Quarterly Treatment System Site Operation and Maintenance Report (January – March 2020) Perfection Plating (401037) Watervliet, New York

Prepared for

New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233

Prepared by

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April 2020
Version: FINAL
EA Project No. 14907.15

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27 April 2020

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27 April 2020

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April 2020
Version: FINAL
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LIST OF ACRONYMS/ABBREVIATIONS

µg/L	Microgram(s) per liter
AWQS	Ambient Water Quality Standard
EA	EA Engineering, P.C. and Its Affiliate EA Science and Technology
lb	Pound(s)
No.	Number
NYSDEC	New York State Department of Environmental Conservation

1. INTRODUCTION

The New York State Department of Environmental Conservation (NYSDEC) tasked EA Engineering, P.C. and its affiliate EA Science and Technology (EA) to perform site management activities at the Perfection Plating Site (NYSDEC Site Number [No.] 401037), which includes performance of groundwater sampling, as well as providing oversight of the operation and maintenance of a groundwater treatment plant by a remedial contractor. The site is located at 911 11th Street in the Town of Watervliet, Albany County, New York (Figure 1).

The Work Assignment was conducted under the NYSDEC State Superfund Standby Contract (Work Assignment No. D007624-15). The elements of site operation and maintenance were completed in accordance with the applicable guidelines and requirements of the NYSDEC. The field activities presented in this report were performed from January to March 2020.

1.1 OBJECTIVES

The purpose of the field activities completed at the site was to monitor site activities and verify that the treatment system was operating efficiently and meeting discharge permit requirements through laboratory analytical results. Monthly system influent and effluent water samples were collected and submitted for laboratory analysis. Weekly site inspections, and system operation and maintenance were conducted by Aztech Technologies, Inc. (remedial contractor) from January to March 2020. A site inspection form is completed as a part of each inspection. Operational conditions at the site and any routine maintenance conducted are recorded on the site inspection form.

1.2 REPORT ORGANIZATION

A summary of treatment system operation and maintenance is described in Section 2. Conclusions and recommendations are discussed in Section 3.

The following are provided as appendixes:

- **Appendix A**—Treatment System Monitoring Logs
- **Appendix B**—Treatment System Laboratory Analytical Data, Form 1s, and Chain-of-Custody Forms
- **Appendix C—**Effluent Limitations and Monitoring Requirements
- **Appendix D—**Groundwater Sampling Analytical Results.

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2. TREATMENT SYSTEM OPERATION AND MAINTENANCE ACTIVITIES

A summary of the operating parameters during the quarter is provided in this section. Treatment system operational/inspection checklists are included in Appendix A.

2.1 SITE OPERATION

A total of 286,093 gallons of treated water was discharged to the Hudson River via the Watervliet storm sewer during this period (31 November 2019 to 31 March 2020). Of the 11 operation and maintenance visits during the reporting period, the system was running upon arrival during 9 of the 11 inspections (the system was taken offline after the 22 November 2019 inspection due to an issue with the acid injection pump, which was replaced at the 21 January 2020 inspection). During the treatment system inspections, the flow rate averaged 1.63 gallons per minute and 2,345.02 gallons per day. The acid barrel was topped off on each inspection day the system was online.

The following are operation and maintenance activities that occurred during this quarter (**January–March 2020**):

- **January 21:** System down on arrival. Install new acid injection pump and probe. Calibrate and program pump. Restart system, make adjustments, and let system run for a while. Samples taken at influent and effluent. System running on departure.

- **January 24:** System running on arrival, take system readings. Top off acid barrel and perform system maintenance. System running on departure.

- **January 28:** System running on arrival, take system readings. Top off acid barrel and perform system maintenance. System running on departure.

- **January 30:** System running on arrival, take system readings. Top off acid barrel and perform system maintenance. System running on departure.

- **February 26:** System running on arrival, take system readings. Top off acid barrel and perform system maintenance. System running on departure.

- **February 28:** System running on arrival, take system readings. Top off acid barrel and perform system maintenance. Change iron filters. System running on departure.

- **March 17:** System running on arrival, take system readings. Top off acid barrel and perform system maintenance. System running on departure.

- **March 20:** System running on arrival, take system readings. Top off acid barrel and perform system maintenance. System running on departure.

- **March 24:** System down on arrival due to low effluent pH. Top off acid and alkali barrels, restart system and collect system readings. Preform system maintenance.

- **March 27:** System running on arrival, take system readings. Top off acid barrel and perform system maintenance. System running on departure.

- **March 31:** System running on arrival, take system readings. Top off acid barrel and perform system maintenance. System running on departure.

Treatment system monitoring logs are included in Appendix A.

2.2 MONITORING ACTIVITIES

Aqueous samples (system influent and effluent) were collected on 21 January, 4 February, and 5 March 2020. Influent/effluent samples were collected and analyzed by TestAmerica Laboratories, Inc. for inductively-coupled plasma metals, cyanide, hexavalent chromium, and total suspended solids. Analytical results for the sampling events are summarized in Table 1.

2.2.1 Treatment System Influent Sampling and Analysis

Water samples from the influent line were collected on 21 January, 4 February, and 5 March 2020. These samples provide a basis for determining the mass of contaminants recovered from the groundwater via the interceptor trench and are also used in determining the removal efficiency of the treatment system. The results of the analyses for the sampling events are summarized in Table 1 and included in Appendix B.

2.2.2 Interceptor Trench System Evaluation

The results of the sampling and analyses were evaluated to determine the amount of contaminants removed from the groundwater by the interceptor trench. During this quarter, hexavalent chromium was removed at an average rate of 0.01467 pounds (lb) per day based on the samples collected on 21 January, 4 February, and 5 March 2020. The quantity of contaminants removed is included in Table 2. Figure 2 compares the sample results of the downgradient well MW-EA-11S to the treatment system influent to determine the effectiveness of the interceptor trench. All results for the discharge sample were in compliance with the effluent limitations and monitoring requirements (Appendix C).

2.2.3 Shallow Monitoring Well Sampling

As a result of hexavalent chromium detections in monitoring well MW-EA-8 located downgradient of the collection trench during the June 2013 sampling event, a quarterly groundwater sampling program was implemented to assist in monitoring the effectiveness of the collection trench. On 19 February 2020, groundwater samples were collected from 10 site monitoring wells for total and hexavalent chromium: MW-CMT-1, MW-CMT-3, MW-EE-4S,

MW-EE-5S, MW-EA-7R, MW-ESE-9R, MW-EA-10S, MW-EA-11S, MW-EA-12S, and MW-EA-13S.

Samples collected from MW-EE-5S and MW-EA-7R reported hexavalent chromium concentrations above the New York State Ambient Water Quality Standard (AWQS) of 50 micrograms per liter (µg/L), with results of 9,300 µg/L and 920 µg/L, respectively. Sample results from monitoring well MW-EE-4S reported a hexavalent chromium concentrations below the New York State AWQS of 50 µg/L, with a result of 31 µg/L. Sample results from monitoring wells MW-CMT-1, MW-CMT-3, MW-EA-10S, MW-EA-12S, and MW-EA-13S were non-detect, which is similar to historical results. Sample results from monitoring wells MW-ESE-9-R and MW-EA-11S were non-detect, where AWQS exceedances have historically been reported.

Replacement wells MW-EA-7R and MW-ESE-9R were installed approximately 5 feet from the original locations on 15 August 2017. The AWQS exceedance reported at MW-EA-7R remains consistent with historical readings, while hexavalent chromium was non-detect at MW-ESE-9-R, where concentrations have historically fluctuated.

Table 3 provides a summary of the shallow monitoring well sample results collected during the February 2020 event and Table 4 shows the historical values. The results of the analyses for the samples collected during the February 2020 event are depicted in Figures 3 and 4, and included in Appendix D.

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3. CONCLUSIONS AND RECOMMENDATIONS

Analytical data from the influent and effluent samples collected during the period demonstrate that the system, when operating, is effectively removing the contaminants of concern from the recovered groundwater. Hexavalent chromium concentrations were below discharge limits in the January, February, and March 2020 effluent samples.

During this reporting period, weekly site visits were performed, and the treatment system was up and running upon arrival for 9 of the 11 visits. The system was shut down after the 22 November 2019 inspection due to a faulty acid pump and did not operate until replaced on 21 January inspection. The system was down on the 24 March 2020 inspection due to low effluent pH. Akali barrel was topped off and system was restarted.

It is recommended that treatment system operations and maintenance activities continue at the current weekly rate in order to ensure the system continues to be operated at maximum efficiencies.

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Figures

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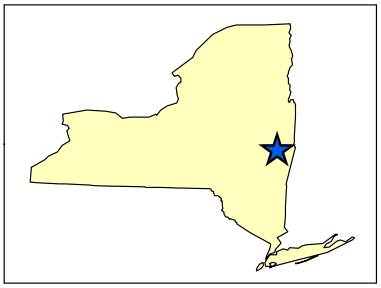

Legend

★ Site Location

0 0.125 0.25 0.5
Miles

1 inch = 0.25 miles

N

Figure 1
Site Location Map
Perfection Plating Site (4-01-037)
Watervliet, New York

Map Date: 8/17/2017
Projection: State Plane NAD83 New York East (feet)

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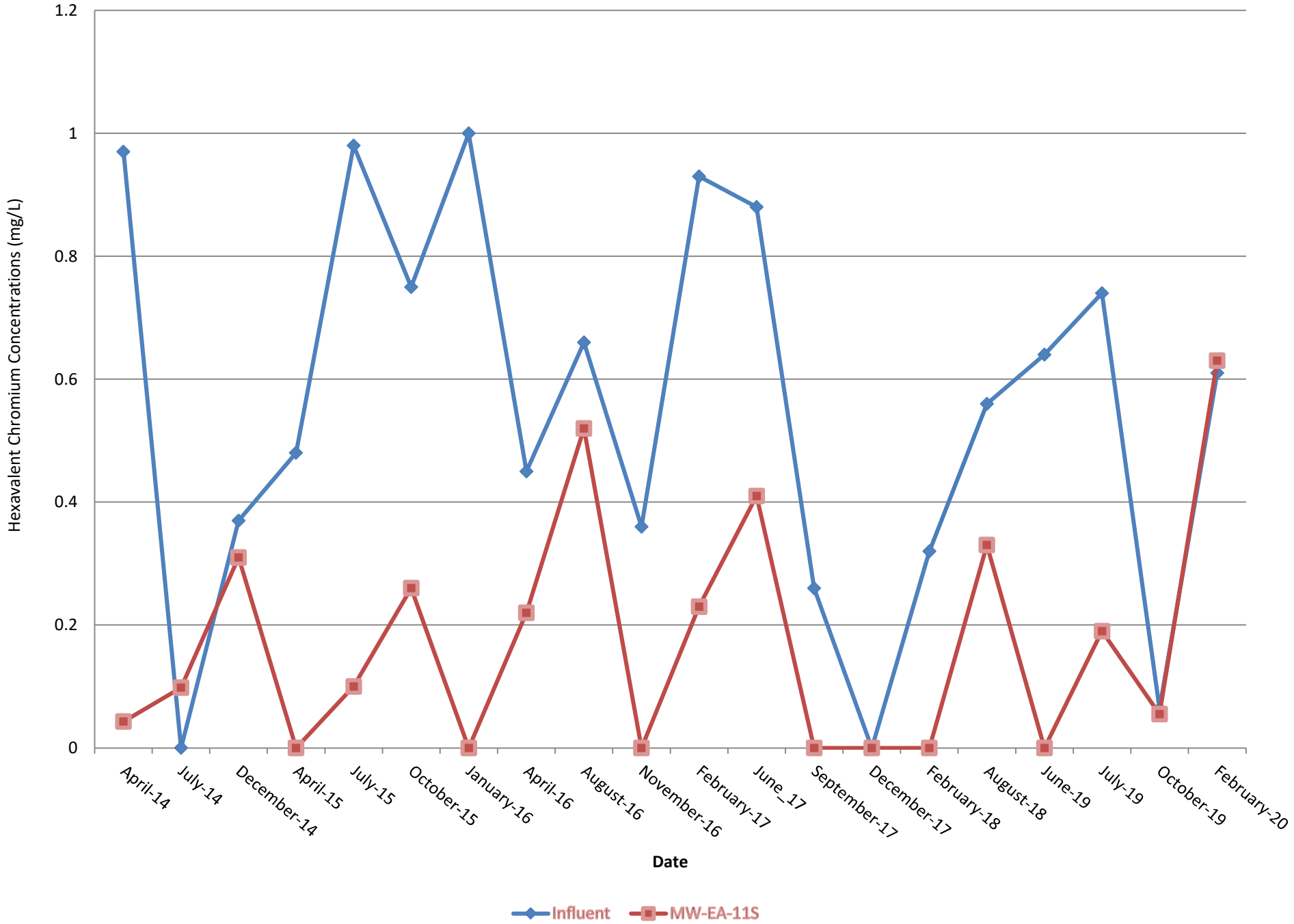
Figure 2
Historical Influent and MW-EA-11S Hexavalent Chromium



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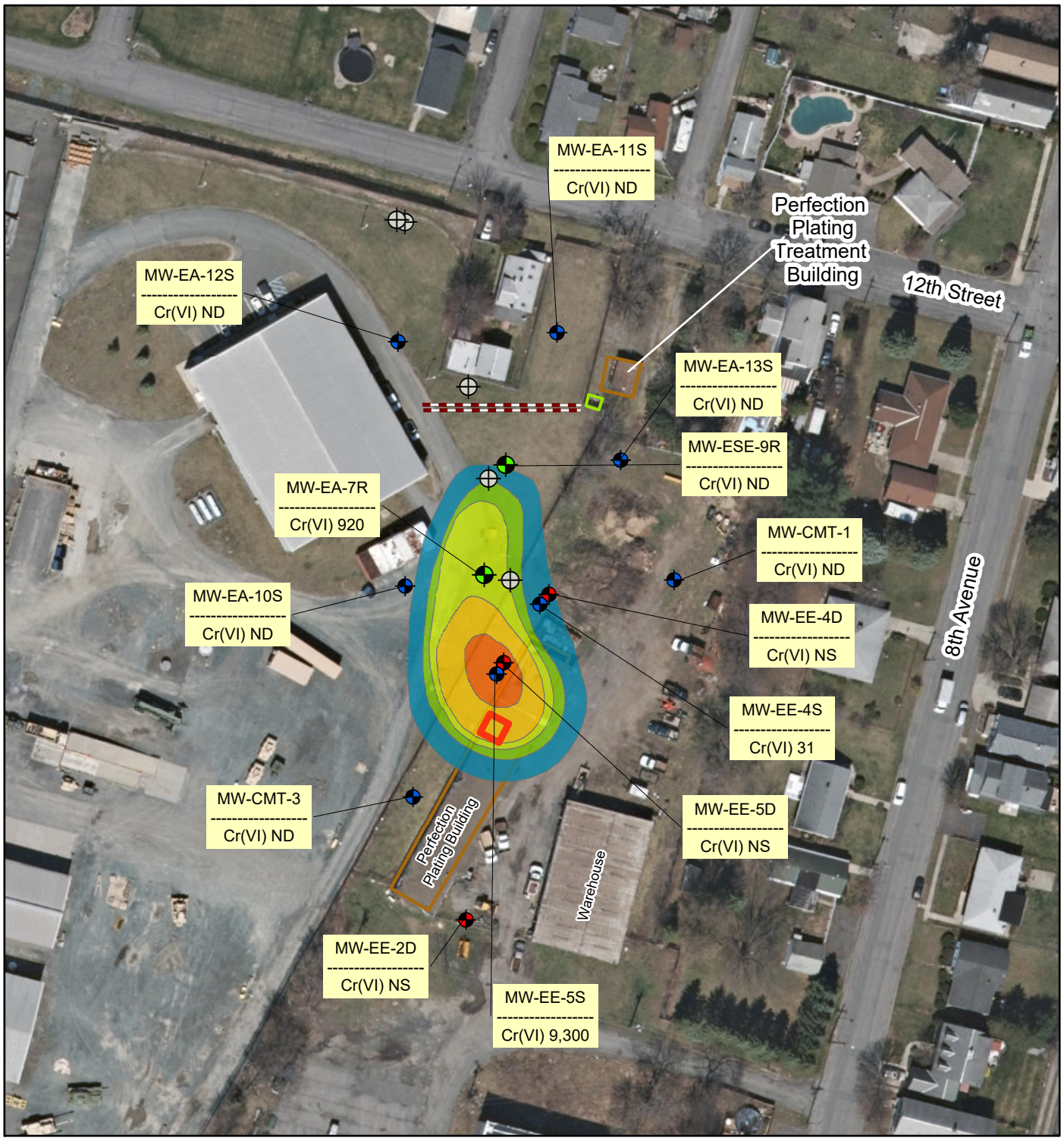

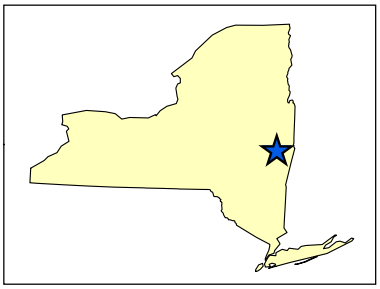

0 25 50 100
Feet

1 inch = 100 feet

N

Legend

- Buildings
- Collection Trench
- Sump Location
- Former Excavation Area

Hexavalent Chromium Concentrations
October 2019

- 1-50 µg/L
- 50-100 µg/L
- 100-500 µg/L
- 500-1,000 µg/L
- 1,000-5,000 µg/L
- 5,000-10,000 µg/L
- 10,000-15,000 µg/L

Figure 3
Hexavalent Chromium February 2020 Overburden Isopleth Map
Perfection Plating Site (4-01-037)
Watervliet, New York

Map Date: 4/10/2020
Projection: State Plane NAD83 New York East (feet)

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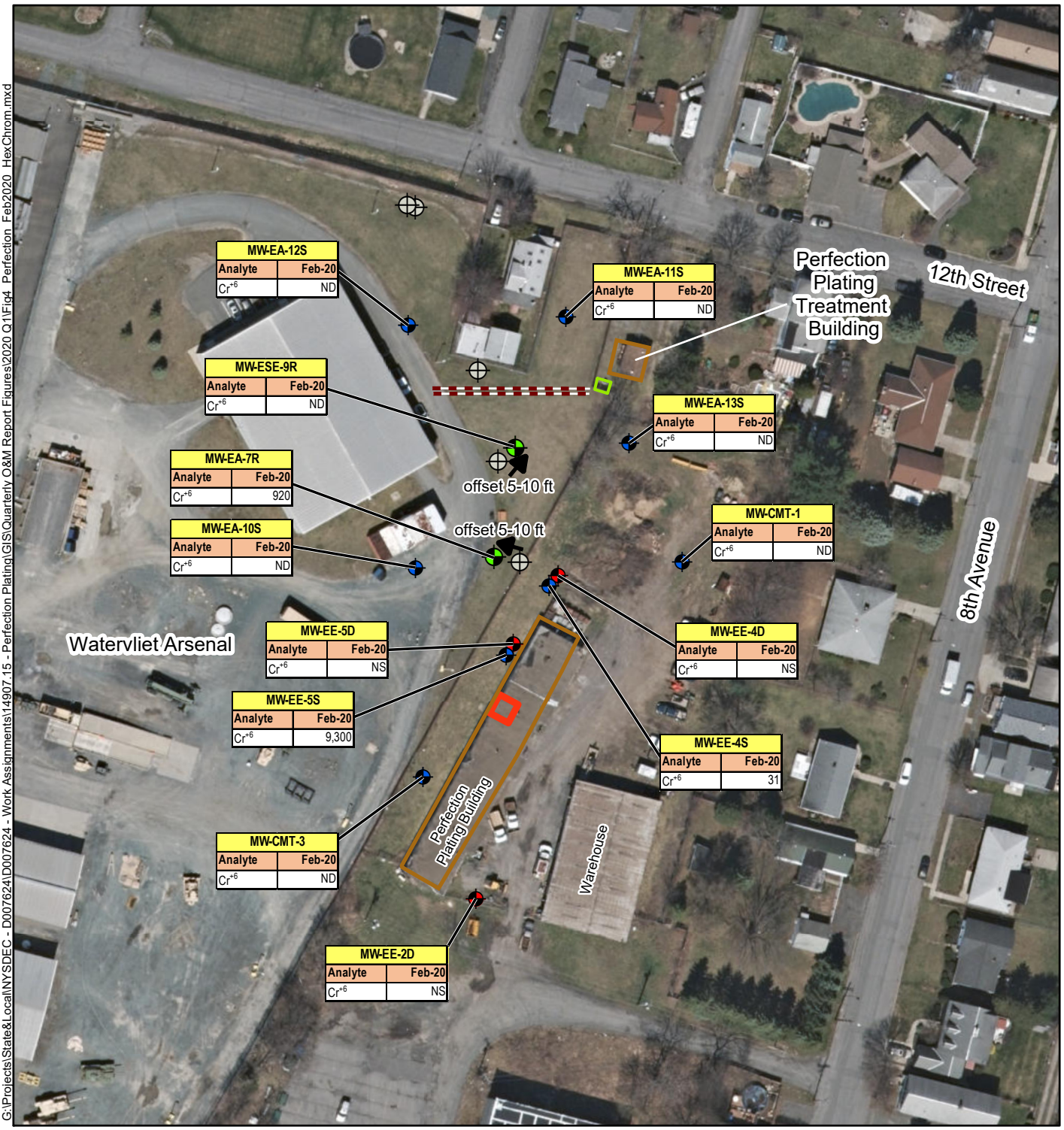
EA



