								

Sample ID LCS-78447	Batch ID: 78447	TestNo: M2540C	Units: mg/L							
SampType: LCS	Run ID: WC_161222A	Analysis Date: 12/23/2016 8:39:00 AM	Prep Date: 12/22/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	747	10.0	745.6	0	100	90	113			

Sample ID 1612206-01D-DUP	Batch ID: 78447	TestNo: M2540C	Units: mg/L							
SampType: DUP	Run ID: WC_161222A	Analysis Date: 12/23/2016 8:39:00 AM	Prep Date: 12/22/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	555	10.0	0	539.0				2.93	5	

Sample ID 1612246-05D-DUP	Batch ID: 78447	TestNo: M2540C	Units: mg/L							
SampType: DUP	Run ID: WC_161222A	Analysis Date: 12/23/2016 8:39:00 AM	Prep Date: 12/22/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	3300	50.0	0	3400				3.14	5	

Qualifiers:	B Analyte detected in the associated Method Blank	DF Dilution Factor	
	J Analyte detected between MDL and RL	MDL Method Detection Limit	
	ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits	
	RL Reporting Limit	S Spike Recovery outside control limits	
	J Analyte detected between SDL and RL	N Parameter not NELAC certified	

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612246
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: WC_161227C

The QC data in batch 78478 applies to the following samples: 1612246-08D, 1612246-09D, 1612246-10D, 1612246-11D, 1612246-12D

Sample ID MB-78478	Batch ID: 78478	TestNo: M2540C	Units: mg/L							
SampType: MBLK	Run ID: WC_161227C	Analysis Date: 12/28/2016 8:41:00 AM	Prep Date: 12/27/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	<10.0	10.0								

Sample ID LCS-78478	Batch ID: 78478	TestNo: M2540C	Units: mg/L							
SampType: LCS	Run ID: WC_161227C	Analysis Date: 12/28/2016 8:41:00 AM	Prep Date: 12/27/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	750	10.0	745.6	0	101	90	113			

Sample ID 1612246-12D-DUP	Batch ID: 78478	TestNo: M2540C	Units: mg/L							
SampType: DUP	Run ID: WC_161227C	Analysis Date: 12/28/2016 8:41:00 AM	Prep Date: 12/27/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	3990	50.0	0	4125				3.45	5	

Sample ID 1612277-01D-DUP	Batch ID: 78478	TestNo: M2540C	Units: mg/L							
SampType: DUP	Run ID: WC_161227C	Analysis Date: 12/28/2016 8:41:00 AM	Prep Date: 12/27/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	915	50.0	0	905.0				1.10	5	

Qualifiers:	B Analyte detected in the associated Method Blank	DF Dilution Factor	
	J Analyte detected between MDL and RL	MDL Method Detection Limit	
	ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits	
	RL Reporting Limit	S Spike Recovery outside control limits	
	J Analyte detected between SDL and RL	N Parameter not NELAC certified	



Case Narrative

Lab No: 20161275

This report contains the analytical results for the 12 sample(s) received under chain of custody by ESC Lab Sciences on 12/27/2016 10:37:37 AM. These samples are associated with your 1612246 project.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted below:

The test results in this report meet all NELAC requirements unless noted below:

This report shall not be reproduced, except in full, without the written approval of ESC Lab Sciences.

All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client.

Results have been reviewed by the Director of Radiochemistry or their designees and is approved for release.

Observations / Nonconformances

L880948



Client : DHL Analytical, Inc.
 Client Project : 1612246
 Lab Number : 20161275
 Date Reported : 01/27/17
 Date Received : 12/27/16
 Page Number : 2 of 5

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
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Lab ID : 20161275-01
Client ID : AX-24
Date Sampled : 12/21/2016 10:50:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		2.15 +/- 1.25	0.881	pCi/l			
Radium-226	SM 7500 Ra B M*	0.286 +/- 0.171	0.202	pCi/l	01/18/17	01/20/17	AK
Radium-228	EPA 904*/9320*	1.86 +/- 1.08	0.679	pCi/l	01/19/17	01/26/17	JR

Lab ID : 20161275-02
Client ID : AX-25
Date Sampled : 12/21/2016 11:50:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		2.52 +/- 1.25	0.846	pCi/l			
Radium-226	SM 7500 Ra B M*	0.440 +/- 0.192	0.176	pCi/l	01/18/17	01/20/17	AK
Radium-228	EPA 904*/9320*	2.08 +/- 1.06	0.670	pCi/l	01/19/17	01/26/17	JR

Lab ID : 20161275-03
Client ID : AX-22R
Date Sampled : 12/21/2016 12:55:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.32 +/- 0.724	0.949	pCi/l			
Radium-226	SM 7500 Ra B M*	0.308 +/- 0.169	0.175	pCi/l	01/18/17	01/20/17	AK
Radium-228	EPA 904*/9320*	1.01 +/- 0.555	0.774	pCi/l	01/19/17	01/26/17	JR

Lab ID : 20161275-04
Client ID : AX-29
Date Sampled : 12/21/2016 2:05:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		2.05 +/- 0.715	0.914	pCi/l			
Radium-226	SM 7500 Ra B M*	0.457 +/- 0.180	0.158	pCi/l	01/18/17	01/20/17	AK
Radium-228	EPA 904*/9320*	1.59 +/- 0.535	0.756	pCi/l	01/19/17	01/26/17	JR



Client : DHL Analytical, Inc.
 Client Project : 1612246
 Lab Number : 20161275
 Date Reported : 01/27/17
 Date Received : 12/27/16
 Page Number : 3 of 5

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
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Lab ID : 20161275-05
Client ID : AX-28
Date Sampled : 12/21/2016 2:45:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.27 +/- 0.677	0.919	pCi/l			
Radium-226	SM 7500 Ra B M*	0.338 +/- 0.161	0.177	pCi/l	01/18/17	01/20/17	AK
Radium-228	EPA 904*/9320*	0.928 +/- 0.516	0.742	pCi/l	01/19/17	01/26/17	JR

Lab ID : 20161275-06
Client ID : AX-23
Date Sampled : 12/21/2016 3:40:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.967 +/- 0.724	1.014	pCi/l			
Radium-226	SM 7500 Ra B M*	0.462 +/- 0.232	0.265	pCi/l	01/18/17	01/20/17	AK
Radium-228	EPA 904*/9320*	0.505 +/- 0.492	0.749	pCi/l	01/19/17	01/26/17	JR

Lab ID : 20161275-07
Client ID : EB-01
Date Sampled : 12/21/2016 10:00:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.000 +/- 0.498	0.735	pCi/l			
Radium-226	SM 7500 Ra B M*	-0.032 +/- 0.089	0.179	pCi/l	01/19/17	01/23/17	AK
Radium-228	EPA 904*/9320*	-0.291 +/- 0.409	0.556	pCi/l	01/19/17	01/26/17	JR

Lab ID : 20161275-08
Client ID : AXMW-1
Date Sampled : 12/22/2016 10:35:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		2.31 +/- 0.707	0.782	pCi/l			
Radium-226	SM 7500 Ra B M*	1.02 +/- 0.261	0.166	pCi/l	01/19/17	01/23/17	AK
Radium-228	EPA 904*/9320*	1.29 +/- 0.446	0.616	pCi/l	01/19/17	01/26/17	JR