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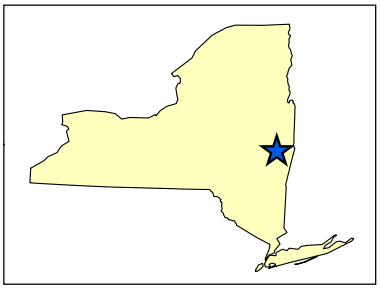

0 25 50 100
Feet

1 inch = 100 feet

N

Legend

- Buildings
- Overburden Monitoring Well
- Bedrock Monitoring Well
- Replacement Monitoring Well
- Abandoned Well, No Need To Replace
- Collection Trench
- Sump Location
- Former Excavation Area

Figure 4
Hexavalent Chromium Concentrations
February 2020
Perfection Plating Site (4-01-037)
Watervliet, New York

Map Date: 4/10/2020
Projection: State Plane NAD83 New York East (feet)

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EA

Tables

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Table 1 Treatment System Analytical Results (January 2020)

Parameters List	System Influent	System Effluent	Effluent Limitations and Monitoring Requirements
INDUCTIVELY COUPLED PLASMA METALS E200.7 (mg/L)			
Arsenic	<0.0056	<0.0056	0.15
Cadmium	<0.00050	<0.00050	0.03
Chromium	0.55	0.52	0.5
Copper	<0.0016	0.0029 J	0.5
Iron	0.073	1.5	4.0
Lead	<0.0030	<0.0030	0.4
Nickel	0.0062 J	0.011	1.3
Selenium	<0.0087	<0.0087	0.07
Zinc	0.0036 J	0.0023 J	0.4
CYANIDE AMENABLE TO CHLORINATION SM 4500CN_G (mg/L)			
Cyanide Non-Amenable	<0.0050	<0.0050	1.1
HEXAVALENT CHROMIUM SM3500-CR D (mg/L)			
Hexavalent Chromium	0.50	<0.0050	2.7
TOTAL SUSPENDED SOLIDS E160.2 (mg/L)			
Total suspended solids	<4.0	<4.0	50

NOTES:
MDL = Method detection limit
RL = Reporting limit
mg/L = Milligram(s) per liter
J = Result is less than RL but greater than or equal to the MDL and the concentration is an approximate value
B = Compound was found in the blank and sample
All analytical data results provided by Test America Laboratories.

Table 1 Treatment System Analytical Results (February 2020)

Parameters List	System Influent	System Effluent	Effluent Limitations and Monitoring Requirements
INDUCTIVELY COUPLED PLASMA METALS E200.7 (mg/L)			
Arsenic	<0.0056	<0.0056	0.15
Cadmium	<0.00050	<0.00050	0.03
Chromium	0.62	0.16	0.5
Copper	0.0029 J	<0.0016	0.5
Iron	0.024 J	<0.019	4.0
Lead	<0.0030	<0.0030	0.4
Nickel	0.0064 J	0.0067 J	1.3
Selenium	<0.0087	<0.0087	0.07
Zinc	0.0063 J	0.0063 J	0.4
CYANIDE AMENABLE TO CHLORINATION SM 4500CN_G (mg/L)			
Cyanide Non-Amenable	<0.0050	0.0087 J	1.1
HEXAVALENT CHROMIUM SM3500-CR D (mg/L)			
Hexavalent Chromium	0.61	<0.0050	2.7
TOTAL SUSPENDED SOLIDS E160.2 (mg/L)			
Total suspended solids	<4.0	<4.0	50

NOTES:
MDL = Method detection limit
RL = Reporting Limit
mg/L = Milligram(s) per liter
J = Result is less than RL but greater than or equal to the MDL and the concentration is an approximate value
B = Compound was found in the blank and sample
All analytical data results provided by Test America Laboratories.

Table 1 Treatment System Analytical Results (March 2020)

Parameters List	System Influent	System Effluent	Effluent Limitations and Monitoring Requirements
INDUCTIVELY COUPLED PLASMA METALS E200.7 (mg/L)			
Arsenic	<0.0056	<0.0056	0.15
Cadmium	<0.00050	<0.00050	0.03
Chromium	0.62	0.19	0.5
Copper	0.0017 J	<0.0016	0.5
Iron	<0.019	<0.019	4.0
Lead	<0.0030	<0.0030	0.4
Nickel	0.0066 J	0.0065 J	1.3
Selenium	<0.0087	<0.0087	0.07
Zinc	0.0075 J B	0.0064 J B	0.4
CYANIDE AMENABLE TO CHLORINATION SM 4500CN_G (mg/L)			
Cyanide Non-Amenable	0.0130	0.0130	1.1
HEXAVALENT CHROMIUM SM3500-CR D (mg/L)			
Hexavalent Chromium	0.39	<0.0050	2.7
TOTAL SUSPENDED SOLIDS E160.2 (mg/L)			
Total suspended solids	<4.0	<4.0	50

NOTES:
MDL = Method detection limit
RL = Reporting Limit
mg/L = Milligram(s) per liter
J = Result is less than RL but greater than or equal to the MDL and the concentration is an approximate value
B = Compound was found in the blank and sample
All analytical data results provided by Test America Laboratories.

Table 2 Daily Mass Removal Results (January 2020)

Parameter	Discharge Limitations		Influent		Effluent		Amount Removed
	Daily Max[a]		October 2019[b]				
	lb/day	mg/L	lb/day	mg/L	lb/day	mg/L	lb/day
INDUCTIVELY COUPLED PLASMA METALS E200.7							
Arsenic	0.0029	0.15	ND	<0.0056	ND	<0.0056	ND
Cadmium	0.0006	0.03	ND	<0.00050	ND	<0.00050	ND
Chromium	0.0098	0.5	0.0108	0.55	0.0102	0.52	0.0006
Copper	0.0098	0.5	ND	<0.0016	0.0001	0.0029	-0.0029
Iron	0.0782	4.0	0.0014	0.073	0.0293	1.500	-0.0279
Lead	0.0078	0.4	ND	<0.0030	ND	<0.0030	ND
Nickel	0.0254	1.3	0.00012	0.0062	0.0002	0.0110	-0.00009
Selenium	0.0014	0.07	ND	<0.0087	ND	<0.0087	ND
Zinc	0.0078	0.4	0.00007	0.0036	0.00004	0.0023	0.00007
CYANIDE AMENABLE TO CHLORINATION SM 4500CN_G							
Cyanide Non-Amenable	0.0215	1.1	ND	<0.0050	ND	<0.0050	ND
HEXAVALENT CHROMIUM SM3500-CR D							
Hexavalent Chromium	0.0528	2.7	0.0098	0.500	ND	<0.0050	0.00978
TOTAL SUSPENDED SOLIDS E160.2							
Total suspended solids	1.0	50.0	ND	<4.0	ND	<4.0	ND
	GPD				**GPD**		
Total Flow	2345				2345		
	MGD				**MGD**		
	0.0023				0.0023		

(a) Daily Maximum of Effluent Limitations and Monitoring Requirements.

(b) Average system flowrate during the period (October to December, 2019) was 3141 gallons per day.

NOTES:

lb/day = Pound(s) per day

mg/L = Milligram(s) per liter

ND = Not detected

GPD = Gallon(s) per day

MGD = Million(s) of gallon(s) per day

Table 2 Daily Mass Removal Results (February 2020)

Parameter	Discharge Limitations		Influent		Effluent		Amount Removed
	Daily Max[(a)]		November 2019[(b)]				
	lb/day	mg/L	lb/day	mg/L	lb/day	mg/L	lb/day
INDUCTIVELY COUPLED PLASMA METALS E200.7							
Arsenic	0.0029	0.15	ND	<0.0056	ND	<0.0056	ND
Cadmium	0.0006	0.03	ND	<0.00050	ND	<0.00050	ND
Chromium	0.0098	0.5	0.0121	0.62	0.0031	0.16	0.0090
Copper	0.0098	0.5	0.00006	0.0029	ND	<0.0016	0.00006
Iron	0.0782	4.0	0.00005	0.0024	ND	<0.019	0.00005
Lead	0.0078	0.4	ND	<0.0030	ND	<0.0030	ND
Nickel	0.0254	1.3	0.00013	0.0064	0.00013	0.0067	-0.00001
Selenium	0.0014	0.07	ND	<0.0087	ND	<0.0087	ND
Zinc	0.0078	0.4	0.00012	0.0063	0.00012	0.0063	0.00000
CYANIDE AMENABLE TO CHLORINATION SM 4500CN_G							
Cyanide Non-Amenable	0.0215	1.1	ND	<0.0050	0.0002	0.0087	-0.0002
HEXAVALENT CHROMIUM SM3500-CR D							
Hexavalent Chromium	0.0528	2.7	0.0119	0.61	ND	<0.005	0.0119
TOTAL SUSPENDED SOLIDS E160.2							
Total suspended solids	1.0	50.0	ND	<4.0	ND	<4.0	ND
	GPD				**GPD**		
Total Flow	2345				2345		
	MGD				**MGD**		
	0.0023				0.0023		

(a) Daily Maximum of Effluent Limitations and Monitoring Requirements.

(b) Average system flowrate during the period (October to December, 2019) was 3141 gallons per day.

NOTES:

lb/day = Pound(s) per day

mg/L = Milligram(s) per liter

ND = Not detected

GPD = Gallon(s) per day

MGD = Million(s) of gallon(s) per day

Table 2 Daily Mass Removal Results (March 2020)

Parameter	Discharge Limitations		Influent		Effluent		Amount Removed
	Daily Max[a]		November 2019[b]				
	lb/day	mg/L	lb/day	mg/L	lb/day	mg/L	lb/day
INDUCTIVELY COUPLED PLASMA METALS E200.7							
Arsenic	0.0029	0.15	ND	<0.0056	ND	<0.0056	ND
Cadmium	0.0006	0.03	ND	<0.00050	ND	<0.00050	ND
Chromium	0.0098	0.5	0.0121	0.62	0.0037	0.19	0.0084
Copper	0.0098	0.5	0.00003	0.0017	ND	<0.0016	0.00003
Iron	0.0782	4.0	ND	<0.019	ND	<0.019	ND
Lead	0.0078	0.4	ND	<0.0030	ND	<0.0030	ND
Nickel	0.0254	1.3	0.000129	0.0066	0.000127	0.0065	0.000002
Selenium	0.0014	0.07	ND	<0.0087	ND	<0.0087	ND
Zinc	0.0078	0.4	0.00015	0.0075	0.00013	0.0064	0.00002
CYANIDE AMENABLE TO CHLORINATION SM 4500CN_G							
Cyanide Non-Amenable	0.0215	1.1	0.0003	0.013	0.0003	0.013	0.0003
HEXAVALENT CHROMIUM SM3500-CR D							
Hexavalent Chromium	0.0528	2.7	0.0076	0.39	ND	<0.005	0.0076
TOTAL SUSPENDED SOLIDS E160.2							
Total suspended solids	1.0	50.0	ND	<4.0	ND	<4.0	ND
	GPD				**GPD**		
Total Flow	2345				2345		
	MGD				**MGD**		
	0.0023				0.0023		

(a) Daily Maximum of Effluent Limitations and Monitoring Requirements.

(b) Average system flowrate during the period (October to December, 2019) was 3141 gallons per day.

NOTES:

lb/day = Pound(s) per day

mg/L = Milligram(s) per liter

ND = Not detected

GPD = Gallon(s) per day

MGD = Million(s) of gallon(s) per day

Table 3 Hexavalent Chromium Groundwater Analytical Results (February 2020)

Parameters List	MW-CMT-1	MW-CMT-3	MW-EE-4S	MW-EE-4D	MW-EE-5S	MW-EE-5D	MW-EE-6S	MW-EE-6D	MW-EA-7R*	NYSDEC AWQS Values (µg/L)
Chromium (Total, µg/L)	ND	ND	**60**	NS	**7,800**	NS	NS	NS	**980**	50
Cr (Hexavalent, µg/L)	ND	ND	31	NS	**9,300**	NS	NS	NS	**920**	50

Parameters List	MW-EA-8	MW-ESE-9R*	MW-EA-10S	MW-EA-11S	MW-EA-12S	MW-EA-13S	MW-EE-2D	DUP-1019[(a)]	NYSDEC AWQS Values (µg/L)
Chromium (Total, µg/L)	NS	**74**	**49**	**630**	**82**	ND	NS	**8,200**	50
Cr (Hexavalent, µg/L)	NS	ND	ND	ND	ND	ND	NS	**9,400**	50

*= MW-EA-7R and MW-ESE-9R were installed 08/15/2017; they replaced MW-EA-7 and MW-ESE-9, two wells abandoned by the Watervliet contractor.
(a) Duplicate Sample collected from MW-EE-5S
(b) MS/MSD collected at MW-EA-13S.
NOTES:
AWQS = Ambient Water Quality Standard
NYSDEC = New State Department of Environmental Conservation
µg/L = Microgram(s) per liter
ND = The analyte was analyzed for, but was not detected above the sample reporting limit.
NS = Not sampled; EE-6S, EE-6D, and MW-EA-8 were abandoned by Watervliet contractor
LC = Lost cooler; 1 cooler was lost during shipment
All analytical data results provided by Hampton-Clarke, Inc.
Bold values indicate that the analyte was detected above the NYSDEC AWQS.

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Table 4 Historical Hexavalent Chromium Groundwater Analytical Results

Date	Overburden Monitoring Wells												Bedrock Monitoring Wells				NYSDEC
	MW-EE-4S	MW-EE-5S	MW-EE-6S	MW-EA-7R(c)	MW-EA-8	MW-CMT-1	MW-ESE-9R(c)	MW-CMT-3	MW-EA-10S	MW-EA-11S	MW-EA-12S	MW-EA-13S	MW-EE-4D	MW-EE-5D	MW-EE-6D	MW-EE-2D	AWQS Values
21-May-03	ND	**40.8**	ND	**0.975**	**0.099**	-	-	-	-	-	-	-	0.008	ND	ND	-	0.05
21-Aug-03	**0.06**	**33.7**	0.046	**1.08**	ND	-	-	-	-	-	-	-	**0.129**	ND	0.023	-	0.05
4-Dec-03	0.041	**48.9**	0.018	**0.744**	0.041	-	-	-	-	-	-	-	ND	0.004	ND	-	0.05
24-Feb-03	0.018	**33.4**	ND	**0.857**	ND	-	-	-	-	-	-	-	ND	ND	ND	-	0.05
12-May-04	0.049	**37.4**	ND	**0.881**	0.049	-	-	-	-	-	-	-	0.013	ND	ND	-	0.05
2-Sep-04	**0.735**	**32.2**	ND	**1.04**	ND	-	-	-	-	-	-	-	0.016	ND	**0.075**	-	0.05
2-Dec-04	**0.06**	**11.8**	ND	**0.348**	ND	-	-	-	-	-	-	-	0.007	0.034	ND	-	0.05
3-Feb-05	**0.083**	**61.2**	ND	**0.83**	ND	-	-	-	-	-	-	-	ND	0.021	ND	-	0.05
18-May-05	0.029	**35**	ND	**0.63**	ND	-	-	-	-	-	-	-	ND	0.031	ND	-	0.05
3-Aug-05	0.041	**28.7**	ND	**0.62**	ND	-	-	-	-	-	-	-	ND	0.037	ND	-	0.05
29-Nov-05	**0.052**	**33.6**	ND	**0.24**	ND	-	-	-	-	-	-	-	ND	ND	ND	-	0.05
9-Feb-06	**0.11**	**24.9**	ND	**0.35**	ND	-	-	-	-	-	-	-	ND	ND	ND	-	0.05
8-Apr-08	**0.086**	**15**	ND	**0.34**	0.049	ND	**0.51**[(a)]	ND	-	-	-	-	ND	ND	ND	ND	0.05
21-Jul-09	0.049	**19**	ND	**0.52**	ND	ND	**1.3**	ND	-	-	-	-	ND	ND	ND	ND	0.05
12-Oct-10	**0.062**	**17**	ND	**1**	ND	ND	**0.4**	ND	-	-	-	-	ND	ND	ND	ND	0.05
1-Mar-12	0.039	**17**	ND	**0.29**	ND	ND	**3.2**	ND	-	-	-	-	ND	ND	ND	ND	0.05
11/12-Jun-13	0.042	**13**	ND	**0.34**	**0.15**	ND	**3.7**	ND	-	-	-	-	ND	ND	ND	ND	0.05
30-Aug-13	-	-	-	-	**3.2**[(b)]	-	-	-	-	-	-	-	-	-	-	-	0.05
29-Oct-13	0.029	**16**	ND	**0.37**	ND	ND	-	-	-	-	-	-	-	-	-	-	0.05
15-Jan-14	0.045	**13**	ND	**0.14**	ND	ND	**2.7**	ND	-	-	-	-	-	-	-	-	0.05
29-Apr-14	**0.061**	**24**	ND	**0.45**	ND	ND	**2.8**	ND	ND	0.043	ND	ND	-	-	-	-	0.05
29-Jul-14	0.045	**15**	ND	**0.43**	ND	ND	**0.48**	ND	ND	**0.098**	ND	ND	-	-	-	-	0.05
2-Dec-14	0.045	**16**	ND	**0.44**	ND	ND	**2.6**	ND	ND	**0.31**	ND	ND	ND	ND	ND	ND	0.05
7-Apr-15	0.026	**12**	ND	**0.22**	ND	ND	ND	ND	ND	ND	ND	ND	-	-	-	-	0.05
7-Jul-15	0.031	*	ND	**0.41**	**	ND	**1.7**	ND	ND	**0.1**	ND	ND	-	-	-	-	0.05
8-Oct-15	**0.052**	**25**	ND	**0.42**	ND	ND	**3.1**	ND	ND	**0.26**	ND	ND	-	-	-	-	0.05
27-Jan-16	0.036	**12**	ND	ND	ND	ND	**2.9**	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.05
18-Apr-16	0.035	**12**	ND	**0.33**	ND	ND	**2.4**	ND	ND	**0.22**	ND	ND	-	-	-	-	0.05
16-Aug-16	ND	**12**	ND	**0.33**	ND	ND	**2.6**	ND	ND	**0.52**	ND	ND	-	-	-	-	0.05
9-Nov-16	0.043	**14**	NS	NS	NS	ND	NS	ND	ND	ND	ND	ND	-	-	-	-	0.05
27-Feb-17	0.028	**11**	NS	NS	NS	ND	NS	ND	ND	**0.23**	ND	ND	ND	ND	NS	ND	0.05
26-Jun-17	0.045	**8.3**	NS	NS	NS	ND	NS	ND	ND	**0.41**	ND	ND	-	-	-	-	0.05
13-Sep-17	0.034	**8.2**	NS	**1.8**	NS	ND	ND	ND	ND	ND	ND	ND	-	-	-	-	0.05
19-Dec-17	0.033	**9.3**	NS	**1.3**	NS	ND	**0.21**	ND	ND	ND	ND	ND	-	-	-	-	0.05
12-Feb-18	0.034	**	NS	**1.4**	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND	0.05
16-Aug-18	**0.053**	**22**	NS	**1.8**	NS	ND	**0.22**	ND	ND	**0.33**	ND	ND	-	-	-	-	0.05
4-Jun-19	ND	**8.8**	NS	**0.75**	NS	ND	**0.14**	ND	ND	ND	ND	ND	ND	ND	NS	ND	0.05
15-Jul-19	0.025	**4.7**	NS	**0.78**	NS	ND	ND	ND	ND	**0.19**	ND	ND	NS	NS	NS	NS	0.05
1-Oct-19	0.034	**8.5**	NS	**0.89**	NS	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	0.05
19-Feb-20	0.031	**9.3**	NS	**0.92**	NS	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	0.05

All samples reported in (mg/L).
* = It is believed that MW-EE-5D was inadvertently sampled instead of MW-EE-5S.
** = Sample container was broken during shipment and no results are available.
***= Sample taken 28-Feb-17
(a) Sample was collected on 14 January 2009.
(b) Grab sample collected to confirm June 2013 results. Five gallons of water was removed from the monitoring well prior to collecting the sample. Sample was analyzed by Test America Laboratories.
(c) MW-EA-7R and MW-ESE-9R were installed 08/15/2017 to replace two (2) of the five (5) wells decommissioned by the contractor working for the Watervliet property.
AWQS = Ambient Water Quality Standard (mg/L)
ND = Non detect
NS = Not sampled
NYSDEC = New State Department of Environmental Conservation
Bold values indicate that the analyte was detected greater than the NYSDEC AWQS.

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Appendix A

Treatment System Monitoring Logs

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PERFECTION PLATING **Treatment System Operational / Inspection Checklist**

Month Jan / 'Year

Item Description	Required Frequency	Unit	Date of Inspection 1/21/2020	1/24/20	1/28/20	1/30/20
Effluent sample collected	Weekly	Yes / No	Yes	NO	NO	NO
Influent sample collected	Monthly	Yes / No	Yes	NO	NO	NO
Flow Rate (gallons per minute)	Weekly	gpm	3.43	3.59	2.94	3.29
Total Volume Treated (gallons)	Weekly	gal	423662	436584	454811	466835
Effluent pH	Weekly	SI	6.71	6.87	6.73	6.67
Specific conductivity reading (milliseconds/centimeter)	Weekly	ms/cm	—	—	—	—
Performed required equipment maintenance (Note below	As per Manf.	Yes / No	Yes	Yes	Yes	Yes
Note spare parts or supplies needed	Weekly	Yes / No	Yes	Yes	Yes	Yes
Second ion exchange drum effluent sample collected	Monthly	Yes / No	NO	NO	NO	NO
Empty Sump pump	Weekly	Yes / No	NO	NO	NO	NO
Replace ion removal filter fabric and filter sludge	As needed	Yes / No	NO	NO	NO	NO
Replace ion exchange vessels/ make valve adjustments	As needed	Yes / No	NO	NO	NO	NO
Inspected catch basin for sediment	As needed	Yes / No	Yes lok	Yes lok	Yes lok	Yes lok
Inspected collection sump and record condition	Monthly	Yes / No	Yes lok	Yes lok	Yes lok	Yes lok
Tested eye wash station	Semi-annual	Yes / No	NO	NO	NO	NO
Tested fire extinguisher	Yearly	Yes / No	NO	NO	NO	NO
Replenished first aid kit supplies	After use	Yes / No	NO	NO	NO	NO
Tested the backflow preventer	Yearly	Yes / No	NO	NO	NO	NO
Reported backflow preventer test results to Latham Water district	Yearly	Yes / No	NO	NO	NO	NO

Comments: Note Treatment System Equipment and Building Conditions.

Date 1/21/20 System down on Arrival, Install New Acid Injection Pump and Probe, Calibrate and Program Pump. Restart System about 10 Am and make Adjustments, Let System Run for a while and take Samples at 1 pm for Influent Eff at 1:10. System Running ok on departure

Date 1/24/20 System Running on Arrival, take System Readings. Top off Acid Barrel and Perform System Maint. System Running ok on departure.

Date 1/28/20 System Running on Arrival, take System Readings. Top off Acid Barrel and Perform System Maint. System Running ok on departure.

Date 1/30/20 System Running on Arrival, take System Readings. Top off Acid Barrel, and Peform System Maint. System Running ok on departure.

Date____

PERFECTION PLATING **Treatment System Operational / Inspection Checklist**

Month Feb / March Year 20

Item Description	Required Frequency	Unit	Date of Inspection 2/26/20	2/28/20			
Effluent sample collected	Weekly	Yes / No	NO	NO			
Influent sample collected	Monthly	Yes / No	NO	NO			
Flow Rate (gallons per minute)	Weekly	gpm	3.11	2.89			
Total Volume Treated (gallons)	Weekly	gal	572988	581785			
Effluent pH	Weekly	SI	6.91	6.84			
Specific conductivity reading (milliseconds/centimeter)	Weekly	ms/cm	—	—			
Performed required equipment maintenance (Note below	As per Manf.	Yes / No	Yes	Yes			
Note spare parts or supplies needed	Weekly	Yes / No	Yes	Yes			
Second ion exchange drum effluent sample collected	Monthly	Yes / No	NO	NO			
Empty Sump pump	Weekly	Yes / No	NO	NO			
Replace ion removal filter fabric and filter sludge	As needed	Yes / No	NO	Yes			
Replace ion exchange vessels/ make valve adjustments	As needed	Yes / No	NO	NO			
Inspected catch basin for sediment	As needed	Yes / No	Yes | OK	Yes | OK			
Inspected collection sump and record condition	Monthly	Yes / No	Yes | OK	Yes | OK			
Tested eye wash station	Semi-annual	Yes / No	NO	NO			
Tested fire extinguisher	Yearly	Yes / No	NO	NO			
Replenished first aid kit supplies	After use	Yes / No	NO	NO			
Tested the backflow preventer	Yearly	Yes / No	NO	NO			
Reported backflow preventer test results to Latham Water district	Yearly	Yes / No	NO	NO			

Comments: Note Treatment System Equipment and Building Conditions.

Date 2/26/20 System Running on Arrival, take System Readings. Top off Acid Barrel and Perform System Maint. System Running OK on departure.

Date 2/28/20 System Running on Arrival, take System Readings. Top off Acid Barrel and Perform System Maint. Changed out Iron Filters. System Running OK on departure.

Date_____

Date_____

Date_____

PERFECTION PLATING **Treatment System Operational / Inspection Checklist**

Month March Year 20

Item Description	Required Frequency	Unit	Date of Inspection 3/17/20	3/20/20	3/24/20	3/27/20	3/31/20
Effluent sample collected	Weekly	Yes / No	NO	NO	NO	No	No
Influent sample collected	Monthly	Yes / No	NO	NO	NO	No	No
Flow Rate (gallons per minute)	Weekly	gpm	3.18	3.32	3.21	2.51	2.53
Total Volume Treated (gallons)	Weekly	gal	655370	665163	683475	694866	708770
Effluent pH	Weekly	SI	6.90	6.91	6.93	6.75	6.85
Specific conductivity reading (milliseconds/centimeter)	Weekly	ms/cm	—	—	—	—	—
Performed required equipment maintenance (Note below	As per Manf.	Yes / No	Yes	Yes	Yes	Yes	Yes
Note spare parts or supplies needed	Weekly	Yes / No	Yes	Yes	Yes	Yes	Yes
Second ion exchange drum effluent sample collected	Monthly	Yes / No	NO	NO	NO	No	No
Empty Sump pump	Weekly	Yes / No	NO	NO	NO	No	No
Replace ion removal filter fabric and filter sludge	As needed	Yes / No	NO	NO	NO	No	No
Replace ion exchange vessels/ make valve adjustments	As needed	Yes / No	NO	NO	No	No	No
Inspected catch basin for sediment	As needed	Yes / No	Yes/OK	Yes/OK	yes/ok	yes/ok	yes/ok
Inspected collection sump and record condition	Monthly	Yes / No	Yes/OK	Yes/OK	yes/ok	yes/ok	yes/ok
Tested eye wash station	Semi-annual	Yes / No	NO	NO	No	No	No
Tested fire extinguisher	Yearly	Yes / No	NO	NO	NO	No	No
Replenished first aid kit supplies	After use	Yes / No	NO	NO	NO	No	No
Tested the backflow preventer	Yearly	Yes / No	NO	NO	NO	No	No
Reported backflow preventer test results to Latham Water district	Yearly	Yes / No	NO	NO	No	No	No

Comments: Note Treatment System Equipment and Building Conditions.

Date 3/17/20 System Running on Arrival, take System Readings and top off Acid Barrel, Perform System Maint, System Running o/k on departure

Date 3/20/20 System Running on Arrival, take System Readings. Top off Acid Barrel, and Perform System Maint. System Running o/k on departure.

Date 3/24/20 System just shut down prior to arrival on low effluent pH. Top off acid and alkali barrels. Restart system and collect system readings, perform system maintenance.

Date 3/27/20 System running on arrival. Take system readings and top off acid barrel, perform system maintenance. System running on departure.

Date 3/31/20 System running on arrival. Take system readings. Top off acid barrel and perform system maintenance. System running on departure.

PERFECTION PLATING Treatment System Operational / Inspection Checklist

Month _____ Year _____

Item Description	Required Frequency	Unit	Date of Inspection 4/3/20				
Effluent sample collected	Weekly	Yes / No	NO				
Influent sample collected	Monthly	Yes / No	NO				
Flow Rate (gallons per minute)	Weekly	gpm	2.78				
Total Volume Treated (gallons)	Weekly	gal	719599				
Effluent pH	Weekly	SI	7.11				
Specific conductivity reading (milliseconds/centimeter)	Weekly	ms/cm	–				
Performed required equipment maintenance (Note below	As per Manf.	Yes / No	yes				
Note spare parts or supplies needed	Weekly	Yes / No	yes				
Second ion exchange drum effluent sample collected	Monthly	Yes / No	NO				
Empty Sump pump	Weekly	Yes / No	NO				
Replace ion removal filter fabric and filter sludge	As needed	Yes / No	NO				
Replace ion exchange vessels/ make valve adjustments	As needed	Yes / No	NO				
Inspected catch basin for sediment	As needed	Yes / No	yes/ok				
Inspected collection sump and record condition	Monthly	Yes / No	yes/ok				
Tested eye wash station	Semi-annual	Yes / No	NO				
Tested fire extinguisher	Yearly	Yes / No	NO				
Replenished first aid kit supplies	After use	Yes / No	NO				
Tested the backflow preventer	Yearly	Yes / No	NO				
Reported backflow preventer test results to Latham Water district	Yearly	Yes / No	NO				

Comments: Note Treatment System Equipment and Building Conditions.

Date 4/3/20 System running on arrival. Take System readings, Top off acid barrel and perform system maintenance. System running ok on departure

Date_____

Date_____

Date_____

Date_____

Appendix B

Treatment System Laboratory Analytical Data, Form Is, and Chain-of-Custody Forms

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eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

Laboratory Job ID: 480-165391-1
Client Project/Site: Perfection Plating #401037

For:
New York State D.E.C.
625 Broadway 9th Floor
Albany, New York 12233-7258

Attn: George Momberger

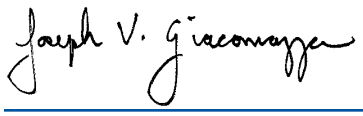
Joseph V. Giacomazza

Authorized for release by:
2/5/2020 8:52:00 AM
Joe Giacomazza, Project Management Assistant II
joe.giacomazza@testamericainc.com

Designee for

Judy Stone, Senior Project Manager
(484)685-0868
judy.stone@testamericainc.com

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed within the body of this report. Release of the data contained in this sample data package and in the electronic data deliverable has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.



Joe Giacomazza
Project Management Assistant II
2/5/2020 8:52:00 AM

Table of Contents

Definitions/Glossary

Client: New York State D.E.C.
Job ID: 480-165391-1
Project/Site: Perfection Plating #401037

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
H	Sample was prepped or analyzed beyond the specified holding time

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: New York State D.E.C.
Project/Site: Perfection Plating #401037

Job ID: 480-165391-1

Job ID: 480-165391-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative
480-165391-1

Comments
No additional comments.

Receipt
The samples were received on 1/22/2020 8:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.0º C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method SM 3500 CR B: Reanalysis of the following sample was performed outside of the analytical holding time due to MS/MSD not diluted in previous batch : EFFLUENT (480-165391-2). Both set of data are reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Client: New York State D.E.C.
Job ID: 480-165391-1
Project/Site: Perfection Plating #401037

Client Sample ID: INFLUENT
Lab Sample ID: 480-165391-1
Date Collected: 01/21/20 13:00
Matrix: Water
Date Received: 01/22/20 08:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		01/23/20 07:15	01/23/20 11:39	1
Cadmium	ND		0.0020	0.00050	mg/L		01/23/20 07:15	01/23/20 11:39	1
Chromium	**0.55**		0.0040	0.0010	mg/L		01/23/20 07:15	01/23/20 11:39	1
Copper	ND		0.010	0.0016	mg/L		01/23/20 07:15	01/23/20 11:39	1
Iron	**0.073**		0.050	0.019	mg/L		01/23/20 07:15	01/23/20 11:39	1
Lead	ND		0.010	0.0030	mg/L		01/23/20 07:15	01/23/20 11:39	1
Nickel	**0.0062**	**J**	0.010	0.0013	mg/L		01/23/20 07:15	01/23/20 11:39	1
Selenium	ND		0.025	0.0087	mg/L		01/23/20 07:15	01/23/20 11:39	1
Zinc	**0.0036**	**J**	0.010	0.0015	mg/L		01/23/20 07:15	01/23/20 11:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	**0.50**		0.020	0.010	mg/L			01/22/20 11:28	2
Cyanide, Non-amenable	ND		0.010	0.0050	mg/L		02/04/20 12:30	02/04/20 15:45	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	4.0	mg/L			01/22/20 13:47	1

Client: New York State D.E.C.
Job ID: 480-165391-1
Project/Site: Perfection Plating #401037

Client Sample ID: EFFLUENT
Lab Sample ID: 480-165391-2
Date Collected: 01/21/20 13:10
Matrix: Water
Date Received: 01/22/20 08:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		01/23/20 07:15	01/23/20 11:43	1
Cadmium	ND		0.0020	0.00050	mg/L		01/23/20 07:15	01/23/20 11:43	1
Chromium	**0.52**		0.0040	0.0010	mg/L		01/23/20 07:15	01/23/20 11:43	1
Copper	**0.0029**	**J**	0.010	0.0016	mg/L		01/23/20 07:15	01/23/20 11:43	1
Iron	**1.5**		0.050	0.019	mg/L		01/23/20 07:15	01/23/20 11:43	1
Lead	ND		0.010	0.0030	mg/L		01/23/20 07:15	01/23/20 11:43	1
Nickel	**0.011**		0.010	0.0013	mg/L		01/23/20 07:15	01/23/20 11:43	1
Selenium	ND		0.025	0.0087	mg/L		01/23/20 07:15	01/23/20 11:43	1
Zinc	**0.0023**	**J**	0.010	0.0015	mg/L		01/23/20 07:15	01/23/20 11:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND	F1	0.010	0.0050	mg/L			01/22/20 11:28	1
Chromium, hexavalent	ND	H F1	0.050	0.025	mg/L			01/23/20 15:40	5
Cyanide, Non-amenable	ND		0.010	0.0050	mg/L		02/04/20 12:30	02/04/20 15:47	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	4.0	mg/L			01/22/20 13:47	1

Lab Chronicle

Client: New York State D.E.C.
Job ID: 480-165391-1
Project/Site: Perfection Plating #401037

Client Sample ID: INFLUENT
Lab Sample ID: 480-165391-1

Date Collected: 01/21/20 13:00
Matrix: Water
Date Received: 01/22/20 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			514572	01/23/20 07:15	NSW	TAL BUF
Total/NA	Analysis	200.7 Rev 4.4		1	514809	01/23/20 11:39	AMH	TAL BUF
Total/NA	Analysis	SM 2540D		1	514536	01/22/20 13:47	CSS	TAL BUF
Total/NA	Analysis	SM 3500 CR B		2	514596	01/22/20 11:28	E1T	TAL BUF
Total/NA	Prep	SM 4500 CN C			516131	02/04/20 12:30	JRF	TAL BUF
Total/NA	Analysis	SM 4500 CN G		1	516184	02/04/20 15:45	CRK	TAL BUF

Client Sample ID: EFFLUENT
Lab Sample ID: 480-165391-2

Date Collected: 01/21/20 13:10
Matrix: Water
Date Received: 01/22/20 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			514572	01/23/20 07:15	NSW	TAL BUF
Total/NA	Analysis	200.7 Rev 4.4		1	514809	01/23/20 11:43	AMH	TAL BUF
Total/NA	Analysis	SM 2540D		1	514536	01/22/20 13:47	CSS	TAL BUF
Total/NA	Analysis	SM 3500 CR B		1	514596	01/22/20 11:28	E1T	TAL BUF
Total/NA	Analysis	SM 3500 CR B		5	514761	01/23/20 15:40	KEB	TAL BUF
Total/NA	Prep	SM 4500 CN C			516131	02/04/20 12:30	JRF	TAL BUF
Total/NA	Analysis	SM 4500 CN G		1	516184	02/04/20 15:47	CRK	TAL BUF

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Accreditation/Certification Summary

Client: New York State D.E.C.
Job ID: 480-165391-1
Project/Site: Perfection Plating #401037

Laboratory: Eurofins TestAmerica, Buffalo

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	88-0686	07-06-20
California	State	2931	04-01-20 *
Connecticut	State	PH-0568	09-30-20
Florida	NELAP	E87672	06-30-20
Georgia	State	10026 (NY)	03-31-20 *
Georgia (DW)	State	956	03-31-20 *
Illinois	NELAP	200003	09-30-19 *
Iowa	State	374	02-28-21
Kentucky (DW)	State	90029	12-31-20 *
Kentucky (UST)	State	30	03-31-20 *
Kentucky (WW)	State	KY90029	12-31-20
Louisiana	NELAP	02031	06-30-20
Maine	State	NY00044	12-04-20
Maryland	State	294	03-31-20 *
Massachusetts	State	M-NY044	06-30-20
Michigan	State	9937	03-31-20 *
Minnesota	NELAP	1524384	12-31-20
New Hampshire	NELAP	2337	11-17-19 *
New Jersey	NELAP	NY455	06-30-20
New York	NELAP	10026	04-01-20 *
North Dakota	State	R-176	03-31-20 *
Oklahoma	State	9421	09-01-20
Oregon	NELAP	NY200003	06-10-20
Pennsylvania	NELAP	68-00281	07-31-20
Rhode Island	State	LAO00328	12-30-20 *
Tennessee	State	02970	03-31-20 *
Texas	NELAP	T104704412-18-10	08-01-20
USDA	US Federal Programs	P330-18-00039	02-06-21
Virginia	NELAP	460185	09-14-20
Washington	State	C784	02-10-20 *
Wisconsin	State	998310390	08-31-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: New York State D.E.C.
Project/Site: Perfection Plating #401037

Job ID: 480-165391-1

Method	Method Description	Protocol	Laboratory
200.7 Rev 4.4	Metals (ICP)	EPA	TAL BUF
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL BUF
SM 3500 CR B	Chromium, Hexavalent	SM	TAL BUF
SM 4500 CN G	Cyanide, Amenable	SM	TAL BUF
200.7	Preparation, Total Metals	EPA	TAL BUF
SM 4500 CN C	Cyanide, Distillation	SM	TAL BUF

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: New York State D.E.C.
Job ID: 480-165391-1
Project/Site: Perfection Plating #401037

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
480-165391-1	INFLUENT	Water	01/21/20 13:00	01/22/20 08:00	
480-165391-2	EFFLUENT	Water	01/21/20 13:10	01/22/20 08:00	

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Albany #224

Chain of Custody Record

eurofins Environment Testing TestAmerica

Client Information	Sampler: Andrew Talbot	Lab PM: Stone, Judy L	Carrier Tracking No(s):	COC No: 480-128443-29001.1
Client Contact: Andrew Talbot	Phone: 518-885-5383	E-Mail: judy.stone@testamericainc.com		
Company: Aztech Technologies Inc				
Address: 5 McCrea Hill Road	Due Date Requested:			
City: Ballston Spa	TAT Requested (days): Standard			
State, Zip: NY, 12020				
Phone:	PO #: Callout ID: 136401			
Email: atalbot@aztechenv.com	WO #:			
Project Name: Perfection Plating #401037	Project #: 48019790			
Site:	SSOW#:			

480-165391 Chain of Custody

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7 - (MOD) Copy Analytes	2540D - TSS	4500_CN_G - CN Non-amenable	3500_CR_B - Cr+6	Total Number of containers	Special Instructions/Note:
Preservation Code:							D	N	B	N		
Influent	1/21/20	13:00	G	Water	N	N	X	X	X	X	4	
Effluent	↓	13:10	G	Water	N	N	X	X	X	X	4	

KZ 1-21-20

E - NaHSO4 P - Na2O4S
F - MeOH Q - Na2SO3
G - Amchlor R - Na2S2O3
H - Ascorbic Acid S - H2SO4
I - Ice T - TSP Dodecahydrate
J - DI Water U - Acetone
K - EDTA V - MCAA
L - EDA W - pH 4-5
Z - other (specify)

Other:

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		1/21/2020 13:30		Karl Yoder	1-21-20 1330	Eurofins
2	Karl Yoder	1-21-20 1700		Caroline	1/22/20 0800	TAB
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: #1 2.0

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: New York State D.E.C.