Client : DHL Analytical, Inc.
 Client Project : 1612246
 Lab Number : 20161275
 Date Reported : 01/27/17
 Date Received : 12/27/16
 Page Number : 4 of 5

Analytical Report

	Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
--	--------	--------	----	-------	------	-----------	---------------	---------

Lab ID : 20161275-09
Client ID : AXMW-2
Date Sampled : 12/22/2016 12:35:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.984 +/- 0.625	0.863	pCi/l				
Radium-226	SM 7500 Ra B M*	0.132 +/- 0.152	0.225	pCi/l		01/19/17	01/23/17	AK
Radium-228	EPA 904*/9320*	0.852 +/- 0.473	0.638	pCi/l		01/19/17	01/26/17	JR

Lab ID : 20161275-10
Client ID : AX-27
Date Sampled : 12/22/2016 1:20:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.90 +/- 0.664	0.944	pCi/l				
Radium-226	SM 7500 Ra B M*	0.414 +/- 0.225	0.288	pCi/l		01/19/17	01/23/17	AK
Radium-228	EPA 904*/9320*	1.49 +/- 0.439	0.656	pCi/l		01/19/17	01/26/17	JR

Lab ID : 20161275-11
Client ID : AX-26
Date Sampled : 12/22/2016 2:25:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.900 +/- 0.816	1.19	pCi/l				
Radium-226	SM 7500 Ra B M*	0.534 +/- 0.185	0.144	pCi/l		01/19/17	01/23/17	AK
Radium-228	EPA 904*/9320*	0.366 +/- 0.631	1.05	pCi/l		01/19/17	01/26/17	JR

Lab ID : 20161275-12
Client ID : MW-1
Date Sampled : 12/22/2016
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.89 +/- 0.732	1.03	pCi/l				
Radium-226	SM 7500 Ra B M*	1.08 +/- 0.264	0.181	pCi/l		01/19/17	01/23/17	AK
Radium-228	EPA 904*/9320*	0.806 +/- 0.468	0.846	pCi/l		01/19/17	01/26/17	JR



Client : DHL Analytical, Inc.
 Client Project : 1612246
 Lab Number : 20161275
 Date Reported : 01/27/17
 Date Received : 12/27/16
 Page Number : 5 of 5

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	RPD	Batch ID
Radium-226	0.002	103.0			NC	0.547	94.2	108.0	13.6	R1181
Radium-226	-0.007	107.0			NC	0.682	106.0	109.0	1.9	R1180
Radium-228	0.409	92.0			7.2	0.082	96.4	113.0	15.8	R3911

Lab Approval: _____

LUMINANT

DHL Analytical, Inc.

2300 Double Creek Drive

Round Rock, TX 78664

TEL: (512) 388-8222

FAX: (512) 388-8229

Work Order: 1612246

CHAIN-OF-CUSTODY REC

Subcontractor:

ESC Laboratory
311 North Aspen
Broken Arrow, Oklahoma 74012

TEL: (918) 251-2515
FAX:
Acct #: DHLRRTX

Sample Id	Matrix	DHL#	Date Collected	Bottle Type	Requested Tests				
					E904.0	SM7500Ra-B M			
1	AX-24	Aqueous	-01B	12/21/16 10:50 AM	1LHDPEHNO3	1			
	AX-24	Aqueous	-01C	12/21/16 10:50 AM	500HDPEHNO3		1		
2	AX-25	Aqueous	-02B	12/21/16 11:50 AM	1LHDPEHNO3	1			
	AX-25	Aqueous	-02C	12/21/16 11:50 AM	500HDPEHNO3		1		
3	AX-22R	Aqueous	-03B	12/21/16 12:55 PM	1LHDPEHNO3	1			
	AX-22R	Aqueous	-03C	12/21/16 12:55 PM	500HDPEHNO3		1		
4	AX-29	Aqueous	-04B	12/21/16 02:05 PM	1LHDPEHNO3	1			
	AX-29	Aqueous	-04C	12/21/16 02:05 PM	500HDPEHNO3		1		
5	AX-28	Aqueous	-05B	12/21/16 02:45 PM	1LHDPEHNO3	1			
	AX-28	Aqueous	-05C	12/21/16 02:45 PM	500HDPEHNO3		1		
6	AX-23	Aqueous	-06B	12/21/16 03:40 PM	1LHDPEHNO3	1			
	AX-23	Aqueous	-06C	12/21/16 03:40 PM	500HDPEHNO3		1		
7	EB-01	Equip Blank	-07B	12/21/16 10:00 AM	1LHDPEHNO3	1			
	EB-01	Equip Blank	-07C	12/21/16 10:00 AM	500HDPEHNO3		1		
8	AXMW-1	Aqueous	-08B	12/22/16 10:35 AM	1LHDPEHNO3	1			
	AXMW-1	Aqueous	-08C	12/22/16 10:35 AM	500HDPEHNO3		1		
9	AXMW-2	Aqueous	-09B	12/22/16 12:35 PM	1LHDPEHNO3	1			
	AXMW-2	Aqueous	-09C	12/22/16 12:35 PM	500HDPEHNO3		1		

General Comments:

Please analyze these samples with Normal Turnaround Time.
Report RA-226, Ra-228 & Combined per Specs.
Quality Control Package Needed: Standard - NELAC Rad Test compliant
Email to cac@dhlanalytical.com & dupont@dhlanalytical.com

	Date/Time	
Relinquished by: <u><i>Banka</i></u>	<u>12/22/16 1730</u>	Received by: <u><i>Donestar</i></u>
Relinquished by: _____	_____	Received by: <u><i>J.R.</i></u>

DHL Analytical, Inc.

2300 Double Creek Drive
Round Rock, TX 78664

TEL: (512) 388-8222

FAX: (512) 388-8229

Work Order: 1612246

CHAIN-OF-CUSTODY REC

Subcontractor:

ESC Laboratory
311 North Aspen
Broken Arrow, Oklahoma 74012

TEL: (918) 251-2515
FAX:
Acct #: DHLRRTX

Sample Id	Matrix	DHL#	Date Collected	Bottle Type	Requested Tests			
					E904.0	SM7500Ra-B		
10 AX-27	Aqueous	-10B	12/22/16 01:20 PM	1LHDPEHNO3	1			
AX-27	Aqueous	-10C	12/22/16 01:20 PM	500HDPEHNO3		1		
11 AX-26	Aqueous	-11B	12/22/16 02:25 PM	1LHDPEHNO3	1			
AX-26	Aqueous	-11C	12/22/16 02:25 PM	500HDPEHNO3		1		
12 MW-1	Aqueous	-12B	12/22/16	1LHDPEHNO3	1			
MW-1	Aqueous	-12C	12/22/16	500HDPEHNO3		1		

General Comments:

Please analyze these samples with Normal Turnaround Time.
Report RA-226, Ra-228 & Combined per Specs.
Quality Control Package Needed: Standard - NELAC Rad Test compliant
Email to cac@dhlanalytical.com & dupont@dhlanalytical.com

Relinquished by: <u><i>Barker</i></u>	Date/Time: <u>12/22/16 1730</u>	Received by: <u><i>Ronesto</i></u>
Relinquished by: _____	Received by: <u><i>[Signature]</i></u>	

20/6/12'

SAMPLE LOGIN

Date Received: 12/27/2016 10:37:

Lab Number: 20161275

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Pre Up
20161275-01 B	AX-24	NPW	12/21/16	Plastic	1 L	HNO3, pH < 2	<input type="checkbox"/>
20161275-01 A	AX-24	NPW	12/21/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				
20161275-02 A	AX-25	NPW	12/21/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
20161275-02 B	AX-25	NPW	12/21/16	Plastic	1 L	HNO3, pH < 2	<input type="checkbox"/>
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				
20161275-03 A	AX-22R	NPW	12/21/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
20161275-03 B	AX-22R	NPW	12/21/16	Plastic	1 L	HNO3, pH < 2	<input type="checkbox"/>
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				
20161275-04 A	AX-29	NPW	12/21/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
20161275-04 B	AX-29	NPW	12/21/16	Plastic	1 L	HNO3, pH < 2	<input type="checkbox"/>
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				
20161275-05 A	AX-28	NPW	12/21/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
20161275-05 B	AX-28	NPW	12/21/16	Plastic	1 L	HNO3, pH < 2	<input type="checkbox"/>
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				
20161275-06 B	AX-23	NPW	12/21/16	Plastic	1 L	HNO3, pH < 2	<input type="checkbox"/>
20161275-06 A	AX-23	NPW	12/21/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				
20161275-07 B	EB-01	NPW	12/21/16	Plastic	1 L	HNO3, pH < 2	<input type="checkbox"/>
20161275-07 A	EB-01	NPW	12/21/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
	Radium-226		SM 7500 Ra B M*				
	Radium-228		EPA 904*/9320*				

20161275-08 A	AXMW-1	NPW	12/22/16	Plastic	500 ml	HNO3, pH < 2	<input checked="" type="checkbox"/>
20161275-08 B	AXMW-1	NPW	12/22/16	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>
	Radium-226					SM 7500 Ra B M*	
	Radium-228					EPA 904*/9320*	
20161275-09 A	AXMW-2	NPW	12/22/16	Plastic	500 ml	HNO3, pH < 2	<input type="checkbox"/>
20161275-09 B	AXMW-2	NPW	12/22/16	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>
	Radium-226					SM 7500 Ra B M*	
	Radium-228					EPA 904*/9320*	
20161275-10 A	AX-27	NPW	12/22/16	Plastic	500 ml	HNO3, pH < 2	<input checked="" type="checkbox"/>
20161275-10 B	AX-27	NPW	12/22/16	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>
	Radium-226					SM 7500 Ra B M*	
	Radium-228					EPA 904*/9320*	
20161275-11 A	AX-26	NPW	12/22/16	Plastic	500 ml	HNO3, pH < 2	<input checked="" type="checkbox"/>
20161275-11 B	AX-26	NPW	12/22/16	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>
	Radium-226					SM 7500 Ra B M*	
	Radium-228					EPA 904*/9320*	
20161275-12 B	MW-1	NPW	12/22/16	Plastic	1 L	HNO3, pH < 2	<input checked="" type="checkbox"/>
20161275-12 A	MW-1	NPW	12/22/16	Plastic	500 ml	HNO3, pH < 2	<input checked="" type="checkbox"/>
	Radium-226					SM 7500 Ra B M*	
	Radium-228					EPA 904*/9320*	

LUMINANT

CONTAINER INSPECTION

Coolers 1

Custody Seals Broken

Temperature Amb C

Ice

Radiation Survey: <300 cpm

SAMPLE INSPECTION

Sample Seal Broken

Chain of Custody Record

Labels in Tact

Radiation Survey Complete

Anomalles

Inspected By: [Signature] DATE 12/27/16

QA or Designee Review: Raymond Thomas DATE _____

Sample Custodian Review: [Signature] DATE 12/27/16

Project Notes:

LUMINANT

LUMINANT

Appendix B

Laboratory Analytical Reports – Detection Monitoring Data



October 11, 2017

Will Vienne
Pastor, Behling & Wheeler
2201 Double Creek Dr #4004
Round Rock, Texas 78664
TEL: (512) 671-3434
FAX (512) 671-3446
RE: Sandow CCR

Order No.: 1710015

Dear Will Vienne:

DHL Analytical, Inc. received 9 sample(s) on 10/3/2017 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

A handwritten signature in red ink, appearing to read "John DuPont", is written over a large, light grey watermark that says "LUMINA".

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-17-19



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LUMINANT

John DuPont

From: Will Vienne <will.vienne@pbwllc.com>
Sent:
To: John DuPont
Cc: John Brayton; Keith Starek; Pat Behling
Subject: CCR Sampling

Follow Up Flag: Follow up
Flag Status: Completed

Hi John,

We are starting the second phase of sampling for the CCR project, which includes sampling the CCR wells on a semi-annual basis. Only Appendix III constituents will be analyzed:

Boron
Calcium
Chloride
Fluoride
Field pH
Sulfate
Total Dissolved
Solids

LUMINANT

Sample Receipt Checklist

Client Name Pastor, Behling & Wheeler

Date Received: 10/3/2017

Work Order Number 1710015

Received by JGD

Checklist completed by: [Signature] 10/4/2017
Signature Date

Reviewed by: [Initials] 10/4/2017
Initials Date

Carrier name Hand Delivered

- 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 2.3 °C
- Water - VOA vials have zero headspace? Yes No No VOA vials submitted
- Water - pH<2 acceptable upon receipt? Yes No NA LOT # 8086
Adjusted? yes Checked by EL
- Water - pH>9 (S) or pH>12 (CN) acceptable upon receipt? Yes No NA LOT #
Adjusted? _____ Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: Sample AXE-24 received with pH > 2.

Corrective Action sample pH adjusted at login w/ HNO₃ (Lot # 11750) to pH < 2

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Lab Order: 1710015

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

- Method SW6020A - Metals Analysis
- Method E300 - Anions Analysis
- Method M2540C - TDS Analysis

LOG IN

The samples were received and log-in performed on 10/3/17. A total of 9 samples were received. Nitric acid was added to sample AX-24 upon arrival at DHL Analytical. The samples arrived in good condition and were properly packaged.

METALS ANALYSIS

For Metals analysis performed on 10/9/17 the matrix spike and matrix spike duplicate recoveries were out of control limits for Calcium. These are flagged accordingly in the QC summary report. The sample selected for the matrix spike and matrix spike duplicate was from this work order. The LCS was within control limits for this analyte. No further corrective actions were taken.

For Metals analysis performed on 10/9/17 the PDS recovery was slightly above control limits for Calcium. This is flagged accordingly. The serial dilution was within control limits for this analyte. No further corrective actions were taken.