Job Number: 480-165391-1

Login Number: 165391

List Source: Eurofins TestAmerica, Buffalo

List Number: 1

Creator: Wallace, Cameron

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

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ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

Laboratory Job ID: 480-165895-1
Client Project/Site: Perfection Plating #401037

For:
New York State D.E.C.
625 Broadway 9th Floor
Albany, New York 12233-7258

Attn: George Momberger

Authorized for release by:
2/18/2020 11:26:51 AM
Alexander Gilbert, Project Management Assistant I
alexander.gilbert@testamericainc.com

Designee for

Judy Stone, Senior Project Manager
(484)685-0868
judy.stone@testamericainc.com

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed within the body of this report. Release of the data contained in this sample data package and in the electronic data deliverable has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Alexander Gilbert
Project Management Assistant I
2/18/2020 11:26:51 AM

Table of Contents

Definitions/Glossary

Client: New York State D.E.C.
Job ID: 480-165895-1
Project/Site: Perfection Plating #401037

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: New York State D.E.C.
Project/Site: Perfection Plating #401037

Job ID: 480-165895-1

Job ID: 480-165895-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative
480-165895-1

Comments
No additional comments.

Receipt
The samples were received on 2/5/2020 8:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.6º C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Methods 335.4, 9012B, SM 4500 CN G: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for 517871 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Client: New York State D.E.C.
Job ID: 480-165895-1
Project/Site: Perfection Plating #401037

Client Sample ID: INFLUENT
Lab Sample ID: 480-165895-1
Date Collected: 02/04/20 09:05
Matrix: Water
Date Received: 02/05/20 08:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		02/06/20 09:55	02/06/20 18:40	1
Cadmium	ND		0.0020	0.00050	mg/L		02/06/20 09:55	02/06/20 18:40	1
Chromium	**0.62**		0.0040	0.0010	mg/L		02/06/20 09:55	02/06/20 18:40	1
Copper	**0.0029**	**J**	0.010	0.0016	mg/L		02/06/20 09:55	02/06/20 18:40	1
Iron	**0.024**	**J**	0.050	0.019	mg/L		02/06/20 09:55	02/06/20 18:40	1
Lead	ND		0.010	0.0030	mg/L		02/06/20 09:55	02/06/20 18:40	1
Nickel	**0.0064**	**J**	0.010	0.0013	mg/L		02/06/20 09:55	02/06/20 18:40	1
Selenium	ND		0.025	0.0087	mg/L		02/06/20 09:55	02/06/20 18:40	1
Zinc	**0.0063**	**J**	0.010	0.0015	mg/L		02/06/20 09:55	02/06/20 18:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	**0.61**		0.050	0.025	mg/L			02/05/20 08:50	5
Cyanide, Non-amenable	ND		0.010	0.0050	mg/L		02/17/20 12:44	02/17/20 14:06	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	4.0	mg/L			02/03/20 14:58	1

Client Sample Results

Client: New York State D.E.C.
Project/Site: Perfection Plating #401037

Job ID: 480-165895-1

Client Sample ID: EFFLUENT

Date Collected: 02/04/20 09:00
Date Received: 02/05/20 08:00

Lab Sample ID: 480-165895-2

Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		02/06/20 09:55	02/06/20 19:09	1
Cadmium	ND		0.0020	0.00050	mg/L		02/06/20 09:55	02/06/20 19:09	1
Chromium	**0.16**		0.0040	0.0010	mg/L		02/06/20 09:55	02/06/20 19:09	1
Copper	ND		0.010	0.0016	mg/L		02/06/20 09:55	02/06/20 19:09	1
Iron	ND		0.050	0.019	mg/L		02/06/20 09:55	02/06/20 19:09	1
Lead	ND		0.010	0.0030	mg/L		02/06/20 09:55	02/06/20 19:09	1
Nickel	**0.0067**	**J**	0.010	0.0013	mg/L		02/06/20 09:55	02/06/20 19:09	1
Selenium	ND		0.025	0.0087	mg/L		02/06/20 09:55	02/06/20 19:09	1
Zinc	**0.0053**	**J**	0.010	0.0015	mg/L		02/06/20 09:55	02/06/20 19:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.010	0.0050	mg/L			02/05/20 08:50	1
Cyanide, Non-amenable	**0.0087**	**J**	0.010	0.0050	mg/L		02/17/20 12:44	02/17/20 14:10	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	4.0	mg/L			02/03/20 14:58	1

Lab Chronicle

Client: New York State D.E.C.
Job ID: 480-165895-1
Project/Site: Perfection Plating #401037

Client Sample ID: INFLUENT
Lab Sample ID: 480-165895-1
Date Collected: 02/04/20 09:05
Matrix: Water
Date Received: 02/05/20 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			516442	02/06/20 09:55	EMB	TAL BUF
Total/NA	Analysis	200.7 Rev 4.4		1	516665	02/06/20 18:40	AMH	TAL BUF
Total/NA	Analysis	SM 2540D		1	515990	02/03/20 14:58	T1S	TAL BUF
Total/NA	Analysis	SM 3500 CR B		5	516313	02/05/20 08:50	KEB	TAL BUF
Total/NA	Prep	SM 4500 CN C			517871	02/17/20 12:44	CRK	TAL BUF
Total/NA	Analysis	SM 4500 CN G		1	517902	02/17/20 14:06	JRF	TAL BUF

Client Sample ID: EFFLUENT
Lab Sample ID: 480-165895-2
Date Collected: 02/04/20 09:00
Matrix: Water
Date Received: 02/05/20 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			516442	02/06/20 09:55	EMB	TAL BUF
Total/NA	Analysis	200.7 Rev 4.4		1	516665	02/06/20 19:09	AMH	TAL BUF
Total/NA	Analysis	SM 2540D		1	515990	02/03/20 14:58	T1S	TAL BUF
Total/NA	Analysis	SM 3500 CR B		1	516313	02/05/20 08:50	KEB	TAL BUF
Total/NA	Prep	SM 4500 CN C			517871	02/17/20 12:44	CRK	TAL BUF
Total/NA	Analysis	SM 4500 CN G		1	517902	02/17/20 14:10	JRF	TAL BUF

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Accreditation/Certification Summary

Client: New York State D.E.C.
Job ID: 480-165895-1
Project/Site: Perfection Plating #401037

Laboratory: Eurofins TestAmerica, Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New York	NELAP	10026	04-01-20 *

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 CN G	SM 4500 CN C	Water	Cyanide, Non-amenable

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: New York State D.E.C.
Project/Site: Perfection Plating #401037

Job ID: 480-165895-1

Method	Method Description	Protocol	Laboratory
200.7 Rev 4.4	Metals (ICP)	EPA	TAL BUF
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL BUF
SM 3500 CR B	Chromium, Hexavalent	SM	TAL BUF
SM 4500 CN G	Cyanide, Amenable	SM	TAL BUF
200.7	Preparation, Total Metals	EPA	TAL BUF
SM 4500 CN C	Cyanide, Distillation	SM	TAL BUF

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: New York State D.E.C.
Project/Site: Perfection Plating #401037

Job ID: 480-165895-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
480-165895-1	INFLUENT	Water	02/04/20 09:05	02/05/20 08:00	
480-165895-2	EFFLUENT	Water	02/04/20 09:00	02/05/20 08:00	

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

Albany #224

eurofins | Environment Testing TestAmerica

Client Information	Sampler: Andrew Talbot + Ray Hamm	Lab PM: Stone, Judy L	Carrier Tracking No(s):	COC No: 480-128444-29001.1
Client Contact: Andrew Talbot	Phone: 518-885-5383	E-Mail: judy.stone@testamericainc.com		Page: Page 1 of 1
Company: Aztech Technologies Inc				Job #:
Address: 5 McCrea Hill Road	Due Date Requested:			Preservation Codes: M - Hexane
City: Ballston Spa	TAT Requested (days): Standard			
State, Zip: NY, 12020				
Phone: 518-885-5383	PO #: Callout ID: 136401			K - EDTA L - EDA Z - other (specify)
Email: atalbot@aztechenv.com	WO #:			Other:
Project Name: Perfection Plating #401037	Project #: 48019790			
Site:	SSOW#:			

480-165895 Chain of Custody

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7 - (MOD) Copy Analytes	2540D - TSS	4500_CN_G - CN Non-amenable	3500_CR_B - Cr+6	Total Number of containers	Special Instructions/Note:
Preservation Code:							D	N	B	N		
Influent	2/4/2020	09:05	G	Water	N	N	X	X	X	X		
Effluent	↓	09:00	G	Water	N	N	X	X	X	X		

2-4-2020

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	2/4/20 1130	Aztech		2-4-2020 1100	EUOPHS
Tim Mullen	2-4-2020 1800	Eurofins TA	Cwalker	2/5/20 0800	TAS
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
		#1 2.1c

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: New York State D.E.C. Job Number: 480-165895-1

Login Number: 165895 **List Source: Eurofins TestAmerica, Buffalo**
List Number: 1
Creator: Wallace, Cameron

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

Laboratory Job ID: 480-167067-1
Client Project/Site: Perfection Plating #401037

For:
New York State D.E.C.
1115 Route 86
PO BOX 296
Ray Brook, New York 12977

Attn: Samantha Salotto

Judy Stone

Authorized for release by:
3/13/2020 10:34:13 AM

Judy Stone, Senior Project Manager
(484)685-0868
judy.stone@testamericainc.com

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed within the body of this report. Release of the data contained in this sample data package and in the electronic data deliverable has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Judy Stone
Senior Project Manager
3/13/2020 10:34:13 AM

Table of Contents

Definitions/Glossary

Client: New York State D.E.C.
Job ID: 480-167067-1
Project/Site: Perfection Plating #401037

Qualifiers

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: New York State D.E.C.
Project/Site: Perfection Plating #401037

Job ID: 480-167067-1

Job ID: 480-167067-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative
480-167067-1

Receipt
The samples were received on 3/6/2020 8:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.4º C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client: New York State D.E.C.
Job ID: 480-167067-1
Project/Site: Perfection Plating #401037

Client Sample ID: INFLUENT
Lab Sample ID: 480-167067-1
Date Collected: 03/05/20 09:00
Matrix: Water
Date Received: 03/06/20 08:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		03/09/20 08:54	03/09/20 22:49	1
Cadmium	ND		0.0020	0.00050	mg/L		03/09/20 08:54	03/09/20 22:49	1
Chromium	**0.62**		0.0040	0.0010	mg/L		03/09/20 08:54	03/09/20 22:49	1
Copper	**0.0017**	**J**	0.010	0.0016	mg/L		03/09/20 08:54	03/09/20 22:49	1
Iron	ND		0.050	0.019	mg/L		03/09/20 08:54	03/09/20 22:49	1
Lead	ND		0.010	0.0030	mg/L		03/09/20 08:54	03/09/20 22:49	1
Nickel	**0.0066**	**J**	0.010	0.0013	mg/L		03/09/20 08:54	03/09/20 22:49	1
Selenium	ND		0.025	0.0087	mg/L		03/09/20 08:54	03/09/20 22:49	1
Zinc	**0.0075**	**J B**	0.010	0.0015	mg/L		03/09/20 08:54	03/09/20 22:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	**0.39**		0.010	0.0050	mg/L			03/06/20 08:50	1
Cyanide, Non-amenable	**0.013**		0.010	0.0050	mg/L		03/12/20 10:20	03/12/20 11:36	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	4.0	mg/L			03/06/20 15:14	1

Client Sample ID: EFFLUENT
Lab Sample ID: 480-167067-2
Date Collected: 03/05/20 09:10
Matrix: Water
Date Received: 03/06/20 08:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.015	0.0056	mg/L		03/09/20 08:54	03/09/20 22:53	1
Cadmium	ND		0.0020	0.00050	mg/L		03/09/20 08:54	03/09/20 22:53	1
Chromium	**0.19**		0.0040	0.0010	mg/L		03/09/20 08:54	03/09/20 22:53	1
Copper	ND		0.010	0.0016	mg/L		03/09/20 08:54	03/09/20 22:53	1
Iron	ND		0.050	0.019	mg/L		03/09/20 08:54	03/09/20 22:53	1
Lead	ND		0.010	0.0030	mg/L		03/09/20 08:54	03/09/20 22:53	1
Nickel	**0.0065**	**J**	0.010	0.0013	mg/L		03/09/20 08:54	03/09/20 22:53	1
Selenium	ND		0.025	0.0087	mg/L		03/09/20 08:54	03/09/20 22:53	1
Zinc	**0.0064**	**J B**	0.010	0.0015	mg/L		03/09/20 08:54	03/09/20 22:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	ND		0.010	0.0050	mg/L			03/06/20 08:50	1
Cyanide, Non-amenable	**0.013**		0.010	0.0050	mg/L		03/12/20 10:20	03/12/20 11:40	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	4.0	mg/L			03/06/20 15:14	1

Lab Chronicle

Client: New York State D.E.C.
Job ID: 480-167067-1
Project/Site: Perfection Plating #401037

Client Sample ID: INFLUENT
Lab Sample ID: 480-167067-1

Date Collected: 03/05/20 09:00
Matrix: Water
Date Received: 03/06/20 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			520470	03/09/20 08:54	EMB	TAL BUF
Total/NA	Analysis	200.7 Rev 4.4		1	520724	03/09/20 22:49	LMH	TAL BUF
Total/NA	Analysis	SM 2540D		1	520393	03/06/20 15:14	CSS	TAL BUF
Total/NA	Analysis	SM 3500 CR B		1	520386	03/06/20 08:50	CRK	TAL BUF
Total/NA	Prep	SM 4500 CN C			521150	03/12/20 10:20	JRF	TAL BUF
Total/NA	Analysis	SM 4500 CN G		1	521169	03/12/20 11:36	JRF	TAL BUF

Client Sample ID: EFFLUENT
Lab Sample ID: 480-167067-2

Date Collected: 03/05/20 09:10
Matrix: Water
Date Received: 03/06/20 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			520470	03/09/20 08:54	EMB	TAL BUF
Total/NA	Analysis	200.7 Rev 4.4		1	520724	03/09/20 22:53	LMH	TAL BUF
Total/NA	Analysis	SM 2540D		1	520393	03/06/20 15:14	CSS	TAL BUF
Total/NA	Analysis	SM 3500 CR B		1	520386	03/06/20 08:50	CRK	TAL BUF
Total/NA	Prep	SM 4500 CN C			521150	03/12/20 10:20	JRF	TAL BUF
Total/NA	Analysis	SM 4500 CN G		1	521169	03/12/20 11:40	JRF	TAL BUF

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Accreditation/Certification Summary

Client: New York State D.E.C.
Job ID: 480-167067-1
Project/Site: Perfection Plating #401037

Laboratory: Eurofins TestAmerica, Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New York	NELAP	10026	04-01-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 CN G	SM 4500 CN C	Water	Cyanide, Non-amenable

Method Summary

Client: New York State D.E.C.
Job ID: 480-167067-1
Project/Site: Perfection Plating #401037

Method	Method Description	Protocol	Laboratory
200.7 Rev 4.4	Metals (ICP)	EPA	TAL BUF
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL BUF
SM 3500 CR B	Chromium, Hexavalent	SM	TAL BUF
SM 4500 CN G	Cyanide, Amenable	SM	TAL BUF
200.7	Preparation, Total Metals	EPA	TAL BUF
SM 4500 CN C	Cyanide, Distillation	SM	TAL BUF

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: New York State D.E.C.
Job ID: 480-167067-1
Project/Site: Perfection Plating #401037

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
480-167067-1	INFLUENT	Water	03/05/20 09:00	03/06/20 08:00	
480-167067-2	EFFLUENT	Water	03/05/20 09:10	03/06/20 08:00	

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Albany #224

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler: CARL ALDRICH	Lab PM: Stone, Judy L	Carrier Tracking No(s):	COC No: 480-128445-29001.1
Client Contact: Andrew Talbot	Phone: 518 470 3052	E-Mail: judy.stone@testamericainc.com		Page: Page 1 of 1
Company: Aztech Technologies Inc				Job #:
Address: 5 McCrea Hill Road	Due Date Requested:			
City: Ballston Spa	TAT Requested (days):			
State, Zip: NY, 12020				
Phone:	PO #: Callout ID: 136401			
Email: atalbot@aztechenv.com	WO #:			
Project Name: Perfection Plating #401037	Project #: 48019790			
Site:	SSOW#:			

480-167067 Chain of Custody

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7 - (MOD) Copy Analytes	2540D - TSS	4500_CN_G - CN Non-amenable	3500_CR_B - Cr+6	Total Number of containers	Special Instructions/Note:
Preservation Code:							D	N	B	N		
Influent	3/5/20	900	G	Water			X	X	X	X		
Effluent	3/5/20	910	G	Water			X	X	X	X		
TRIP BLANK	3/5/20											

I - Ice
J - DI Water
K - EDTA
L - EDA
V - MCAA
W - pH 4-5
Z - other (specify)
Other:

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	3/5/20 1435		Karl Jaehn	3/5/20 1435	Aztech
Relinquished by: Karl Jaehn	Date/Time: 3/5/20 1700	Company Aztech	Received by: Cwallace	Date/Time: 3/6/20 0800	Company TAS
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: #1 2.4

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: New York State D.E.C.

Job Number: 480-167067-1

Login Number: 167067

List Source: Eurofins TestAmerica, Buffalo

List Number: 1

Creator: Wallace, Cameron

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

Appendix C

Effluent Limitations and Monitoring Requirements

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Figure 5-1

91-20-2a (1/89)

DER Site No.: 4-01-037

Part 1, Page 1 of 2

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning Startup of remedial activities

and lasting until Completion of treated wastewater discharge

the discharges from the treatment facility to the Hudson River via the Watervliet storm sewer shall be limited and monitored by the operator as specified below:

Outfall Number & Effluent Parameter	Discharge Limitations Daily Avg.	Daily Max.	Units	Minimum Monitoring Requirements Measurement Frequency	Sample Type
Outfall 001: Remediation System Discharge					
Flow	Monitor	Monitor	GPM	Weekly	Meter
pH (Range)	NA	6.0 - 9.0	SU	Weekly	Grab
Solids, Total Suspended	Monitor	50	mg/l	Weekly	Grab
Oil & Grease	Monitor	15	mg/l	Weekly	Grab
Cyanide, Amenable	Monitor	1.1	mg/l	Weekly	Grab
Arsenic, Total	Monitor	0.15	mg/l	Weekly	Grab
Cadmium, Total	Monitor	0.03	mg/l	Weekly	Grab
Chromium, Hexavalent	Monitor	2.7	mg/l	Weekly	Grab
Chromium, Total	Monitor	0.5	mg/l	Weekly	Grab
Copper, Total	Monitor	0.5	mg/l	Weekly	Grab
Iron, Total	Monitor	4	mg/l	Weekly	Grab
Lead, Total	Monitor	0.4	mg/l	Weekly	Grab
Nickel, Total	Monitor	1.3	mg/l	Weekly	Grab
Selenium, Total	Monitor	0.07	mg/l	Weekly	Grab
Zinc, Total	Monitor	0.4	mg/l	Weekly	Grab
1,2-Dichloroethylene, total	Monitor	0.003	mg/l	Weekly	Grab
Vinyl chloride	Monitor	0.005	mg/l	Weekly	Grab

Special Conditions:

(1) Discharge is not authorized until such time as an engineering submission showing the method of treatment is approved by the Department. The discharge rate may not exceed the effective treatment system capacity. All monitoring data, engineering submissions and modification requests must be submitted to the following DER contact person: Craig Lapinski.