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Lab Order: 1710015

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1710015-01	AX-24		10/02/17 11:40 AM	10/3/2017
1710015-02	AX-27		10/02/17 02:50 PM	10/3/2017
1710015-03	AX-28		10/02/17 04:05 PM	10/3/2017
1710015-04	AX-26		10/02/17 05:35 PM	10/3/2017
1710015-05	AX-25		10/03/17 09:30 AM	10/3/2017
1710015-06	AXMW-1		10/03/17 11:20 AM	10/3/2017
1710015-07	AXMW-2		10/03/17 12:25 PM	10/3/2017
1710015-08	AX-29		10/03/17 02:05 PM	10/3/2017
1710015-09	AX-23		10/03/17 04:20 PM	10/3/2017

LUMINANT

Lab Order: 1710015
Client: Pastor, Behling & Wheeler
Project: Sandow CCR

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1710015-01A	AX-24	10/02/17 11:40 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/06/17 08:19 AM	82680
	AX-24	10/02/17 11:40 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/06/17 08:19 AM	82680
1710015-01B	AX-24	10/02/17 11:40 AM	Aqueous	E300	Anion Preparation	10/05/17 09:38 AM	82668
	AX-24	10/02/17 11:40 AM	Aqueous	E300	Anion Preparation	10/05/17 09:38 AM	82668
	AX-24	10/02/17 11:40 AM	Aqueous	M2540C	TDS Preparation	10/05/17 09:59 AM	82671
1710015-02A	AX-27	10/02/17 02:50 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/06/17 08:19 AM	82680
	AX-27	10/02/17 02:50 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/06/17 08:19 AM	82680
1710015-02B	AX-27	10/02/17 02:50 PM	Aqueous	E300	Anion Preparation	10/05/17 09:38 AM	82668
	AX-27	10/02/17 02:50 PM	Aqueous	E300	Anion Preparation	10/05/17 09:38 AM	82668
	AX-27	10/02/17 02:50 PM	Aqueous	M2540C	TDS Preparation	10/05/17 09:59 AM	82671
1710015-03A	AX-28	10/02/17 04:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/06/17 08:19 AM	82680
	AX-28	10/02/17 04:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/06/17 08:19 AM	82680
1710015-03B	AX-28	10/02/17 04:05 PM	Aqueous	E300	Anion Preparation	10/05/17 09:38 AM	82668
	AX-28	10/02/17 04:05 PM	Aqueous	E300	Anion Preparation	10/05/17 09:38 AM	82668
	AX-28	10/02/17 04:05 PM	Aqueous	M2540C	TDS Preparation	10/05/17 09:59 AM	82671
1710015-04A	AX-26	10/02/17 05:35 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/06/17 08:19 AM	82680
	AX-26	10/02/17 05:35 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/06/17 08:19 AM	82680
1710015-04B	AX-26	10/02/17 05:35 PM	Aqueous	E300	Anion Preparation	10/05/17 09:38 AM	82668
	AX-26	10/02/17 05:35 PM	Aqueous	E300	Anion Preparation	10/05/17 09:38 AM	82668
	AX-26	10/02/17 05:35 PM	Aqueous	M2540C	TDS Preparation	10/05/17 09:59 AM	82671
1710015-05A	AX-25	10/03/17 09:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/06/17 08:19 AM	82680
	AX-25	10/03/17 09:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/06/17 08:19 AM	82680
1710015-05B	AX-25	10/03/17 09:30 AM	Aqueous	E300	Anion Preparation	10/05/17 09:38 AM	82668
	AX-25	10/03/17 09:30 AM	Aqueous	E300	Anion Preparation	10/05/17 09:38 AM	82668
	AX-25	10/03/17 09:30 AM	Aqueous	M2540C	TDS Preparation	10/05/17 09:59 AM	82671
1710015-06A	AXMW-1	10/03/17 11:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/06/17 08:19 AM	82680
	AXMW-1	10/03/17 11:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/06/17 08:19 AM	82680
1710015-06B	AXMW-1	10/03/17 11:20 AM	Aqueous	E300	Anion Preparation	10/05/17 09:38 AM	82668

Lab Order: 1710015
Client: Pastor, Behling & Wheeler
Project: Sandow CCR

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1710015-06B	AXMW-1	10/03/17 11:20 AM	Aqueous	E300	Anion Preparation	10/05/17 09:38 AM	82668
	AXMW-1	10/03/17 11:20 AM	Aqueous	M2540C	TDS Preparation	10/05/17 09:59 AM	82671
1710015-07A	AXMW-2	10/03/17 12:25 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/06/17 08:19 AM	82680
	AXMW-2	10/03/17 12:25 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/06/17 08:19 AM	82680
1710015-07B	AXMW-2	10/03/17 12:25 PM	Aqueous	E300	Anion Preparation	10/05/17 09:38 AM	82668
	AXMW-2	10/03/17 12:25 PM	Aqueous	E300	Anion Preparation	10/05/17 09:38 AM	82668
	AXMW-2	10/03/17 12:25 PM	Aqueous	M2540C	TDS Preparation	10/05/17 09:59 AM	82671
1710015-08A	AX-29	10/03/17 02:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/06/17 08:19 AM	82680
	AX-29	10/03/17 02:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/06/17 08:19 AM	82680
1710015-08B	AX-29	10/03/17 02:05 PM	Aqueous	E300	Anion Preparation	10/05/17 09:38 AM	82668
	AX-29	10/03/17 02:05 PM	Aqueous	E300	Anion Preparation	10/05/17 09:38 AM	82668
	AX-29	10/03/17 02:05 PM	Aqueous	M2540C	TDS Preparation	10/05/17 09:59 AM	82671
1710015-09A	AX-23	10/03/17 04:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/06/17 08:19 AM	82680
	AX-23	10/03/17 04:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/06/17 08:19 AM	82680
1710015-09B	AX-23	10/03/17 04:20 PM	Aqueous	E300	Anion Preparation	10/05/17 09:38 AM	82668
	AX-23	10/03/17 04:20 PM	Aqueous	E300	Anion Preparation	10/05/17 09:38 AM	82668
	AX-23	10/03/17 04:20 PM	Aqueous	M2540C	TDS Preparation	10/05/17 09:59 AM	82671

Lab Order: 1710015
 Client: Pastor, Behling & Wheeler
 Project: Sandow CCR

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1710015-01A	AX-24	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	82680	50	10/09/17 01:51 PM	ICP-MS4_171009C
	AX-24	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	82680	1	10/09/17 12:29 PM	ICP-MS4_171009C
1710015-01B	AX-24	Aqueous	E300	Anions by IC method - Water	82668	100	10/05/17 01:38 PM	IC4_171005A
	AX-24	Aqueous	E300	Anions by IC method - Water	82668	1	10/05/17 04:26 PM	IC4_171005A
	AX-24	Aqueous	M2540C	Total Dissolved Solids	82671	1	10/06/17 08:30 AM	WC_171005B
1710015-02A	AX-27	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	82680	1	10/09/17 12:31 PM	ICP-MS4_171009C
	AX-27	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	82680	50	10/09/17 01:53 PM	ICP-MS4_171009C
1710015-02B	AX-27	Aqueous	E300	Anions by IC method - Water	82668	100	10/05/17 02:14 PM	IC4_171005A
	AX-27	Aqueous	E300	Anions by IC method - Water	82668	1	10/05/17 04:38 PM	IC4_171005A
	AX-27	Aqueous	M2540C	Total Dissolved Solids	82671	1	10/06/17 08:30 AM	WC_171005B
1710015-03A	AX-28	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	82680	1	10/09/17 12:33 PM	ICP-MS4_171009C
	AX-28	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	82680	50	10/09/17 01:55 PM	ICP-MS4_171009C
1710015-03B	AX-28	Aqueous	E300	Anions by IC method - Water	82668	1	10/05/17 04:50 PM	IC4_171005A
	AX-28	Aqueous	E300	Anions by IC method - Water	82668	100	10/05/17 02:26 PM	IC4_171005A
	AX-28	Aqueous	M2540C	Total Dissolved Solids	82671	1	10/06/17 08:30 AM	WC_171005B
1710015-04A	AX-26	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	82680	1	10/09/17 12:35 PM	ICP-MS4_171009C
	AX-26	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	82680	50	10/09/17 01:57 PM	ICP-MS4_171009C
1710015-04B	AX-26	Aqueous	E300	Anions by IC method - Water	82668	100	10/05/17 02:38 PM	IC4_171005A
	AX-26	Aqueous	E300	Anions by IC method - Water	82668	1	10/05/17 05:02 PM	IC4_171005A
	AX-26	Aqueous	M2540C	Total Dissolved Solids	82671	1	10/06/17 08:30 AM	WC_171005B
1710015-05A	AX-25	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	82680	50	10/09/17 01:59 PM	ICP-MS4_171009C
	AX-25	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	82680	1	10/09/17 12:37 PM	ICP-MS4_171009C
1710015-05B	AX-25	Aqueous	E300	Anions by IC method - Water	82668	100	10/05/17 02:50 PM	IC4_171005A
	AX-25	Aqueous	E300	Anions by IC method - Water	82668	1	10/05/17 05:14 PM	IC4_171005A
	AX-25	Aqueous	M2540C	Total Dissolved Solids	82671	1	10/06/17 08:30 AM	WC_171005B
1710015-06A	AXMW-1	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	82680	2	10/09/17 12:39 PM	ICP-MS4_171009C
	AXMW-1	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	82680	50	10/09/17 02:01 PM	ICP-MS4_171009C
1710015-06B	AXMW-1	Aqueous	E300	Anions by IC method - Water	82668	100	10/05/17 03:02 PM	IC4_171005A

Lab Order: 1710015
 Client: Pastor, Behling & Wheeler
 Project: Sandow CCR

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1710015-06B	AXMW-1	Aqueous	E300	Anions by IC method - Water	82668	1	10/05/17 05:26 PM	IC4_171005A
	AXMW-1	Aqueous	M2540C	Total Dissolved Solids	82671	1	10/06/17 08:30 AM	WC_171005B
1710015-07A	AXMW-2	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	82680	10	10/09/17 12:41 PM	ICP-MS4_171009C
	AXMW-2	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	82680	50	10/09/17 02:03 PM	ICP-MS4_171009C
1710015-07B	AXMW-2	Aqueous	E300	Anions by IC method - Water	82668	100	10/05/17 03:14 PM	IC4_171005A
	AXMW-2	Aqueous	E300	Anions by IC method - Water	82668	1	10/05/17 05:38 PM	IC4_171005A
	AXMW-2	Aqueous	M2540C	Total Dissolved Solids	82671	1	10/06/17 08:30 AM	WC_171005B
1710015-08A	AX-29	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	82680	1	10/09/17 12:43 PM	ICP-MS4_171009C
	AX-29	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	82680	50	10/09/17 02:05 PM	ICP-MS4_171009C
1710015-08B	AX-29	Aqueous	E300	Anions by IC method - Water	82668	100	10/05/17 03:26 PM	IC4_171005A
	AX-29	Aqueous	E300	Anions by IC method - Water	82668	1	10/05/17 05:50 PM	IC4_171005A
	AX-29	Aqueous	M2540C	Total Dissolved Solids	82671	1	10/06/17 08:30 AM	WC_171005B
1710015-09A	AX-23	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	82680	1	10/09/17 12:26 PM	ICP-MS4_171009C
	AX-23	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	82680	50	10/09/17 01:47 PM	ICP-MS4_171009C
1710015-09B	AX-23	Aqueous	E300	Anions by IC method - Water	82668	10	10/05/17 03:38 PM	IC4_171005A
	AX-23	Aqueous	E300	Anions by IC method - Water	82668	1	10/05/17 06:02 PM	IC4_171005A
	AX-23	Aqueous	M2540C	Total Dissolved Solids	82671	1	10/06/17 08:30 AM	WC_171005B

DHL Analytical, Inc.

Date: 11-Oct-17

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1710015

Client Sample ID: AX-24
Lab ID: 1710015-01
Collection Date: 10/02/17 11:40 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: SP			
Boron	0.129	0.0100	0.0300		mg/L	1	10/09/17 12:29 PM
Calcium	252	5.00	15.0		mg/L	50	10/09/17 01:51 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: JL			
Chloride	307	30.0	100		mg/L	100	10/05/17 01:38 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	10/05/17 04:26 PM
Sulfate	632	100	300		mg/L	100	10/05/17 01:38 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BTJ			
Total Dissolved Solids (Residue, Filterable)	1810	50.0	50.0		mg/L	1	10/06/17 08:30 AM

LUMINANT

Qualifiers:	<ul style="list-style-type: none"> * Value exceeds TCLP Maximum Concentration Level C Sample Result or QC discussed in the Case Narrative E TPH pattern not Gas or Diesel Range Pattern MDL Method Detection Limit RL Reporting Limit N Parameter not NELAC certified 	<ul style="list-style-type: none"> B Analyte detected in the associated Method Blank DF Dilution Factor J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit S Spike Recovery outside control limits
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DHL Analytical, Inc.

Date: 11-Oct-17

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1710015

Client Sample ID: AX-27
Lab ID: 1710015-02
Collection Date: 10/02/17 02:50 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: SP			
Boron	0.206	0.0100	0.0300		mg/L	1	10/09/17 12:31 PM
Calcium	462	5.00	15.0		mg/L	50	10/09/17 01:53 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: JL			
Chloride	652	30.0	100		mg/L	100	10/05/17 02:14 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	10/05/17 04:38 PM
Sulfate	569	100	300		mg/L	100	10/05/17 02:14 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BTJ			
Total Dissolved Solids (Residue, Filterable)	2490	50.0	50.0		mg/L	1	10/06/17 08:30 AM

LUMINANT

Qualifiers:	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
MDL	Method Detection Limit	ND Not Detected at the Method Detection Limit
RL	Reporting Limit	S Spike Recovery outside control limits
N	Parameter not NELAC certified	

DHL Analytical, Inc.