(2) Only site generated wastewater is authorized for treatment and discharge.

(3) Authorization to discharge is valid only for the period noted above but may be renewed if appropriate. A request for renewal must be received 6 months prior to the expiration date to allow for a review of monitoring data and reassessment of monitoring requirements.

(4) Both concentration (mg/l or µg/l) and mass loadings (lbs/day) must be reported to the Department for all parameters except Flow and pH.

(5) Samples and measurements, to comply with the monitoring requirements specified above, shall be taken from the treatment system effluent prior to discharge to the Hudson River, Class C.

(6) The minimum measurement frequency for all the parameters (except flow) shall be monthly following a period of 24 consecutive weekly sampling events showing no exceedances of the stated discharge limitations. If a discharge limitation for any parameter is exceeded the measurement frequency for all parameters shall again be weekly, until a period of 8 consecutive sampling events shows no exceedances at which point monthly monitoring may resume.

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Appendix D

Groundwater Sampling Analytical Results

Hampton-Clarke
Analytical & Field Services

175 ROUTE 46 WEST, UNIT D · FAIRFIELD, NJ 07004
2 MADISON ROAD, FAIRFIELD, NJ 07004
800-426-9992 · 973-244-9770
FAX: 973-244-9787
WWW.HCVLAB.COM

Project: Perfection Plating

Client PO: 1490715

Report To: EA Engineering, Science & Technology
269 West Jefferson St.
Syracuse, NY 13202
Attn: J. Vonuderitz

Received Date: 2/19/2020

Report Date: 3/12/2020

Deliverables: NYSDEC-CatB

Lab ID: AD15784

Lab Project No: 0021905

Sean Berls - Quality Assurance Officer OR **Jean Revolus - Laboratory Director**

NJ (07071) NY (ELAP11408) CT (PH-0671)
PA (68-00463) KY (90124)

NELAP ACCREDITED TNI LABORATORY

Table of Contents - 0021905

SDG Narrative

HC Case Narrative

Client: EA Engineering, Science & Technology **HC Project:** 0021905
Project: Perfection Plating

Hampton-Clarke (HC) received the following samples on 2/19/20.

Client ID	HC Sample ID	Matrix	Analysis
401037-MW-CMT-1	AD15784-001	Aqueous	Metals (200.7), Cr-Hexavalent (3500-Cr B11)
401037-MW-CMT-3	AD15784-002	Aqueous	Metals (200.7), Cr-Hexavalent (3500-Cr B11)
401037-MW-EE-4S	AD15784-003	Aqueous	Metals (200.7), Cr-Hexavalent (3500-Cr B11)
401037-MW-EE-5S	AD15784-004	Aqueous	Metals (200.7), Cr-Hexavalent (3500-Cr B11)
401037-MW-EA-13S	AD15784-005	Aqueous	Metals (200.7), Cr-Hexavalent (3500-Cr B11)
401037-MW-EA-13S MS	AD15784-006	Aqueous	Metals (200.7), Cr-Hexavalent (3500-Cr B11)
401037-MW-EA-13S MSD	AD15784-007	Aqueous	Metals (200.7), Cr-Hexavalent (3500-Cr B11)
401037-MW-EA-11S	AD15784-008	Aqueous	Metals (200.7), Cr-Hexavalent (3500-Cr B11)
401037-MW-EA-12S	AD15784-009	Aqueous	Metals (200.7), Cr-Hexavalent (3500-Cr B11)
401037-MW-EA-10S	AD15784-010	Aqueous	Metals (200.7), Cr-Hexavalent (3500-Cr B11)
401037-MW-ESE-9-R	AD15784-011	Aqueous	Metals (200.7), Cr-Hexavalent (3500-Cr B11)
401037-MW-EA-7R	AD15784-012	Aqueous	Metals (200.7), Cr-Hexavalent (3500-Cr B11)
401037-DUP-	AD15784-013	Aqueous	Metals (200.7), Cr-Hexavalent (3500-Cr B11)

This case narrative is in the form of an exception report. Method specific and/or QA/QC anomalies related to this report only are detailed below.

Metals Analysis:

Data conforms to method requirements.

Wet Chemistry Analysis:

Data conforms to method requirements.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Sean Berls
Quality Assurance Officer

Or

Jean Revolus
Laboratory Director

3/12/2020
Date

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

FORM S-I

SAMPLE IDENTIFICATION AND ANALYTICAL REQUIREMENT SUMMARY

NYSDEC Sample ID/Code	Laboratory Sample ID/Code	Analytical Requirements					
		VOA GC/MS (Method #)	BNA GC/MS (Method #)	VOA GC (Method #)	Pest PCBs (Method #)	Metals (Method #)	Other (Method #)
401037-MW-CMT-1	AD15784-001	-	-	-	-	200.7	SM3500-CrB11
401037-MW-CMT-3	AD15784-002	-	-	-	-	200.7	SM3500-CrB11
401037-MW-EE-4S	AD15784-003	-	-	-	-	200.7	SM3500-CrB11
401037-MW-EE-5S	AD15784-004	-	-	-	-	200.7	SM3500-CrB11
401037-MW-EA-13S	AD15784-005	-	-	-	-	200.7	SM3500-CrB11
401037-MW-EA-13S MS	AD15784-006	-	-	-	-	200.7	SM3500-CrB11
401037-MW-EA-13S MSD	AD15784-007	-	-	-	-	200.7	SM3500-CrB11
401037-MW-EA-11S	AD15784-008	-	-	-	-	200.7	SM3500-CrB11
401037-MW-EA-12S	AD15784-009	-	-	-	-	200.7	SM3500-CrB11
401037-MW-EA-10S	AD15784-010	-	-	-	-	200.7	SM3500-CrB11
401037-MW-ESE-9-R	AD15784-011	-	-	-	-	200.7	SM3500-CrB11
401037-MW-EA-7R	AD15784-012	-	-	-	-	200.7	SM3500-CrB11
401037-DUP-	AD15784-013	-	-	-	-	200.7	SM3500-CrB11

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

FORM S-IV

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSES

Laboratory Sample ID	Matrix	Metals Requested	Date Rec'd at Lab	Date Digested	Date Analyzed
AD15784-001	Aqueous	Chromium	2/19/20	2/26/20	2/27/20
AD15784-002	Aqueous	Chromium	2/19/20	2/26/20	2/27/20
AD15784-003	Aqueous	Chromium	2/19/20	2/26/20	2/27/20
AD15784-004	Aqueous	Chromium	2/19/20	2/26/20	2/27/20
AD15784-005	Aqueous	Chromium	2/19/20	2/26/20	2/27/20
AD15784-006	Aqueous	Chromium	2/19/20	2/26/20	2/27/20
AD15784-007	Aqueous	Chromium	2/19/20	2/26/20	2/27/20
AD15784-008	Aqueous	Chromium	2/19/20	2/26/20	2/27/20
AD15784-009	Aqueous	Chromium	2/19/20	2/26/20	2/27/20
AD15784-010	Aqueous	Chromium	2/19/20	2/26/20	2/27/20
AD15784-011	Aqueous	Chromium	2/19/20	2/26/20	2/27/20
AD15784-012	Aqueous	Chromium	2/19/20	2/26/20	2/27/20
AD15784-013	Aqueous	Chromium	2/19/20	2/26/20	2/27/20

Reporting Limit Definitions

HC Reporting Limit Definitions/Data Qualifiers

REPORTING DEFINITIONS

DF = Dilution Factor

MDL = Method Detection Limit

RL* = Reporting Limit

ND = Not Detected

RT = Retention Time

NA = Not Applicable

**Samples with elevated Reporting Limits (RLs) as a result of a dilution may not achieve client reporting limits in some cases. The elevated RLs are unavoidable consequences of sample dilution required to quantitate target analytes that exceed the calibration range of the instrument.*

DATA QUALIFIERS

A- Indicates that the Tentatively Identified Compound (TIC) is suspected to be an aldol-condensation product. These compounds are by-products of acetone and methylene chloride used in the extraction process.

B- Indicates analyte was present in the Method Blank and sample.

d- For Pesticide and PCB analysis, the concentration between primary and secondary columns is greater than 40%. The lower concentration is generally reported.

E- Indicates the concentration exceeded the upper calibration range of the instrument.

J- Indicates the value is estimated because it is either a Tentatively Identified Compound (TIC) or the reported concentration is greater than the MDL but less than the RL. For samples results between the MDL and RL there is a possibility of false positives or misidentification at the quantitation levels. Additionally, the acceptance criteria for QC samples may not be met.

R- Retention Time is out.

Y- Indicates a contaminant found in the blank at less than 10% of the concentration of a contaminant found in the sample.

Data Package Summary Forms

HC Report of Analysis

Client: EA Engineering, Science & Technology
HC Project #: 0021905
Project: Perfection Plating

Sample ID: 401037-MW-CMT-1
Lab#: AD15784-001
Matrix: Aqueous
Collection Date: 2/18/2020
Receipt Date: 2/19/2020

Cr (Hexavalent) 3500-Cr B11

Analyte	DF	Units	RL	Result
Cr (Hexavalent)	1	mg/l	0.02	ND

Metals (single) 200.7

Analyte	DF	Units	RL	Result
Chromium	1	ug/l	25	ND

Sample ID: 401037-MW-CMT-3
Lab#: AD15784-002
Matrix: Aqueous
Collection Date: 2/18/2020
Receipt Date: 2/19/2020

Cr (Hexavalent) 3500-Cr B11

Analyte	DF	Units	RL	Result
Cr (Hexavalent)	1	mg/l	0.02	ND

Metals (single) 200.7

Analyte	DF	Units	RL	Result
Chromium	1	ug/l	25	ND

Sample ID: 401037-MW-EE-4S
Lab#: AD15784-003
Matrix: Aqueous
Collection Date: 2/18/2020
Receipt Date: 2/19/2020

Cr (Hexavalent) 3500-Cr B11

Analyte	DF	Units	RL	Result
Cr (Hexavalent)	1	mg/l	0.02	0.031

Metals (single) 200.7

Analyte	DF	Units	RL	Result
Chromium	1	ug/l	25	60

Sample ID: 401037-MW-EE-5S
Lab#: AD15784-004
Matrix: Aqueous

Collection Date: 2/18/2020
Receipt Date: 2/19/2020

Cr (Hexavalent) 3500-Cr B11

Analyte	DF	Units	RL	Result
Cr (Hexavalent)	50	mg/l	1	9.3

Metals (single) 200.7

Analyte	DF	Units	RL	Result
Chromium	1	ug/l	25	7800

Sample ID: 401037-MW-EA-13S
Lab#: AD15784-005
Matrix: Aqueous
Collection Date: 2/18/2020
Receipt Date: 2/19/2020

Cr (Hexavalent) 3500-Cr B11

Analyte	DF	Units	RL	Result
Cr (Hexavalent)	1	mg/l	0.02	ND

Metals (single) 200.7

Analyte	DF	Units	RL	Result
Chromium	1	ug/l	25	ND

Sample ID: 401037-MW-EA-13S MS
Lab#: AD15784-006
Matrix: Aqueous

Collection Date: 2/18/2020
Receipt Date: 2/19/2020

Cr (Hexavalent) 3500-Cr B11

Analyte	DF	Units	RL	Result
Cr (Hexavalent)	1	mg/l	0.02	0.51

Metals (single) 200.7

Analyte	DF	Units	RL	Result
Chromium	1	ug/l	25	250

Sample ID: 401037-MW-EA-13S MSD
Lab#: AD15784-007
Matrix: Aqueous
Collection Date: 2/18/2020
Receipt Date: 2/19/2020

Cr (Hexavalent) 3500-Cr B11

Analyte	DF	Units	RL	Result
Cr (Hexavalent)	1	mg/l	0.02	0.52

Metals (single) 200.7

Analyte	DF	Units	RL	Result
Chromium	1	ug/l	25	240

Sample ID: 401037-MW-EA-11S
Lab#: AD15784-008
Matrix: Aqueous
Collection Date: 2/18/2020
Receipt Date: 2/19/2020

Cr (Hexavalent) 3500-Cr B11

Analyte	DF	Units	RL	Result
Cr (Hexavalent)	1	mg/l	0.02	ND

Metals (single) 200.7

Analyte	DF	Units	RL	Result
Chromium	1	ug/l	25	630

Sample ID: 401037-MW-EA-12S
Lab#: AD15784-009
Matrix: Aqueous
Collection Date: 2/18/2020
Receipt Date: 2/19/2020

Cr (Hexavalent) 3500-Cr B11

Analyte	DF	Units	RL	Result
Cr (Hexavalent)	1	mg/l	0.02	ND

Metals (single) 200.7

Analyte	DF	Units	RL	Result
Chromium	1	ug/l	25	82

Sample ID: 401037-MW-EA-10S
Lab#: AD15784-010
Matrix: Aqueous
Collection Date: 2/18/2020
Receipt Date: 2/19/2020

Cr (Hexavalent) 3500-Cr B11

Analyte	DF	Units	RL	Result
Cr (Hexavalent)	1	mg/l	0.02	ND

Metals (single) 200.7

Analyte	DF	Units	RL	Result
Chromium	1	ug/l	25	49

Sample ID: 401037-MW-ESE-9-R
Lab#: AD15784-011
Matrix: Aqueous
Collection Date: 2/18/2020
Receipt Date: 2/19/2020

Cr (Hexavalent) 3500-Cr B11

Analyte	DF	Units	RL	Result
Cr (Hexavalent)	1	mg/l	0.02	ND

Metals (single) 200.7

Analyte	DF	Units	RL	Result
Chromium	1	ug/l	25	74

Sample ID: 401037-MW-EA-7R
Lab#: AD15784-012
Matrix: Aqueous
Collection Date: 2/18/2020
Receipt Date: 2/19/2020

Cr (Hexavalent) 3500-Cr B11

Analyte	DF	Units	RL	Result
Cr (Hexavalent)	1	mg/l	0.02	0.92

Metals (single) 200.7

Analyte	DF	Units	RL	Result
Chromium	1	ug/l	25	980

Sample ID: 401037-DUP-
Lab#: AD15784-013
Matrix: Aqueous

Collection Date: 2/18/2020
Receipt Date: 2/19/2020

Cr (Hexavalent) 3500-Cr B11

Analyte	DF	Units	RL	Result
Cr (Hexavalent)	50	mg/l	1	9.4

Metals (single) 200.7

Analyte	DF	Units	RL	Result
Chromium	1	ug/l	25	8200

Form1
Inorganic Analysis Data Sheet

Sample ID:	AD15784-001	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	401037-MW-CMT-1	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	2/19/2020	Contract:		Case No:	
Level:	LOW						

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-47-3	Chromium	25	ND	1	100	50	02/27/20	82657	A25419A3	27	P	PEICP3A

Comments: _____

_____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV -ColdVapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID:	AD15784-002	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	401037-MW-CMT-3	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	2/19/2020	Contract:		Case No:	
Level:	LOW						

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-47-3	Chromium	25	ND	1	100	50	02/27/20	82657	A25419A3	28	P	PEICP3A

Comments: _____

_____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV -ColdVapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID:	AD15784-003	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	401037-MW-EE-4S	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	2/19/2020	Contract:		Case No:	
Level:	LOW						

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-47-3	Chromium	25	60	1	100	50	02/27/20	82657	A25419A3	29	P	PEICP3A

Comments: _____

_____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV -ColdVapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID:	AD15784-004	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	401037-MW-EE-5S	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	2/19/2020	Contract:		Case No:	
Level:	LOW						

Cas No.	Analyte	RL	Conc.	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-47-3	Chromium	25	7800	1	100	50	02/27/20	82657	A25419A3	34	P	PEICP3A

Comments: _____

_____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV -ColdVapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID:	AD15784-005	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	401037-MW-EA-13S	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	2/19/2020	Contract:		Case No:	
Level:	LOW						

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-47-3	Chromium	25	ND	1	200	100	02/27/20	82657	A25419A3	16	P	PEICP3A

Comments: _____

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Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV -ColdVapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID:	AD15784-006	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	401037-MW-EA-13S	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	2/19/2020	Contract:		Case No:	
Level:	LOW						

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-47-3	Chromium	25	250	1	100	50	02/27/20	82657	A25419A3	18	P	PEICP3A

Comments: _____

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Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV -ColdVapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID:	AD15784-007	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	401037-MW-EA-13S	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	2/19/2020	Contract:		Case No:	
Level:	LOW						

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-47-3	Chromium	25	240	1	100	50	02/27/20	82657	A25419A3	19	P	PEICP3A

Comments: _____

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Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV -ColdVapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID:	AD15784-008	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	401037-MW-EA-11S	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	2/19/2020	Contract:		Case No:	
Level:	LOW						

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-47-3	Chromium	25	630	1	100	50	02/27/20	82657	A25419A3	35	P	PEICP3A

Comments: _____

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Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV -ColdVapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID:	AD15784-009	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	401037-MW-EA-12S	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	2/19/2020	Contract:		Case No:	
Level:	LOW						

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-47-3	Chromium	25	82	1	100	50	02/27/20	82657	A25419A3	36	P	PEICP3A

Comments: _____

_____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV -ColdVapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID:	AD15784-010	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	401037-MW-EA-10S	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	2/19/2020	Contract:		Case No:	
Level:	LOW						

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-47-3	Chromium	25	49	1	100	50	02/27/20	82657	A25419A3	37	P	PEICP3A

Comments: _____

_____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV -ColdVapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID:	AD15784-011	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	401037-MW-ESE-9-R	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	2/19/2020	Contract:		Case No:	
Level:	LOW						

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-47-3	Chromium	25	74	1	100	50	02/27/20	82657	A25419A3	38	P	PEICP3A

Comments: _____

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Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV -ColdVapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID:	AD15784-012	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	401037-MW-EA-7R	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	2/19/2020	Contract:		Case No:	
Level:	LOW						

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-47-3	Chromium	25	980	1	100	50	02/27/20	82657	A25419A3	39	P	PEICP3A

Comments: _____

_____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV -ColdVapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID:	AD15784-013	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	401037-DUP-	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	2/19/2020	Contract:		Case No:	
Level:	LOW						

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-47-3	Chromium	25	8200	1	100	50	02/27/20	82657	A25419A3	40	P	PEICP3A

Comments: _____

_____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV -ColdVapor
MS - ICP-MS

VERITECH Wet Chem Form1 Analysis Summary

Lab#: AD15784-001 | Project Number: 0021905
Matrix Aqueous | Received Date: 2/19/2020
Client SampleID: 401037-MW-CMT-1 | Collect Date: 2/18/2020

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cr (Hexavalent)	CR6-WATER	1	ND	mg/l	0.02	02/19/20	02/19/20

Lab#: AD15784-002 | Project Number: 0021905
Matrix Aqueous | Received Date: 2/19/2020
Client SampleID: 401037-MW-CMT-3 | Collect Date: 2/18/2020

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cr (Hexavalent)	CR6-WATER	1	ND	mg/l	0.02	02/19/20	02/19/20

Lab#: AD15784-003 | Project Number: 0021905
Matrix Aqueous | Received Date: 2/19/2020
Client SampleID: 401037-MW-EE-4S | Collect Date: 2/18/2020

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cr (Hexavalent)	CR6-WATER	**1**	**0.031**	**mg/l**	**0.02**	02/19/20	02/19/20

Lab#: AD15784-004 | Project Number: 0021905
Matrix Aqueous | Received Date: 2/19/2020
Client SampleID: 401037-MW-EE-5S | Collect Date: 2/18/2020

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cr (Hexavalent)	CR6-WATER	**50**	**9.3**	**mg/l**	**1**	02/19/20	02/19/20

Lab#: AD15784-005 | Project Number: 0021905
Matrix Aqueous | Received Date: 2/19/2020
Client SampleID: 401037-MW-EA-13S | Collect Date: 2/18/2020

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cr (Hexavalent)	CR6-WATER	1	ND	mg/l	0.02	02/19/20	02/19/20