Date: 11-Oct-17

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1710015

Client Sample ID: AX-28
Lab ID: 1710015-03
Collection Date: 10/02/17 04:05 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: SP			
Boron	0.207	0.0100	0.0300		mg/L	1	10/09/17 12:33 PM
Calcium	664	5.00	15.0		mg/L	50	10/09/17 01:55 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: JL			
Chloride	384	30.0	100		mg/L	100	10/05/17 02:26 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	10/05/17 04:50 PM
Sulfate	1670	100	300		mg/L	100	10/05/17 02:26 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BTJ			
Total Dissolved Solids (Residue, Filterable)	3350	50.0	50.0		mg/L	1	10/06/17 08:30 AM

LUMINANT

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|---|--|
| <p>Qualifiers:</p> <ul style="list-style-type: none"> * Value exceeds TCLP Maximum Concentration Level C Sample Result or QC discussed in the Case Narrative E TPH pattern not Gas or Diesel Range Pattern MDL Method Detection Limit RL Reporting Limit N Parameter not NELAC certified | <ul style="list-style-type: none"> B Analyte detected in the associated Method Blank DF Dilution Factor J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit S Spike Recovery outside control limits |
|---|--|

DHL Analytical, Inc.

Date: 11-Oct-17

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1710015

Client Sample ID: AX-26
Lab ID: 1710015-04
Collection Date: 10/02/17 05:35 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: SP			
Boron	0.352	0.0100	0.0300		mg/L	1	10/09/17 12:35 PM
Calcium	666	5.00	15.0		mg/L	50	10/09/17 01:57 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: JL			
Chloride	1100	30.0	100		mg/L	100	10/05/17 02:38 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	10/05/17 05:02 PM
Sulfate	945	100	300		mg/L	100	10/05/17 02:38 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BTJ			
Total Dissolved Solids (Residue, Filterable)	3740	50.0	50.0		mg/L	1	10/06/17 08:30 AM

LUMINANT

- Qualifiers:**
- * Value exceeds TCLP Maximum Concentration Level
 - C Sample Result or QC discussed in the Case Narrative
 - E TPH pattern not Gas or Diesel Range Pattern
 - MDL Method Detection Limit
 - RL Reporting Limit
 - N Parameter not NELAC certified
 - B Analyte detected in the associated Method Blank
 - DF Dilution Factor
 - J Analyte detected between MDL and RL
 - ND Not Detected at the Method Detection Limit
 - S Spike Recovery outside control limits

DHL Analytical, Inc.

Date: 11-Oct-17

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1710015

Client Sample ID: AX-25
Lab ID: 1710015-05
Collection Date: 10/03/17 09:30 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: SP			
Boron	0.205	0.0100	0.0300		mg/L	1	10/09/17 12:37 PM
Calcium	325	5.00	15.0		mg/L	50	10/09/17 01:59 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: JL			
Chloride	586	30.0	100		mg/L	100	10/05/17 02:50 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	10/05/17 05:14 PM
Sulfate	504	100	300		mg/L	100	10/05/17 02:50 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BTJ			
Total Dissolved Solids (Residue, Filterable)	2400	50.0	50.0		mg/L	1	10/06/17 08:30 AM

LUMINANT

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|---|--|
| <p>Qualifiers:</p> <ul style="list-style-type: none"> * Value exceeds TCLP Maximum Concentration Level C Sample Result or QC discussed in the Case Narrative E TPH pattern not Gas or Diesel Range Pattern MDL Method Detection Limit RL Reporting Limit N Parameter not NELAC certified | <ul style="list-style-type: none"> B Analyte detected in the associated Method Blank DF Dilution Factor J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit S Spike Recovery outside control limits |
|---|--|

DHL Analytical, Inc.

Date: 11-Oct-17

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1710015

Client Sample ID: AXMW-1
Lab ID: 1710015-06
Collection Date: 10/03/17 11:20 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: SP			
Boron	0.463	0.0200	0.0600		mg/L	2	10/09/17 12:39 PM
Calcium	477	5.00	15.0		mg/L	50	10/09/17 02:01 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: JL			
Chloride	348	30.0	100		mg/L	100	10/05/17 03:02 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	10/05/17 05:26 PM
Sulfate	1990	100	300		mg/L	100	10/05/17 03:02 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BTJ			
Total Dissolved Solids (Residue, Filterable)	3620	50.0	50.0		mg/L	1	10/06/17 08:30 AM

LUMINANT

Qualifiers:	* Value exceeds TCLP Maximum Concentration Level	B Analyte detected in the associated Method Blank
	C Sample Result or QC discussed in the Case Narrative	DF Dilution Factor
	E TPH pattern not Gas or Diesel Range Pattern	J Analyte detected between MDL and RL
MDL	Method Detection Limit	ND Not Detected at the Method Detection Limit
RL	Reporting Limit	S Spike Recovery outside control limits
N	Parameter not NELAC certified	

DHL Analytical, Inc.

Date: 11-Oct-17

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1710015

Client Sample ID: AXMW-2
Lab ID: 1710015-07
Collection Date: 10/03/17 12:25 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: SP			
Boron	2.14	0.100	0.300		mg/L	10	10/09/17 12:41 PM
Calcium	644	5.00	15.0		mg/L	50	10/09/17 02:03 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: JL			
Chloride	207	30.0	100		mg/L	100	10/05/17 03:14 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	10/05/17 05:38 PM
Sulfate	1990	100	300		mg/L	100	10/05/17 03:14 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BTJ			
Total Dissolved Solids (Residue, Filterable)	3640	50.0	50.0		mg/L	1	10/06/17 08:30 AM

LUMINANT

<p>Qualifiers:</p> <ul style="list-style-type: none"> * Value exceeds TCLP Maximum Concentration Level C Sample Result or QC discussed in the Case Narrative E TPH pattern not Gas or Diesel Range Pattern MDL Method Detection Limit RL Reporting Limit N Parameter not NELAC certified 	<ul style="list-style-type: none"> B Analyte detected in the associated Method Blank DF Dilution Factor J Analyte detected between MDL and RL ND Not Detected at the Method Detection Limit S Spike Recovery outside control limits
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DHL Analytical, Inc.

Date: 11-Oct-17

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1710015

Client Sample ID: AX-29
Lab ID: 1710015-08
Collection Date: 10/03/17 02:05 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: SP			
Boron	0.316	0.0100	0.0300		mg/L	1	10/09/17 12:43 PM
Calcium	392	5.00	15.0		mg/L	50	10/09/17 02:05 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: JL			
Chloride	276	30.0	100		mg/L	100	10/05/17 03:26 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	10/05/17 05:50 PM
Sulfate	1110	100	300		mg/L	100	10/05/17 03:26 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BTJ			
Total Dissolved Solids (Residue, Filterable)	2480	50.0	50.0		mg/L	1	10/06/17 08:30 AM

LUMINANT

- Qualifiers:**
- * Value exceeds TCLP Maximum Concentration Level
 - C Sample Result or QC discussed in the Case Narrative
 - E TPH pattern not Gas or Diesel Range Pattern
 - MDL Method Detection Limit
 - RL Reporting Limit
 - N Parameter not NELAC certified
 - B Analyte detected in the associated Method Blank
 - DF Dilution Factor
 - J Analyte detected between MDL and RL
 - ND Not Detected at the Method Detection Limit
 - S Spike Recovery outside control limits

DHL Analytical, Inc.

Date: 11-Oct-17

CLIENT: Pastor, Behling & Wheeler
Project: Sandow CCR
Project No: 5164E
Lab Order: 1710015

Client Sample ID: AX-23
Lab ID: 1710015-09
Collection Date: 10/03/17 04:20 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: SP			
Boron	0.314	0.0100	0.0300		mg/L	1	10/09/17 12:26 PM
Calcium	316	5.00	15.0		mg/L	50	10/09/17 01:47 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: JL			
Chloride	184	3.00	10.0		mg/L	10	10/05/17 03:38 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	10/05/17 06:02 PM
Sulfate	631	10.0	30.0		mg/L	10	10/05/17 03:38 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BTJ			
Total Dissolved Solids (Residue, Filterable)	1620	50.0	50.0		mg/L	1	10/06/17 08:30 AM

LUMINANT

- Qualifiers:**
- * Value exceeds TCLP Maximum Concentration Level
 - C Sample Result or QC discussed in the Case Narrative
 - E TPH pattern not Gas or Diesel Range Pattern
 - MDL Method Detection Limit
 - RL Reporting Limit
 - N Parameter not NELAC certified
 - B Analyte detected in the associated Method Blank
 - DF Dilution Factor
 - J Analyte detected between MDL and RL
 - ND Not Detected at the Method Detection Limit
 - S Spike Recovery outside control limits

CLIENT: Pastor, Behling & Wheeler
Work Order: 1710015
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_171009C

The QC data in batch 82680 applies to the following samples: 1710015-01A, 1710015-02A, 1710015-03A, 1710015-04A, 1710015-05A, 1710015-06A, 1710015-07A, 1710015-08A, 1710015-09A

Sample ID MB-82680	Batch ID: 82680	TestNo: SW6020A	Units: mg/L
SampType: MBLK	Run ID: ICP-MS4_171009C	Analysis Date: 10/9/2017 12:18:00 PM	Prep Date: 10/6/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	<0.0100	0.0300								
Calcium	<0.100	0.300								

Sample ID LCS-82680	Batch ID: 82680	TestNo: SW6020A	Units: mg/L
SampType: LCS	Run ID: ICP-MS4_171009C	Analysis Date: 10/9/2017 12:20:00 PM	Prep Date: 10/6/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.203	0.0300	0.200	0	101	80	120			
Calcium	5.18	0.300	5.00	0	104	80	120			

Sample ID LCSD-82680	Batch ID: 82680	TestNo: SW6020A	Units: mg/L
SampType: LCSD	Run ID: ICP-MS4_171009C	Analysis Date: 10/9/2017 12:22:00 PM	Prep Date: 10/6/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.209	0.0300	0.200	0	104	80	120	2.84	15	
Calcium	5.18	0.300	5.00	0	104	80	120	0.014	15	

Sample ID 1710015-09A SD	Batch ID: 82680	TestNo: SW6020A	Units: mg/L
SampType: SD	Run ID: ICP-MS4_171009C	Analysis Date: 10/9/2017 12:28:00 PM	Prep Date: 10/6/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.342	0.150	0	0.314				8.46	10	

Sample ID 1710015-09A PDS	Batch ID: 82680	TestNo: SW6020A	Units: mg/L
SampType: PDS	Run ID: ICP-MS4_171009C	Analysis Date: 10/9/2017 12:47:00 PM	Prep Date: 10/6/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.501	0.0300	0.200	0.314	93.2	80	120			

Sample ID 1710015-09A MS	Batch ID: 82680	TestNo: SW6020A	Units: mg/L
SampType: MS	Run ID: ICP-MS4_171009C	Analysis Date: 10/9/2017 12:48:00 PM	Prep Date: 10/6/2017

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.511	0.0300	0.200	0.314	98.5	80	120			

- Qualifiers:**
- B Analyte detected in the associated Method Blank
 - J Analyte detected between MDL and RL
 - ND Not Detected at the Method Detection Limit
 - RL Reporting Limit
 - J Analyte detected between SDL and RL
 - DF Dilution Factor
 - MDL Method Detection Limit
 - R RPD outside accepted control limits
 - S Spike Recovery outside control limits
 - N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1710015
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_171009C

Sample ID 1710015-09A MSD	Batch ID: 82680	TestNo: SW6020A	Units: mg/L							
SampType: MSD	Run ID: ICP-MS4_171009C	Analysis Date: 10/9/2017 12:50:00 PM	Prep Date: 10/6/2017							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.515	0.0300	0.200	0.314	100	80	120	0.713	15	
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Sample ID 1710015-09A SD	Batch ID: 82680	TestNo: SW6020A	Units: mg/L							
SampType: SD	Run ID: ICP-MS4_171009C	Analysis Date: 10/9/2017 1:49:00 PM	Prep Date: 10/6/2017							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	320	75.0	0	316				1.28	10	
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Sample ID 1710015-09A PDS	Batch ID: 82680	TestNo: SW6020A	Units: mg/L							
SampType: PDS	Run ID: ICP-MS4_171009C	Analysis Date: 10/9/2017 2:09:00 PM	Prep Date: 10/6/2017							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	626	15.0	250	316	124	80	120			S
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Sample ID 1710015-09A MS	Batch ID: 82680	TestNo: SW6020A	Units: mg/L							
SampType: MS	Run ID: ICP-MS4_171009C	Analysis Date: 10/9/2017 2:11:00 PM	Prep Date: 10/6/2017							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	314	15.0	5.00	316	-30.9	80	120			S
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Sample ID 1710015-09A MSD	Batch ID: 82680	TestNo: SW6020A	Units: mg/L							
SampType: MSD	Run ID: ICP-MS4_171009C	Analysis Date: 10/9/2017 2:13:00 PM	Prep Date: 10/6/2017							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	318	15.0	5.00	316	40.1	80	120	1.12	15	S
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Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1710015
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_171009C

Sample ID ICV-171009	Batch ID: R94582	TestNo: SW6020A	Units: mg/L							
SampType: ICV	Run ID: ICP-MS4_171009C	Analysis Date: 10/9/2017 10:07:00 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0991	0.0300	0.100	0	99.1	90	110			
Calcium	2.55	0.300	2.50	0	102	90	110			

Sample ID LCVL-171009	Batch ID: R94582	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_171009C	Analysis Date: 10/9/2017 10:14:00 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0208	0.0300	0.0200	0	104	70	130			
Calcium	0.105	0.300	0.100	0	105	70	130			

Sample ID CCV2-171009	Batch ID: R94582	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_171009C	Analysis Date: 10/9/2017 11:22:00 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.212	0.0300	0.200	0	106	90	110			
Calcium	5.18	0.300	5.00	0	104	90	110			

Sample ID LCVL2-171009	Batch ID: R94582	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_171009C	Analysis Date: 10/9/2017 11:26:00 AM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0244	0.0300	0.0200	0	122	70	130			
Calcium	0.107	0.300	0.100	0	107	70	130			

Sample ID CCV3-171009	Batch ID: R94582	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_171009C	Analysis Date: 10/9/2017 12:57:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.218	0.0300	0.200	0	109	90	110			
Calcium	5.14	0.300	5.00	0	103	90	110			