Lab#: AD15784-006 | Project Number: 0021905
Matrix Aqueous | Received Date: 2/19/2020
Client SampleID: 401037-MW-EA-13S MS | Collect Date: 2/18/2020

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cr (Hexavalent)	CR6-WATER	**1**	**0.51**	**mg/l**	**0.02**	02/19/20	02/19/20

Lab#: AD15784-007 | Project Number: 0021905
Matrix Aqueous | Received Date: 2/19/2020
Client SampleID: 401037-MW-EA-13S MSD | Collect Date: 2/18/2020

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cr (Hexavalent)	CR6-WATER	**1**	**0.52**	**mg/l**	**0.02**	02/19/20	02/19/20

Lab#: AD15784-008 | Project Number: 0021905
Matrix Aqueous | Received Date: 2/19/2020
Client SampleID: 401037-MW-EA-11S | Collect Date: 2/18/2020

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cr (Hexavalent)	CR6-WATER	1	ND	mg/l	0.02	02/19/20	02/19/20

Lab#: AD15784-009 | Project Number: 0021905
Matrix Aqueous | Received Date: 2/19/2020
Client SampleID: 401037-MW-EA-12S | Collect Date: 2/18/2020

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cr (Hexavalent)	CR6-WATER	1	ND	mg/l	0.02	02/19/20	02/19/20

VERITECH Wet Chem Form1 Analysis Summary

Lab#: AD15784-010 | Project Number: 0021905
Matrix: Aqueous | Received Date: 2/19/2020
Client SampleID: 401037-MW-EA-10S | Collect Date: 2/18/2020

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cr (Hexavalent)	CR6-WATER	1	ND	mg/l	0.02	02/19/20	02/19/20

Lab#: AD15784-011 | Project Number: 0021905
Matrix: Aqueous | Received Date: 2/19/2020
Client SampleID: 401037-MW-ESE-9-R | Collect Date: 2/18/2020

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cr (Hexavalent)	CR6-WATER	1	ND	mg/l	0.02	02/19/20	02/19/20

Lab#: AD15784-012 | Project Number: 0021905
Matrix: Aqueous | Received Date: 2/19/2020
Client SampleID: 401037-MW-EA-7R | Collect Date: 2/18/2020

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cr (Hexavalent)	CR6-WATER	**1**	**0.92**	**mg/l**	**0.02**	02/19/20	02/19/20

Lab#: AD15784-013 | Project Number: 0021905
Matrix: Aqueous | Received Date: 2/19/2020
Client SampleID: 401037-DUP- | Collect Date: 2/18/2020

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cr (Hexavalent)	CR6-WATER	**50**	**9.4**	**mg/l**	**1**	02/19/20	02/19/20

Chain of Custody Forms

0021905 0037

Hampton-Clarke, Inc. (WBE/DBE/SBE)

175 Route 46 West and 2 Madison Road, Fairfield, New Jersey 07004
Ph: 800-426-9992 | 973-244-9770 Fax: 973-244-9787 | 973-439-1458
Service Center: 137-D Gaither Drive, Mount Laurel, New Jersey 08054
Ph (Service Center): 856-780-6057 Fax: 856-780-6056

Hampton-Clarke WBE/DBE/SBE 800-426-9992

A Women-Owned, Disadvantaged, Small Business Enterprise

NELAC/NJ #07071 | PA #68-00463 | NY #11408 | CT #PH-0671 | KY #90124 | DE HSCA Approved

CHAIN OF CUSTODY RECORD

Project # (Lab Use Only): 021905

3) Reporting Requirements (Please Circle)

Turnaround	Report Type	Electronic Data Deliv.
When Available:	Summary	NJ Hazsite
1 Business Day (100%)*	Results + QC (Waste)	Excel Reg. NJ / NY / PA
2 Business Days (75%)*	Reduced:	EnviroData
3 Business Days (50%)*	[ ] NJ [X] NY	(EQuIS):
4 Business Days (35%)*	[ ] PA [ ] Other___	[ ] 4-File [ ] EZ
5 Business Days (25%)	NJ Full / NY ASP CatB	[X] NYDEC V4
8 Business Days (Stand.)	NY ASP CatA	[ ] Region 2 or 5
Other:		Other:

* Expedited TAT Not Always Available. Please Check with Lab.

Customer Information

1a) Customer: EA Engineering
Address: 269 W Jefferson St
Syracuse, NY 13202
1b) Email/Cell/Fax/Ph: jvonuderitz@eaest.com
1c) Send Invoice to: mding@eaest.com
1d) Send Report to: jvonuderitz@eaest.com

Project Information

2a) Project: Perfection Plating
2b) Project Mgr: Joe Von Uderitz
2c) Project Location (City/State): Watervliet, NY
2d) Quote/PO # (If Applicable): 1490715

FOR LAB USE ONLY ↓

Batch # AD15784

===> Check If Contingent ===>

Matrix Codes
DW - Drinking Water S - Soil A - Air
GW - Ground Water SL - Sludge
WW - Waste Water OL - Oil
OT - Other (please specify under item 9, Comments)

7) Analysis (specify methods & parameter lists)

<=== Check If Contingent <===

Lab Sample #	4) Customer Sample ID	5) Matrix	6) Sample Date	6) Sample Time	Sample Type: Composite (C)	Sample Type: Grab (G)	Cr(VI) by SM 3500 CrD	Total Cr by 200.7	8) # of Bottles: None	MeOH	En Core	NaOH	HCl	H2SO4	HNO3	Other:	9) Comments
001	401037-MW-CMT-1	GW	12/18/20	1210		X	X	X	1						1		
002	401037-MW-CMT-3	"	"	1215		"	"	"	1						1		
003	401037-MW-EE-45	"	"	1221		"	"	"	1						1		
004	401037-MW-EE 55	"	"	1225		"	"	"	1						1		
	~~401037-EA-15~~ (FW)	"	"	—		"	"	"									
005/006/007	401037-MW-EA-13S	"	"	1210		"	"	"	3						3		MS/MSD
008	401037-MW-EA-11S	"	"	1310		"	"	"	1						1		
009	401037-MW-EA-9S	"	"	1330		"	"	"	1						1		
010	401037-MW-EA-10S	"	"	1355		"	"	"	1						1		
	~~401037-EA-7~~ (MW)	↓	↓	—		↓	↓	↓									

10) Relinquished by:	Accepted by:	Date	Time
Mike Wright	Fed Ex	12/14/20	1435
FEDEX		12/19/20	8:25

11) Sampler (print name): Mike Wright Date: 12/18/20

Additional Notes

Comments, Notes, Special Requirements, HAZARDS

Indicate if low-level methods required to meet current groundwater standards (SPLP for soil):
- [ ] BN or BNA (8270D SIM)
- [ ] VOC (8260C SIM or 8011)
- [ ] SPLP (BN, BNA, Metals)
- [ ] 1,4 Dioxane

For NJ LSRP projects, indicate which standards need to be met:
- [ ] NJDEP GWQS
- [ ] NJDEP SRS
- [ ] NJDEP SPLP
- [ ] Other (specify):

Check if applicable:
- [ ] Project-Specific Reporting Limits
- [ ] High Contaminant Concentrations
- [ ] NJ LSRP Project (also check boxes above/right)

Cooler Temperature: 2.8 / 3.2

Please note NUMBERED items. If not completed your analytical work may be delayed.
A fee of $5/sample will be assessed for storage should sample not be activated for any analysis.

Internal use: sampling plan (check box) HC [ ] or client [ ] FSP#

0021905 0038

Hampton-Clarke, Inc. (WBE/DBE/SBE)

175 Route 46 West and 2 Madison Road, Fairfield, New Jersey 07004
Ph: 800-426-9992 | 973-244-9770 Fax: 973-244-9787 | 973-439-1458
Service Center: 137-D Gaither Drive, Mount Laurel, New Jersey 08054
Ph (Service Center): 856-780-6057 Fax: 856-780-6056

Hampton-Clarke WBE/DBE/SBE 800-426-9992

A Women-Owned, Disadvantaged, Small Business Enterprise

NELAC/NJ #07071 | PA #68-00463 | NY #11408 | CT #PH-0671 | KY #90124 | DE HSCA Approved

CHAIN OF CUSTODY RECORD

Project # (Lab Use Only): 021905

3) Reporting Requirements (Please Circle)

Turnaround	Report Type	Electronic Data Deliv.
When Available:	Summary	NJ Hazsite
1 Business Day (100%)*	Results + QC (Waste)	Excel Reg. NJ / NY / PA
2 Business Days (75%)*	Reduced:	EnviroData
3 Business Days (50%)*	[ ] NJ [ ] NY	EQuIS:
4 Business Days (35%)*	[ ] PA [ ] Other___	[ ] 4-File [ ] EZ
5 Business Days (25%)	NJ Full / NY ASP CatB	[ ] NYDEC
8 Business Days (Stand.)	NY ASP CatA	[ ] Region 2 or 5
Other:		Other:

* Expedited TAT Not Always Available. Please Check with Lab.

Customer Information

1a) Customer: SAME AS
Address:
1b) Email/Cell/Fax/Ph: PAGE 1
1c) Send Invoice to:
1d) Send Report to:

Project Information

2a) Project:
2b) Project Mgr:
2c) Project Location (City/State):
2d) Quote/PO # (If Applicable):

FOR LAB USE ONLY ↓

Batch # AD15784

===> Check If Contingent ===>

Matrix Codes
DW - Drinking Water S - Soil A - Air
GW - Ground Water SL - Sludge
WW - Waste Water OL - Oil
OT - Other (please specify under item 9, Comments)

7) Analysis (specify methods & parameter lists)

<===| Check If Contingent <===

Lab Sample #	4) Customer Sample ID	5) Matrix	6) Sample Date	6) Sample Time	Sample Type: Composite (C)	Sample Type: Grab (G)	Cr (VI) by SM 3500 CR D	Total Cr by 200.7	8) # of Bottles: None	MeOH	En Core	NaOH	HCl	H2SO4	HNO3	Other:	9) Comments
011	401037-MW-ESE-9-R	GW	12/14/20	1312		X	X	X	1						1		
012	401037-MW-EA-7R	↓	↓	1342		↓	↓	↓	1						1		
013	401037-DUP-	↓	↓			↓	↓	↓	1						1		

10) Relinquished by:	Accepted by:	Date	Time
Mat Mist	FedEx	12/14/20	1435
FEDEX	C Ge	12/15/20	8:27

11) Sampler (print name): Mike Wright Date: 12/18/20

Additional Notes

Comments, Notes, Special Requirements, HAZARDS

Indicate if low-level methods required to meet current groundwater standards (SPLP for soil):
- [ ] BN or BNA (8270D SIM)
- [ ] VOC (8260C SIM or 8011)
- [ ] SPLP (BN, BNA, Metals)
- [ ] 1,4 Dioxane

For NJ LSRP projects, indicate which standards need to be met:
- [ ] NJDEP GWQS
- [ ] NJDEP SRS
- [ ] NJDEP SPLP
- [ ] Other (specify):

Check if applicable:
- [ ] Project-Specific Reporting Limits
- [ ] High Contaminant Concentrations
- [ ] NJ LSRP Project (also check boxes above/right)

Cooler Temperature: 2.8 | 3.0

Please note NUMBERED items. If not completed your analytical work may be delayed.
A fee of $5/sample will be assessed for storage should sample not be activated for any analysis.

Internal use: sampling plan (check box) HC [ ] or client [ ] FSP#

PROJECT MODIFICATIONS

Client: EA-SYRACUSE
Project: Perfection Plating

HC Project #: 0021905

---

csmith192.168.1.41
2/20/2020 12:43:17 PM

Per Michael Wright, the date of sample collection was 2/18/20.

CONDITION UPON RECEIPT

Batch Number AD15784 Entered By: zenriquez

Date Entered 2/19/2020 11:43:00 AM

1	Yes	Is there a corresponding COC included with the samples?
2	Yes	Are the samples in a container such as a cooler or Ice chest?
3	No	Are the COC seals intact?
4	T0054	<--- Thermometer ID. Please specify the Temperature inside the container (in degC). 2.8/3.2C
5	Yes	Are the samples refrigerated (where required)/have they arrived on ice?
6	Yes	Are the samples within the holding times for the parameters listed on the COC? IF no, list parameters and samples:
7	Yes	Are all of the sample bottles intact? If no, specify sample numbers broken/leaking
8	Yes	Are all of the sample labels or numbers legible? If no specify:
9	Yes	Do the contents match the COC? If no, specify
10	Yes	Is there enough sample sent for the analyses listed on the COC? If no, specify:
11	Yes	Are samples preserved correctly?
12	Yes	Was temperature blank present (Place comment below if not)? If not was temperature of samples verified?
13	NA	Other comments ...Specify
14	NA	Corrective actions (Specify item number and corrective action taken).

PRESERVATION DOCUMENT

Batch Number AD15784

Entered By: zenriquez

Date Entered 2/19/2020 11:44:00 AM

Lab#	Container Size	Container/Vial Check	Parameter	Preservative	Preservative Lot#	PH	pH Lot#
AD15784-001	1L	P	METAL	HNO3	237365	1	HC998032
AD15784-002	1L	P	METAL	HNO3	237365	1	HC998032
AD15784-003	1L	P	METAL	HNO3	237365	1	HC998032
AD15784-004	1L	P	METAL	HNO3	237365	1	HC998032
AD15784-005	1L	P	METAL	HNO3	237365	1	HC998032
AD15784-006	1L	P	METAL	HNO3	237365	1	HC998032
AD15784-007	1L	P	METAL	HNO3	237365	1	HC998032
AD15784-008	1L	P	METAL	HNO3	237365	1	HC998032
AD15784-009	1L	P	METAL	HNO3	237365	1	HC998032
AD15784-010	1L	P	METAL	HNO3	237365	1	HC998032
AD15784-011	1L	P	METAL	HNO3	237365	1	HC998032
AD15784-012	1L	P	METAL	HNO3	237365	1	HC998032
AD15784-013	1L	P	METAL	HNO3	237365	1	HC998032

Internal Chain of Custody

Lab#:	DateTime:	Loc or User	Bot Nu	A/M	Analysis
AD15784-001	02/19/20 08:25	ZENRI	0	M	Received
AD15784-001	02/19/20 11:43	ZENRI	0	M	Login
AD15784-001	02/19/20 11:56	BCT	1	A	CR6W
AD15784-001	02/19/20 12:14	R12	2	A	NONE
AD15784-001	02/21/20 11:54	BA	2	A	TDSW
AD15784-001	02/21/20 13:45	BA	2	A	r12
AD15784-002	02/19/20 08:25	ZENRI	0	M	Received
AD15784-002	02/19/20 11:43	ZENRI	0	M	Login
AD15784-002	02/19/20 11:56	BCT	1	A	CR6W
AD15784-002	02/19/20 12:14	R12	2	A	NONE
AD15784-002	02/21/20 11:54	BA	2	A	TDSW
AD15784-002	02/21/20 13:45	BA	2	A	r12
AD15784-003	02/19/20 08:25	ZENRI	0	M	Received
AD15784-003	02/19/20 11:43	ZENRI	0	M	Login
AD15784-003	02/19/20 11:56	BCT	1	A	CR6W
AD15784-003	02/19/20 12:14	R12	2	A	NONE
AD15784-003	02/21/20 11:54	BA	2	A	TDSW
AD15784-003	02/21/20 13:45	BA	2	A	r12
AD15784-004	02/19/20 08:25	ZENRI	0	M	Received
AD15784-004	02/19/20 11:43	ZENRI	0	M	Login
AD15784-004	02/19/20 11:56	BCT	1	A	CR6W
AD15784-004	02/19/20 12:14	R12	2	A	NONE
AD15784-004	02/21/20 11:54	BA	2	A	TDSW
AD15784-004	02/21/20 13:45	BA	2	A	r12
AD15784-005	02/19/20 08:25	ZENRI	0	M	Received
AD15784-005	02/19/20 11:43	ZENRI	0	M	Login
AD15784-005	02/19/20 11:56	BCT	1	A	CR6W
AD15784-005	02/19/20 12:14	R12	2	A	NONE
AD15784-005	02/21/20 11:54	BA	2	A	TDSW
AD15784-005	02/21/20 13:45	BA	2	A	r12
AD15784-006	02/19/20 08:25	ZENRI	0	M	Received
AD15784-006	02/19/20 11:43	ZENRI	0	M	Login
AD15784-006	02/19/20 11:56	BCT	1	A	CR6W
AD15784-006	02/19/20 12:14	R12	2	A	NONE
AD15784-006	02/21/20 11:54	BA	2	A	TDSW
AD15784-006	02/21/20 13:45	BA	2	A	r12
AD15784-007	02/19/20 08:25	ZENRI	0	M	Received
AD15784-007	02/19/20 11:43	ZENRI	0	M	Login
AD15784-007	02/19/20 11:56	BCT	1	A	CR6W
AD15784-007	02/19/20 12:14	R12	2	A	NONE
AD15784-007	02/21/20 11:54	BA	2	A	TDSW
AD15784-007	02/21/20 13:45	BA	2	A	r12
AD15784-008	02/19/20 08:25	ZENRI	0	M	Received
AD15784-008	02/19/20 11:43	ZENRI	0	M	Login
AD15784-008	02/19/20 11:56	BCT	1	A	CR6W
AD15784-008	02/19/20 12:14	R12	2	A	NONE
AD15784-008	02/21/20 11:54	BA	2	A	TDSW
AD15784-008	02/21/20 13:45	BA	2	A	r12
AD15784-009	02/19/20 08:25	ZENRI	0	M	Received
AD15784-009	02/19/20 11:43	ZENRI	0	M	Login
AD15784-009	02/19/20 11:56	BCT	1	A	CR6W
AD15784-009	02/19/20 12:14	R12	2	A	NONE
AD15784-009	02/21/20 11:54	BA	2	A	TDSW
AD15784-009	02/21/20 13:45	BA	2	A	r12
AD15784-010	02/19/20 08:25	ZENRI	0	M	Received
AD15784-010	02/19/20 11:43	ZENRI	0	M	Login
AD15784-010	02/19/20 11:56	BCT	1	A	CR6W
AD15784-010	02/19/20 12:14	R12	2	A	NONE
AD15784-010	02/21/20 11:54	BA	2	A	TDSW
AD15784-010	02/21/20 13:45	BA	2	A	r12
AD15784-011	02/19/20 08:25	ZENRI	0	M	Received
AD15784-011	02/19/20 11:43	ZENRI	0	M	Login
AD15784-011	02/19/20 11:56	BCT	1	A	CR6W
AD15784-011	02/19/20 12:14	R12	2	A	NONE
AD15784-011	02/21/20 11:54	BA	2	A	TDSW
AD15784-011	02/21/20 13:45	BA	2	A	r12
AD15784-012	02/19/20 08:25	ZENRI	0	M	Received
AD15784-012	02/19/20 11:43	ZENRI	0	M	Login
AD15784-012	02/19/20 11:56	BCT	1	A	CR6W
AD15784-012	02/19/20 12:14	R12	2	A	NONE
AD15784-012	02/21/20 11:54	BA	2	A	TDSW
AD15784-012	02/21/20 13:45	BA	2	A	r12
AD15784-013	02/19/20 08:25	ZENRI	0	M	Received
AD15784-013	02/19/20 11:43	ZENRI	0	M	Login
AD15784-013	02/19/20 12:14	R12	1	A	NONE
AD15784-013	02/19/20 14:37	R12	1	A	NONE
AD15784-013	02/21/20 11:54	BA	1	A	TDSW
AD15784-013	02/21/20 13:45	BA	1	A	r12
AD15784-013	02/19/20 11:56	BCT	2	A	CR6W

Samples marked as received are stored in coolers or refrigerator R12, or R24 at 4 deg C until Login

Metal Data

Metal Data
Sample Data

Form1
Inorganic Analysis Data Sheet

Sample ID:	AD15784-001	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	401037-MW-CMT-1	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	2/19/2020	Contract:		Case No:	
Level:	LOW						

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-47-3	Chromium	25	ND	1	100	50	02/27/20	82657	A25419A3	27	P	PEICP3A

Comments: _____

_____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV -ColdVapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID:	AD15784-002	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	401037-MW-CMT-3	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	2/19/2020	Contract:		Case No:	
Level:	LOW						

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-47-3	Chromium	25	ND	1	100	50	02/27/20	82657	A25419A3	28	P	PEICP3A