Sample ID LCVL3-171009	Batch ID: R94582	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_171009C	Analysis Date: 10/9/2017 1:09:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0246	0.0300	0.0200	0	123	70	130			
Calcium	0.102	0.300	0.100	0	102	70	130			

Qualifiers:

B Analyte detected in the associated Method Blank	DF Dilution Factor
J Analyte detected between MDL and RL	MDL Method Detection Limit
ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
RL Reporting Limit	S Spike Recovery outside control limits
J Analyte detected between SDL and RL	N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1710015
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_171009C

Sample ID CCV4-171009	Batch ID: R94582	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_171009C	Analysis Date: 10/9/2017 1:22:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	5.14	0.300	5.00	0	103	90	110			
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Sample ID LCVL4-171009	Batch ID: R94582	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_171009C	Analysis Date: 10/9/2017 1:28:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	0.0999	0.300	0.100	0	99.9	70	130			
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Sample ID CCV5-171009	Batch ID: R94582	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS4_171009C	Analysis Date: 10/9/2017 2:15:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	5.07	0.300	5.00	0	101	90	110			
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Sample ID LCVL5-171009	Batch ID: R94582	TestNo: SW6020A	Units: mg/L							
SampType: LCVL	Run ID: ICP-MS4_171009C	Analysis Date: 10/9/2017 2:19:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	0.0965	0.300	0.100	0	96.5	70	130			
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Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1710015
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC4_171005A

The QC data in batch 82668 applies to the following samples: 1710015-01B, 1710015-02B, 1710015-03B, 1710015-04B, 1710015-05B, 1710015-06B, 1710015-07B, 1710015-08B, 1710015-09B

Sample ID: MB-82668	Batch ID: 82668	TestNo: E300	Units: mg/L							
SampType: MBLK	Run ID: IC4_171005A	Analysis Date: 10/5/2017 12:13:44 PM	Prep Date: 10/5/2017							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	<0.300	1.00								
Fluoride	<0.100	0.400								
Sulfate	<1.00	3.00								

Sample ID: LCS-82668	Batch ID: 82668	TestNo: E300	Units: mg/L							
SampType: LCS	Run ID: IC4_171005A	Analysis Date: 10/5/2017 12:25:44 PM	Prep Date: 10/5/2017							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	9.89	1.00	10.00	0	98.9	90	110			
Fluoride	3.98	0.400	4.000	0	99.5	90	110			
Sulfate	29.5	3.00	30.00	0	98.3	90	110			

Sample ID: LCS-82668	Batch ID: 82668	TestNo: E300	Units: mg/L							
SampType: LCS	Run ID: IC4_171005A	Analysis Date: 10/5/2017 12:37:44 PM	Prep Date: 10/5/2017							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	9.85	1.00	10.00	0	98.5	90	110	0.453	20	
Fluoride	3.97	0.400	4.000	0	99.4	90	110	0.129	20	
Sulfate	29.3	3.00	30.00	0	97.7	90	110	0.601	20	

Sample ID: 1710015-01BMS	Batch ID: 82668	TestNo: E300	Units: mg/L							
SampType: MS	Run ID: IC4_171005A	Analysis Date: 10/5/2017 1:50:18 PM	Prep Date: 10/5/2017							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	2400	100	2000	307.0	104	90	110			
Fluoride	2040	40.0	2000	0	102	90	110			
Sulfate	2700	300	2000	632.2	103	90	110			

Sample ID: 1710015-01BMSD	Batch ID: 82668	TestNo: E300	Units: mg/L							
SampType: MSD	Run ID: IC4_171005A	Analysis Date: 10/5/2017 2:02:18 PM	Prep Date: 10/5/2017							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	2400	100	2000	307.0	105	90	110	0.098	20	
Fluoride	2030	40.0	2000	0	102	90	110	0.345	20	
Sulfate	2650	300	2000	632.2	101	90	110	1.79	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1710015
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC4_171005A

Sample ID ICV-171005	Batch ID: R94547	TestNo: E300	Units: mg/L
SampType: ICV	Run ID: IC4_171005A	Analysis Date: 10/5/2017 11:49:44 AM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	24.9	1.00	25.00	0	99.6	90	110			
Fluoride	9.87	0.400	10.00	0	98.7	90	110			
Sulfate	75.4	3.00	75.00	0	101	90	110			

Sample ID CCV1-171005	Batch ID: R94547	TestNo: E300	Units: mg/L
SampType: CCV	Run ID: IC4_171005A	Analysis Date: 10/5/2017 4:02:18 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.91	1.00	10.00	0	99.1	90	110			
Fluoride	4.02	0.400	4.000	0	101	90	110			
Sulfate	29.5	3.00	30.00	0	98.3	90	110			

Sample ID CCV2-171005	Batch ID: R94547	TestNo: E300	Units: mg/L
SampType: CCV	Run ID: IC4_171005A	Analysis Date: 10/5/2017 6:26:18 PM	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.1	1.00	10.00	0	101	90	110			
Fluoride	4.05	0.400	4.000	0	101	90	110			
Sulfate	31.0	3.00	30.00	0	103	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1710015
Project: Sandow CCR

ANALYTICAL QC SUMMARY REPORT

RunID: WC_171005B

The QC data in batch 82671 applies to the following samples: 1710015-01B, 1710015-02B, 1710015-03B, 1710015-04B, 1710015-05B, 1710015-06B, 1710015-07B, 1710015-08B, 1710015-09B

Sample ID MB-82671	Batch ID: 82671	TestNo: M2540C	Units: mg/L							
SampType: MBLK	Run ID: WC_171005B	Analysis Date: 10/6/2017 8:30:00 AM	Prep Date: 10/5/2017							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	<10.0	10.0								

Sample ID LCS-82671	Batch ID: 82671	TestNo: M2540C	Units: mg/L							
SampType: LCS	Run ID: WC_171005B	Analysis Date: 10/6/2017 8:30:00 AM	Prep Date: 10/5/2017							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	741	10.0	745.6	0	99.4	90	113			

Sample ID 1710036-03B-DUP	Batch ID: 82671	TestNo: M2540C	Units: mg/L							
SampType: DUP	Run ID: WC_171005B	Analysis Date: 10/6/2017 8:30:00 AM	Prep Date: 10/5/2017							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	2510	50.0	0	2545				1.38	5	

Sample ID 1710028-01A-DUP	Batch ID: 82671	TestNo: M2540C	Units: mg/L							
SampType: DUP	Run ID: WC_171005B	Analysis Date: 10/6/2017 8:30:00 AM	Prep Date: 10/5/2017							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera										
	584	10.0	0	588.0				0.683	5	

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|--------------------|---|---|
| Qualifiers: | B Analyte detected in the associated Method Blank | DF Dilution Factor |
| | J Analyte detected between MDL and RL | MDL Method Detection Limit |
| | ND Not Detected at the Method Detection Limit | R RPD outside accepted control limits |
| | RL Reporting Limit | S Spike Recovery outside control limits |
| | J Analyte detected between SDL and RL | N Parameter not NELAC certified |