Comments: _____

_____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV -ColdVapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID:	AD15784-003	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	401037-MW-EE-4S	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	2/19/2020	Contract:		Case No:	
Level:	LOW						

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-47-3	Chromium	25	60	1	100	50	02/27/20	82657	A25419A3	29	P	PEICP3A

Comments: _____

_____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV -ColdVapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID:	AD15784-004	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	401037-MW-EE-5S	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	2/19/2020	Contract:		Case No:	
Level:	LOW						

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-47-3	Chromium	25	7800	1	100	50	02/27/20	82657	A25419A3	34	P	PEICP3A

Comments: _____

_____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV -ColdVapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID:	AD15784-005	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	401037-MW-EA-13S	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	2/19/2020	Contract:		Case No:	
Level:	LOW						

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num.	M	Instr
7440-47-3	Chromium	25	ND	1	200	100	02/27/20	82657	A25419A3	16	P	PEICP3A

Comments: _____

_____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV -ColdVapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID:	AD15784-006	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	401037-MW-EA-13S	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	2/19/2020	Contract:		Case No:	
Level:	LOW						

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-47-3	Chromium	25	250	1	100	50	02/27/20	82657	A25419A3	18	P	PEICP3A

Comments: _____

_____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV -ColdVapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID:	AD15784-007	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	401037-MW-EA-13S	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	2/19/2020	Contract:		Case No:	
Level:	LOW						

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-47-3	Chromium	25	240	1	100	50	02/27/20	82657	A25419A3	19	P	PEICP3A

Comments: _____

_____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV -ColdVapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID:	AD15784-008	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	401037-MW-EA-11S	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	2/19/2020	Contract:		Case No:	
Level:	LOW						

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-47-3	Chromium	25	630	1	100	50	02/27/20	82657	A25419A3	35	P	PEICP3A

Comments: _____

_____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV -ColdVapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID:	AD15784-009	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	401037-MW-EA-12S	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	2/19/2020	Contract:		Case No:	
Level:	LOW						

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-47-3	Chromium	25	82	1	100	50	02/27/20	82657	A25419A3	36	P	PEICP3A

Comments: _____

_____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV -ColdVapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID:	AD15784-010	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	401037-MW-EA-10S	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	2/19/2020	Contract:		Case No:	
Level:	LOW						

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-47-3	Chromium	25	49	1	100	50	02/27/20	82657	A25419A3	37	P	PEICP3A

Comments: _____

_____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV -ColdVapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID:	AD15784-011	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	401037-MW-ESE-9-R	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	2/19/2020	Contract:		Case No:	
Level:	LOW						

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-47-3	Chromium	25	74	1	100	50	02/27/20	82657	A25419A3	38	P	PEICP3A

Comments: _____

_____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV -ColdVapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID:	AD15784-012	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	401037-MW-EA-7R	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	2/19/2020	Contract:		Case No:	
Level:	LOW						

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-47-3	Chromium	25	980	1	100	50	02/27/20	82657	A25419A3	39	P	PEICP3A

Comments: _____

_____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV -ColdVapor
MS - ICP-MS

Form1
Inorganic Analysis Data Sheet

Sample ID:	AD15784-013	% Solid:	0	Lab Name:	Hampton-Clarke	Nras No:	
Client Id:	401037-DUP-	Units:	UG/L	Lab Code:		Sdg No:	
Matrix:	AQUEOUS	Date Rec:	2/19/2020	Contract:		Case No:	
Level:	LOW						

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-47-3	Chromium	25	8200	1	100	50	02/27/20	82657	A25419A3	40	P	PEICP3A

Comments: _____

_____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV -ColdVapor
MS - ICP-MS

Metal Data
QC Data

FORM 2
(ICV/CCV Summary)

Date Analyzed: 02/27/20
Data File: A25419A3
Prep Batch: 82657
Analytical Method: 200.7/200.8/245.1
Instrument: PEICP3A
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 0021905

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:
ICV/CCV SOURCE: SCP Science

Analyte	ICV/CCV Amt	ICV (2) V-317819-7	Rec	CCV V-321090-11	Rec	CCV V-321090-22	Rec	CCV V-321090-32	Rec	CCV V-321090-43	Rec	CCV V-321090-54	Rec	CCV V-321090-64	Rec	Rec
Calcium	100/50	95.88230	96	47.79740	96	48.25990	97	48.87860	98	47.06860	94	45.32320	91	44.31790	89 c	
Chromium	1/.5	0.99895	100	0.49928	100	0.50374	101	0.50714	101	0.49047	98	0.49122	98	0.48991	98	
Iron	10/5	9.82846	98	4.97193	99	5.00164	100	5.06558	101	4.87894	98	4.94000	99	4.95144	99	
Manganese	1/.5	0.98835	99	0.50315	101	0.51120	102	0.51384	103	0.49313	99	0.49211	98	0.48880	98	

Notes: a-indicates analyte failed the ICV limits for 6010D, 6020B
b-indicates analyte failed the ICV limits for 200.7 or 200.8
c-indicates analyte failed the CCV limits for 200.7/200.8/245.1/6010C,6020B, Hg 7470A,7471B
d-indicates analyte failed the CCV limits Hg 7470A/7471B

Qc Limits: ICV - 200.7 (95-105) 6010D/6020B/200.8 (90-110)
CCV- 200.7/200.8/6010D/245.1, Hg 7470A/ 7471B (90-110)

FORM 3
(ICB/CCB/MB Summary)

Date Analyzed: 02/27/20
Data File: A25419A3
Prep Batch: 82657
Reporting Limits Used: 200.7/200.8/245.1
Instrument: PEICP3A
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 0021905

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:

Analyte	ICB V-317800-8	CCB V-317800-12	CCB V-317800-23	CCB V-317800-33	CCB V-317800-44	CCB V-317800-55	CCB V-317800-65	MB 82657 (0.5)-13
Calcium	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1 U
Chromium	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.025 U
Iron	.3 U	.3 U	.3 U	.3 U	.3 U	.3 U	.3 U	.15 U
Manganese	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.05 U	.025 U

Notes: a -for methods 7470A, 7471B indicates absolute value of result found above the reporting limits in ICB/CCB/MB.
for methods 6010D, 6020B indicates absolute value of result found above the reporting limit in CCB or above 1/2 the reporting limit in ICB/MB.

u-indicates result below reporting criteria.

FORM 4
(ICSA/ICSAB Summary)

Date Analyzed: 02/27/20
Data File: A25419A3
Prep Batch: 82657
Reporting Limits Used: 200.7/200.8/245.1
Instrument: PEICP3A
Units: All units in ppm except Hg and icp-ms in ppb
Project Number: 0021905

Lab Name: Hampton-Clarke
Lab Code:
Contract:
Nras No:
Sdg No:
Case No:
ICSA/ICSAB: SOURCE: SCP Science

Analyte	Spk Amt	ICSA V-321157-9	Rec	ICSAB V-321158-10	Rec	ICSA V-321157-30	Rec	ICSAB V-321158-31	Rec	ICSA V-321157-41	Rec	ICSAB V-321158-42	Rec	ICSA V-321157-62	Rec	ICSAB V-321158-63	Rec
Aluminum	500	498.396	100	512.07800	102	496.894	99	514.54500	103	499.568	100	519.81200	104	498.943	100	523.32100	105
Calcium	500	427.615	86	429.32200	86	427.828	86	436.08000	87	423.52	85	432.16100	86	404.12	81	416.17200	83
Chromium	.5	U		0.45490	91	U		0.46310	93	U		0.47000	94	U		0.46892	94
Iron	200	175.148	88	179.78100	90	175.835	88	182.16600	91	177.932	89	184.80300	92	179.874	90	188.64800	94
Magnesium	500	439.855	88	452.22700	90	440.612	88	456.66700	91	443.803	89	461.53400	92	439.461	88	461.11500	92
Manganese	.5	U		0.45701	91	U		0.46746	93	U		0.46933	94	U		0.46792	94

Notes: a-indicates absolute value of the concentration > 2 * Reporting Limits In the ICSA
b-indicates absolute value of the concentration above Reporting Limits but < 2 * Reporting Limits in the ICSA
c-indicates the recovery failed the Qc Criteria in the ICSAB
u-indicates the absolute value of the concentration was below the reporting limit

Qc Limits: 200.7, 6020B < 2 * Reporting Limit
6010D < Reporting Limit

FORM5/FORM7

SPIKE RECOVERY DATA

PREP BATCH: 82657

Instrument Type: ICP/HG

Analytical Method(s):6010D/200.7/7470A/7471B/245.1

ICP units in ppm, ICPMS and Hg in ppb

TxtQcType: LCS Matrix: AQUEOUS SampleID: LCSW 82657

Analyte	BatchId	DF	Data Fil	Seq#:	Spk Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim
Chromium	82657	1	A25419A3	14	0.4986	.5000	100		85	115

TxtQcType: LCSMR Matrix: AQUEOUS SampleID: LCSW MR 82657

Analyte	BatchId	DF	Data Fil	Seq#:	Spk Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim
Chromium	82657	1	A25419A3	15	0.4969	.5000	99		85	115

TxtQcType: MS Matrix: AQUEOUS SampleID: AD15784-006

Analyte	BatchId	DF	Data Fil	Seq#:	NS Data Fil	Seq#	Spk Conc:	NS Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim
Chromium	82657	1	A25419A3	18	A25419A3	16	0.5029	0.05U	.5000	101		70	130

TxtQcType: MSD Matrix: AQUEOUS SampleID: AD15784-007

Analyte	BatchId	DF	Data Fil	Seq#:	NS Data Fil	Seq#	Spk Conc:	NS Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim
Chromium	82657	1	A25419A3	19	A25419A3	16	0.4707	0.05U	.5000	94		70	130

a-Indicates Recovery Failed the criteria b-Indicates Recovery Failed the criteria but non spike concentration >4*spike amount

FORM5/FORM7
SPIKE RECOVERY DATA
PREP BATCH: 82657

Instrument Type: ICP/HG
Analytical Method(s):6010D/200.7/7470A/7471B/245.1 ICP units in ppm, ICPMS and Hg in ppb

TxtQcType: PS Matrix: AQUEOUS SampleID: AD15784-005

Analyte	DF	Data Fil	Seq#:	NS Data Fil	Seq#	Spk Conc:	NS Conc:	Spk Adde	Recov	Qual	Lo Lim	Hi Lim
Chromium	1	A25419A3	20	A25419A3	16	0.5002	0.05U	.500	100		85	115

a-Indicates Recovery Failed the criteria b-Indicates Recovery Failed the criteria but non spike concentration >4*spike amount

FORM6/FORM9

RPD/%Difference Data

PREP BATCH: 82657

Instrument Type: ICP/HG

Analytical Method(s):6010D/200.7/7470A/7471B/245.1 ICP units in ppm, ICPMS and Hg in ppb

TxtQcType: LCSMR Matrix: AQUEOUS SampleID: LCSW MR 82657

Analyte	BatchId	Data Fil	Seq#:	NS File	Seq#	Result 1	Result 2	RPD	Limit
Chromium	82657	A25419A3	15	A25419A3	14	0.4969	0.4986	.35	20

TxtQcType: MR Matrix: AQUEOUS SampleID: AD15784-005

Analyte	BatchId	Data Fil	Seq#:	NS File	Seq#	Result 1	Result 2	RPD	Limit
Chromium	82657	A25419A3	17	A25419A3	16	0.05U	0.05U	---	20

TxtQcType: MSD Matrix: AQUEOUS SampleID: AD15784-007

Analyte	BatchId	Data Fil	Seq#:	MS File	Seq#	Result 1	Result 2	RPD	Limit
Chromium	82657	A25419A3	19	A25419A3	18	0.4707	0.5029	6.6	20

TxtQcType: SD Matrix: AQUEOUS SampleID: AD15784-005

Analyte	BatchId	Data Fil	Seq#:	NS File	Seq#	DF	Result 1	Result 2	%Diff		Limit
Chromium	82657	A25419A3	21	A25419A3	16	5	0.0023	0.0093	25	c	10

a-Indicates Rpd Failed the criteria

b-Method Rep Out but concentrations < 5*RL

c-Serial dilution Out but conc < 10 * IDL

Metal Data
Verification of Instrument Parameters

INTERELEMENT CORRECTION SUMMARY PEICP3ax

Interfered Elements	Interfering Elements								
	Al	Ca	Fe	Mg	B	Ba	Cu	Mn	Mo
Al	N/A	0	0	0	0	0	0	0	23.5
Sb	0	0	0	0	0	0	0	0	-12.9
As	0	0	-0.116	0	0	0	0	0	5.29
Ba	0	0	0	0	0	N/A	0	0	0
Be	0	0	0	0	0	0	0	0	0
B	0	0	4.15	0	N/A	0	0	0	-2.34
Cd	0	0	0	0	0	0	0	0	0
Ca	0	N/A	0	0	0	0	0	0	0
Cr	0	0	0	0	0	0	0	0	0
Co	0	0	0	0	0	0	0	0	0
Cu	0	0	0	0	0	0	N/A	0	0
Fe	0	0	N/A	0	0	0	0	0	0
Pb	-0.0911	0	0	0	0	0	0	0	0
Mg	0	0	0	N/A	0	0	0	0	0
Mn	0	0	0	0	0	0	0	N/A	0
Mo	0	0	0	0	0	0	0	0	N/A
Ni	0	0	0	0	0	0	0	0	0
K	0	0	4207.75	0	0	0	0	0	0
Se	0	0.0541	-0.495	0	0	0	0	0	0
Si	-0.0936	-0.0964	-0.285	-0.0459	-10.34	-5.45	-5.89	-4.28	11.1
Ag	0	0	0	0	0	0	0	0	0
Na	0	0	0	0	0	0	0	0	0
Tl	0	0	0	0	0	0	0	2.59	0.00
Sn	0	0	0	0	0	0	0	0	0
Ti	0	0	0	0	0	0	0	0	0
V	0	0	0.0684	0	0	0	0	0	-13.1
Zn	0	0	0	0	0	0	0	0	0

IECs run 07/15/2019. As, B Mod 12302019

INTERELEMENT CORRECTION SUMMARY PEICP3ax

	Interfering Elements							
	Na	Ni	Se	Si	Sn	Ti	V	Zn
Interfered Elements								
Al	0	0	0	0	0	0	0	0
Sb	0	0	0	0	0	0	0	0
As	0	0	0	0	0	0	0	0
Ba	0	0	0	0	0	0	0	0
Be	0	0	0	0	0	0.00	0	0
B	0	0	0	0	0	0	0	0
Cd	0	0	0	0	0	0	0	0
Ca	0	0	0	0	0	0	0	0
Cr	0	0	0	0	0	0	0	0
Co	0	0	0	0	0	0	0	0
Cu	0	0	0	0	0	0	0	0
Fe	0	0	0	0	0	0	0	0
Pb	0	0	0	0	0	0	0	0
Mg	0	0	0	0	0	0	0	0
Mn	0	0	0	0	0	0	0	0
Mo	0	0	0	0	0	0	0	0
Ni	0	N/A	0	0	0	0	0	0
K	0	0	0	0	0	0	0	0
Se	0	0	N/A	0	0.000	0	0	0
Si	0.0185	-5.1	0	N/A	-5.27	-2.58	-5.57	-4.92
Ag	0	0	0	0	0	0	0	0
Na	N/A	0	0	0	0	0.0	0	0
Tl	0	0	0	0	0	-11.1	-13.5	0
Sn	0	0	0	0	N/A	5.67	0	0
Ti	0	0	0	0	0	N/A	0	0
V	0	0	0	0	0	0	N/A	0
Zn	0	0	0	0	0	0	0	N/A

IECs run 07/15/2019. As, B Mod 12302019

LINEAR RANGES
PE ICP 3 Axial

ELEMENT	Linear Range (mg/L)
Al	900
Sb	45
As	45
Ba	45
Be	9
Cd	45
Ca	0
Cr	45
Co	45
Cu	9
Fe	450
Pb	45
Mg	900
Mn	45
Mo	27
Ni	45
Se	45
Ag	1.8
Tl	45
Sn	45
Ti	45
V	45
Zn	45

Ca analyzed 03/ /2020. All other elements analyzed 01/13/2020.

MDL / RL SUMMARY

200.7

PE ICP 3 AXIAL

ELEMENT	MDL	Reporting Limits (mg/L)
Al	0.096761964	0.1
Sb	0.010004024	0.025
As	0.218219603	0.02
Ba	0.003552965	0.025
Be	0.003101524	0.004
Cd	0.001393065	0.005
Ca	0.267625568	1
Cr	0.004096337	0.025
Co	0.007436748	0.01
Cu	0.259971368	0.025
Fe	0.541239489	0.15
Pb	0.024805215	0.02
Mg	0.201748451	1
Mn	0.00315569	0.025
Mo	0.001589393	0.01
Ni	0.003359529	0.01
Se	0.009975279	0.025
Ag	0.001444416	0.01
Na	0.336728271	2.5
Tl	0.002889868	0.025
Sn	0.020965175	0.025
Ti	0.001244388	0.025
V	0.003890394	0.025
Zn	0.009827298	0.025

COMPLETED: 12/2019

MDL / RL SUMMARY
200.7 WATER
PE ICP 3 RADIAL

ELEMENT	MDL	Reporting Limits (Mg/L)
Al	0.07086793	0.1
Ca	0.21281006	1
Fe	0.12611542	0.15
Mg	0.18024972	1
Mn	0.00219352	0.025
K	0.13699788	2.5
Na	0.61110947	2.5
Ti	0.00315852	0.025

COMPLETED: 12/2019

Metal Data
Raw Data

Form1
Inorganic Analysis Data Sheet

Sample ID: MB 82657 (0.5) % Solid: 0 Lab Name: Hampton-Clarke
Client Id: MB 82657 (0.5) Units: UG/L Lab Code:
Matrix: AQUEOUS
Level: LOW

Cas No.	Analyte	RL	Conc	Dil Fact	Initial Wt/Vol	Final Wt/Vol	Analysis Date	Prep Batch	File:	Seq Num	M	Instr
7440-70-2	Calcium	1000	ND	1	100	50	02/27/20	82657	A25419A3	13	P	PEICP3A
7440-47-3	Chromium	25	ND	1	100	50	02/27/20	82657	A25419A3	13	P	PEICP3A
7439-89-6	Iron	150	ND	1	100	50	02/27/20	82657	A25419A3	13	P	PEICP3A
7439-96-5	Manganese	25	ND	1	100	50	02/27/20	82657	A25419A3	13	P	PEICP3A
7440-23-5	Sodium	2500	ND	1	100	50	02/27/20	82657	A25419B3	12	P	PEICPRAD3A

Comments: _____

Flag Codes:

U or ND - Indicates Compound was not found above the detection/reporting limit
P - ICP-AES
CV -ColdVapor
MS - ICP-MS

Veritech Standard Receipt Log

Veritech Control/Receipt Number: 12537

Description
CALIBRATION 2

ApprovedBy: carmela
ApproveDate: 06/03/19
Checked: Yes

Manufacturer	Catalog Num:	Lot Num:	Date Rec:	Exp Date:	Rec By:	Num of Cont	Volume /Cont	Conc:	Units:
SPEX	XHCV-20-500	1-103MJ	05/30/19	05/30/20	Aliano, Carmela	2	500ml	NEAT	NEAT

Veritech Control/Receipt Number: 12642

Description
200.8 ICV

ApprovedBy: carmela
ApproveDate: 12/09/19
Checked: Yes

Manufacturer	Catalog Num:	Lot Num:	Date Rec:	Exp Date:	Rec By:	Num of Cont	Volume /Cont	Conc:	Units:
SCP	600-225-105	S190619026	07/01/19	06/30/20	Balashanthan, Shi	1	500ml	neat	neat

Veritech Control/Receipt Number: 12919

Description
CALIBRATION STD 1

ApprovedBy:
ApproveDate:
Checked: No

Manufacturer	Catalog Num:	Lot Num:	Date Rec:	Exp Date:	Rec By:	Num of Cont	Volume /Cont	Conc:	Units:
SPEX	XHCV-19-500	7-272AB	10/19/19	10/30/20	Aliano, Carmela	2	500ml	NEAT	NEAT

Veritech Internally Prepared Standard Log

Veritech Lot Number: V-314985

Prepared By: Babajide, Adesanmi
Description: Aluminum Working Std
Prep Date: 10/28/2019
Expiration Date: 4/28/2020
Department: Metals
BatchNumber:
Concentration: 10 mg/l
Final Volume: 100 ml
ApprovedBy: carmela
ApproveDate: 11/06/19
Checked: Yes

Veritech Lot# /Rec#	Lot Description	Amount Used	Conc of Std	Final Conc
12788	nitric acid	2 ml	neat neat	2 %
12427	ALUMINUM	1 ml	1000 ug/ml	10 mg/l
12651	DI H2O			

Veritech Lot Number: V-317800

Prepared By: Aliano, Carmela
Description: ICB/CCB
Prep Date: 12/13/2019
Expiration Date: 7/1/2020
Department: Metals
BatchNumber:
Concentration: 0 mg/l
Final Volume: 1000 ml
ApprovedBy: shiamala
ApproveDate: 12/20/19
Checked: Yes

Veritech Lot# /Rec#	Lot Description	Amount Used	Conc of Std	Final Conc
12651	DI H2O			
12905	nitric acid	50 ml	neat neat	
12906	hydrochloric acid	50 ml	neat neat	

Veritech Lot Number: V-317819

Prepared By: Aliano, Carmela
Description: ICV Regular
Prep Date: 12/13/2019
Expiration Date: 3/4/2020
Department: Metals
BatchNumber:
Concentration: MULTI multi
Final Volume: 500 ml
ApprovedBy: shiamala
ApproveDate: 12/20/19
Checked: Yes

Veritech Lot# /Rec#	Lot Description	Amount Used	Conc of Std	Final Conc
12651	DI H2O			
12905	nitric acid	25 ml	neat neat	
12906	hydrochloric acid	25 ml	neat neat	
12643	ICV 1	10 ml	neat neat	
12542	ICV 2	10 ml	NEAT neat	
12545	BORON	.5 ml	1000 ug/ml	1 mg/l
12548	SILICON	.5 ml	1000 ug/ml	1 mg/l

Veritech Lot Number: V-317829

Prepared By: Aliano, Carmela
Description: ICS 1 INTERMEDIATE
Prep Date: 12/13/2019
Expiration Date: 3/12/2020
Department: Metals
BatchNumber:
Concentration: various mg/l
Final Volume: 50 ml
ApprovedBy: shiamala
ApproveDate: 12/20/19
Checked: Yes

Veritech Lot# /Rec#	Lot Description	Amount Used	Conc of Std	Final Conc
12651	DI H2O			
12905	nitric acid	2.5 ml	neat neat	
12574	BERYLIUM	.15 ml	1000 conc	3 mg/l
12564	CADMIUM	.15 ml	1000 conc	3 mg/l

Veritech Internally Prepared Standard Log

Veritech Lot Number: V-320443

Prepared By: Olufemi
Description: B, Si INTERMEDIATE
Prep Date: 1/22/2020
Expiration Date: 4/21/2020
Department: Metals
BatchNumber:
Concentration: 100 ppm
Final Volume: 200 ml
ApprovedBy: shiamala
ApproveDate: 01/28/20
Checked: Yes

Veritech Lot# /Rec#	Lot Description	Amount Used	Conc of Std	Final Conc
12651	DI H2O			
12969	nitric acid	10 ml	neat neat	
12968	hydrochloric acid	10 ml	neat neat	
12545	BORON	20 ml	1000 ug/ml	100 ppm
12933	silicon	20 ml	CONC conc	100 ppm

Veritech Lot Number: V-320611

Prepared By: Olufemi
Description: 1:1 HNO3 WARNING
Prep Date: 1/25/2020
Expiration Date: 4/24/2020
Department: Metals
BatchNumber:
Concentration: Reagent reag
Final Volume: 1000 ml
ApprovedBy: shiamala
ApproveDate: 01/28/20
Checked: Yes

Veritech Lot# /Rec#	Lot Description	Amount Used	Conc of Std	Final Conc
12651	DI H2O	500 ml		
12969	nitric acid	500 ml	neat neat	

Veritech Lot Number: V-320875

Prepared By: Lucca, Daniela
Description: 1:1 HCl WARNING
Prep Date: 1/30/2020
Expiration Date: 7/7/2020
Department: Metals
BatchNumber:
Concentration: Reagent reag
Final Volume: 1000 ml
ApprovedBy: shiamala
ApproveDate: 02/18/20
Checked: Yes

Veritech Lot# /Rec#	Lot Description	Amount Used	Conc of Std	Final Conc
12651	DI H2O	500 ml		
12906	hydrochloric acid	500 ml	neat neat	

Veritech Lot Number: V-321087

Prepared By: Olufemi
Description: ICS3 - Middle Std
Prep Date: 2/3/2020
Expiration Date: 5/2/2020
Department: Metals
BatchNumber:
Concentration: MULTI multi
Final Volume: 1000 ml
ApprovedBy: shiamala
ApproveDate: 02/18/20
Checked: Yes

Veritech Lot# /Rec#	Lot Description	Amount Used	Conc of Std	Final Conc
12651	DI H2O	944.75 ml		
12969	nitric acid	25 ml	neat neat	
12968	hydrochloric acid	25 ml	neat neat	
12538	CALIBRATION 1	5 ml	NEAT neat	
12537	CALIBRATION 2	5 ml	NEAT neat	
12550	BORON	.5 ml	1000 ug/ml	.5
12548	SILICON	5 ml	1000 ug/ml	5

Veritech Internally Prepared Standard Log

Veritech Lot Number: V-321090

Prepared By: Olufemi
Description: CCV
Prep Date: 2/3/2020
Expiration Date: 5/2/2020
Department: Metals
BatchNumber:
Concentration: MULTI multi
Final Volume: 1000 ml
ApprovedBy: shiamala
ApproveDate: 02/18/20
Checked: Yes

Veritech Lot# /Rec#	Lot Description	Amount Used	Conc of Std	Final Conc
12651	DI H2O			
12969	nitric acid	50 ml	neat neat	
12968	hydrochloric acid	50 ml	neat neat	
12643	ICV 1	10 ml	neat neat	
12542	ICV 2	10 ml	NEAT neat	
12545	BORON	.5 ml	1000 ug/ml	
12933	silicon	5 ml	CONC conc	

Veritech Lot Number: V-321157

Prepared By: Olufemi
Description: ICSA
Prep Date: 2/4/2020
Expiration Date: 5/3/2020
Department: Metals
BatchNumber:
Concentration: MULTI mg/l
Final Volume: 1000 ml
ApprovedBy: shiamala
ApproveDate: 02/18/20
Checked: Yes

Veritech Lot# /Rec#	Lot Description	Amount Used	Conc of Std	Final Conc
12651	DI H2O			
12969	nitric acid	50 ml	neat neat	
12968	hydrochloric acid	50 ml	neat neat	
12536	ICSA	50 ml	NEAT neat	

Veritech Lot Number: V-321158

Prepared By: Olufemi
Description: ICSAB
Prep Date: 2/4/2020
Expiration Date: 5/3/2020
Department: Metals
BatchNumber:
Concentration: MULTI mg/l
Final Volume: 500 ml
ApprovedBy: shiamala
ApproveDate: 02/18/20
Checked: Yes

Veritech Lot# /Rec#	Lot Description	Amount Used	Conc of Std	Final Conc
12651	DI H2O			
12969	nitric acid	25 ml	neat neat	
12968	hydrochloric acid	25 ml	neat neat	
12536	ICSA	25 ml	NEAT neat	
12543	ICSAB	5 ml	NEAT neat	

Veritech Lot Number: V-322349

Prepared By: ntuOlufemi
Description: ICS4 High std
Prep Date: 2/24/2020
Expiration Date: 5/23/2020
Department: Metals
BatchNumber:
Concentration: various mg/l
Final Volume: 500 ml
ApprovedBy: shiamala
ApproveDate: 02/28/20
Checked: Yes

Veritech Lot# /Rec#	Lot Description	Amount Used	Conc of Std	Final Conc
12651	DI H2O	434.5 ml		
12969	nitric acid	25 ml	neat neat	
12968	hydrochloric acid	25 ml	neat neat	
12538	CALIBRATION 1	5 ml	NEAT neat	
12537	CALIBRATION 2	5 ml	NEAT neat	
12550	BORON	.5 ml	1000 ug/ml	1
12548	SILICON	5 ml	1000 ug/ml	10

Veritech Internally Prepared Standard Log

Veritech Lot Number: V-322558

Prepared By: Aliano, Carmela
Description: ICS1 Lowest std
Prep Date: 2/27/2020
Expiration Date: 3/12/2020
Department: Metals
BatchNumber:
Concentration: various mg/l
Final Volume: 1000 ml
ApprovedBy: shiamala
ApproveDate: 02/28/20
Checked: Yes

Veritech Lot# /Rec#	Lot Description	Amount Used	Conc of Std	Final Conc
12651	DI H2O			
12905	nitric acid	50 ml	neat neat	
12906	hydrochloric acid	50 ml	neat neat	
V-317829	ICS 1 INTERMEDIATE	1 ml	various mg/l	

Veritech Lot Number: V-322559

Prepared By: Aliano, Carmela
Description: ICS2 - Low Std
Prep Date: 2/27/2020
Expiration Date: 4/21/2020
Department: Metals
BatchNumber:
Concentration: MULTI multi
Final Volume: 500 ml
ApprovedBy: shiamala
ApproveDate: 02/28/20
Checked: Yes

Veritech Lot# /Rec#	Lot Description	Amount Used	Conc of Std	Final Conc
12651	DI H2O			
12864	nitric acid	25 ml	neat neat	
12849	hydrochloric acid	25 ml	neat neat	
V-320443	B, Si INTERMEDIATE	.5 ml	100 ppm	0.1 mg/l
12983	CALIBRATION 1	.05 ml		
12984	CALIBRATION 2	.05 ml		

Veritech Lot Number: V-322582

Prepared By: Olufemi
Description: CCV
Prep Date: 2/27/2020
Expiration Date: 5/26/2020
Department: Metals
BatchNumber:
Concentration: MULTI multi
Final Volume: 1000 ml
ApprovedBy: shiamala
ApproveDate: 02/28/20
Checked: Yes

Veritech Lot# /Rec#	Lot Description	Amount Used	Conc of Std	Final Conc
13084	DI H20			
12969	nitric acid	50 ml	neat neat	
13047	Hydrochloric Acid	50 ml	neat neat	
12643	ICV 1	10 ml	neat neat	
12542	ICV 2	10 ml	NEAT neat	
12545	BORON	.5 ml	1000 ug/ml	
12933	silicon	5 ml	CONC conc	

Veritech Standard Receipt Log

Veritech Control/Receipt Number: 12427

Description
ALUMINUM

ApprovedBy: carmela
ApproveDate: 06/03/19
Checked: Yes

Manufacturer	Catalog Num:	Lot Num:	Date Rec:	Exp Date:	Rec By:	Num of Cont	Volume /Cont	Conc:	Units:
PERKIN ELMER	N9300184	23-143ALY1	04/12/19	09/30/20	Aliano, Carmela	1	125ml	1000	UG/ML

Veritech Control/Receipt Number: 12536

Description
ICSA

ApprovedBy: carmela
ApproveDate: 06/03/19
Checked: Yes

Manufacturer	Catalog Num:	Lot Num:	Date Rec:	Exp Date:	Rec By:	Num of Cont	Volume /Cont	Conc:	Units:
SPEX	XHCV-30	1-104MJ	05/30/19	05/30/20	Aliano, Carmela	4	500ml	NEAT	NEAT

Veritech Control/Receipt Number: 12537

Description
CALIBRATION 2

ApprovedBy: carmela
ApproveDate: 06/03/19
Checked: Yes

Manufacturer	Catalog Num:	Lot Num:	Date Rec:	Exp Date:	Rec By:	Num of Cont	Volume /Cont	Conc:	Units:
SPEX	XHCV-20-500	1-103MJ	05/30/19	05/30/20	Aliano, Carmela	2	500ml	NEAT	NEAT

Veritech Control/Receipt Number: 12538

Description
CALIBRATION 1

ApprovedBy: carmela
ApproveDate: 06/03/19
Checked: Yes

Manufacturer	Catalog Num:	Lot Num:	Date Rec:	Exp Date:	Rec By:	Num of Cont	Volume /Cont	Conc:	Units:
SPEX	XHCV-19-500	1-102MJ	05/30/19	05/30/20	Aliano, Carmela	2	500m	NEAT	NEAT

Veritech Control/Receipt Number: 12542

Description
ICV 2

ApprovedBy: carmela
ApproveDate: 06/03/19
Checked: Yes

Manufacturer	Catalog Num:	Lot Num:	Date Rec:	Exp Date:	Rec By:	Num of Cont	Volume /Cont	Conc:	Units:
SCP SCIENCE	600225102	S190521055	05/30/19	05/30/20	Aliano, Carmela	2	500m	NEAT	NEAT

Veritech Control/Receipt Number: 12543

Description
ICSAB

ApprovedBy: carmela
ApproveDate: 06/03/19
Checked: Yes

Manufacturer	Catalog Num:	Lot Num:	Date Rec:	Exp Date:	Rec By:	Num of Cont	Volume /Cont	Conc:	Units:
SCP SCIENCE	600225103	S190521056	05/30/19	05/30/20	Aliano, Carmela	1	500m	NEAT	NEAT

Veritech Control/Receipt Number: 12545

Description
BORON

ApprovedBy: carmela
ApproveDate: 06/03/19
Checked: Yes

Manufacturer	Catalog Num:	Lot Num:	Date Rec:	Exp Date:	Rec By:	Num of Cont	Volume /Cont	Conc:	Units:
SCP SCIENCE	14005005X	S190122026	05/30/19	01/30/21	Aliano, Carmela	1	500m	1000	UG/ML

Veritech Standard Receipt Log

Veritech Control/Receipt Number: 12548

Description
SILICON

ApprovedBy: carmela
ApproveDate: 06/03/19
Checked: Yes

Manufacturer	Catalog Num:	Lot Num:	Date Rec:	Exp Date:	Rec By:	Num of Cont	Volume /Cont	Conc:	Units:
SPEX	PLSI9-2X	24-93SIX	05/30/19	05/30/20	Aliano, Carmela	2	500m	1000	UG/ML

Veritech Control/Receipt Number: 12550

Description
BORON

ApprovedBy: carmela
ApproveDate: 06/03/19
Checked: Yes

Manufacturer	Catalog Num:	Lot Num:	Date Rec:	Exp Date:	Rec By:	Num of Cont	Volume /Cont	Conc:	Units:
SPEX	PLB9-2X	23-133BX	05/30/19	05/30/20	Aliano, Carmela	2	500m	1000	UG/ML

Veritech Control/Receipt Number: 12564

Description
CADMIUM

ApprovedBy: carmela
ApproveDate: 06/03/19
Checked: Yes

Manufacturer	Catalog Num:	Lot Num:	Date Rec:	Exp Date:	Rec By:	Num of Cont	Volume /Cont	Conc:	Units:
SPEX	PLCD2-2Y	24-35CDY	05/30/19	05/30/20	Aliano, Carmela	1	125m	1000	CONC

Veritech Control/Receipt Number: 12574

Description
BERYLIUM

ApprovedBy: carmela
ApproveDate: 06/03/19
Checked: Yes

Manufacturer	Catalog Num:	Lot Num:	Date Rec:	Exp Date:	Rec By:	Num of Cont	Volume /Cont	Conc:	Units:
SPEX	PLBE2-2Y	24-4BEY	05/30/19	05/30/20	Aliano, Carmela	1	125m	1000	CONC

Veritech Control/Receipt Number: 12643

Description
ICV 1

ApprovedBy: carmela
ApproveDate: 12/09/19
Checked: Yes

Manufacturer	Catalog Num:	Lot Num:	Date Rec:	Exp Date:	Rec By:	Num of Cont	Volume /Cont	Conc:	Units:
SCP	600-225-101	S190619025	07/01/19	06/30/20	Balashanthan, Shi	2	500ml	neat	neat

Veritech Control/Receipt Number: 12651

Description
DI H2O

ApprovedBy: janee
ApproveDate: 10/10/19
Checked: Yes

Manufacturer	Catalog Num:	Lot Num:	Date Rec:	Exp Date:	Rec By:	Num of Cont	Volume /Cont	Conc:	Units:
EVOQUA	1	1	07/08/19	07/07/20	Cousineau, Paul	1			

Veritech Control/Receipt Number: 12788

Description
nitric acid

ApprovedBy: jean
ApproveDate: 09/25/19
Checked: Yes

Manufacturer	Catalog Num:	Lot Num:	Date Rec:	Exp Date:	Rec By:	Num of Cont	Volume /Cont	Conc:	Units:
j.t.Baker	9598-34	221802	09/24/19	12/20/23	Lopez, Jose	4	2.5L	neat	neat

Veritech Standard Receipt Log

Veritech Control/Receipt Number: 12849

Description: hydrochloric acid

ApprovedBy: akmal
ApproveDate: 10/31/19
Checked: Yes

Manufacturer	Catalog Num:	Lot Num:	Date Rec:	Exp Date:	Rec By:	Num of Cont	Volume /Cont	Conc:	Units:
J.T.BAKER	9530-33	240180	10/22/19	08/26/24	Burwell, John	6	2.5L	neat	neat

Veritech Control/Receipt Number: 12864

Description: nitric acid

ApprovedBy:
ApproveDate:
Checked: No

Manufacturer	Catalog Num:	Lot Num:	Date Rec:	Exp Date:	Rec By:	Num of Cont	Volume /Cont	Conc:	Units:
J.T.Baker	9598-34	234822	11/05/19	06/09/24	Lopez, Jose	4	2.5L	neat	neat

Veritech Control/Receipt Number: 12905

Description: nitric acid

ApprovedBy:
ApproveDate:
Checked: No

Manufacturer	Catalog Num:	Lot Num:	Date Rec:	Exp Date:	Rec By:	Num of Cont	Volume /Cont	Conc:	Units:
J.T.Baker	9598-34	237365	12/02/19	07/01/24	Lopez, Jose	4	2.5L	neat	neat

Veritech Control/Receipt Number: 12906

Description: hydrochloric acid

ApprovedBy:
ApproveDate:
Checked: No

Manufacturer	Catalog Num:	Lot Num:	Date Rec:	Exp Date:	Rec By:	Num of Cont	Volume /Cont	Conc:	Units:
J.T.Baker	9530-33	240180	12/02/19	08/26/24	Lopez, Jose	6	2.5L	neat	neat

Veritech Control/Receipt Number: 12933

Description: silicon

ApprovedBy:
ApproveDate:
Checked: No

Manufacturer	Catalog Num:	Lot Num:	Date Rec:	Exp Date:	Rec By:	Num of Cont	Volume /Cont	Conc:	Units:
SCP SCIENCE	140-050-145	S191206040	12/13/19	12/30/21	Aliano, Carmela	4	500m	CONC	CONC

Veritech Control/Receipt Number: 12968

Description: hydrochloric acid

ApprovedBy:
ApproveDate:
Checked: No

Manufacturer	Catalog Num:	Lot Num:	Date Rec:	Exp Date:	Rec By:	Num of Cont	Volume /Cont	Conc:	Units:
J.T.Baker	9530-33	243992	12/30/19	09/15/24	Lopez, Jose	6	2.5L	neat	neat

Veritech Control/Receipt Number: 12969

Description: nitric acid

ApprovedBy:
ApproveDate:
Checked: No

Manufacturer	Catalog Num:	Lot Num:	Date Rec:	Exp Date:	Rec By:	Num of Cont	Volume /Cont	Conc:	Units:
J.T.Baker	9598-34	237365	12/30/19	07/01/24	Lopez, Jose	4	2.5L	neat	neat

Veritech Standard Receipt Log

Veritech Control/Receipt Number: 12983

Description
CALIBRATION 1

ApprovedBy:
ApproveDate:
Checked: No

Manufacturer	Catalog Num:	Lot Num:	Date Rec:	Exp Date:	Rec By:	Num of Cont	Volume /Cont	Conc:	Units:
SPEX	XHCV-19-500	8/214AB	01/06/20	12/30/20	Aliano, Carmela	1	500m		

Veritech Control/Receipt Number: 12984

Description
CALIBRATION 2

ApprovedBy:
ApproveDate:
Checked: No

Manufacturer	Catalog Num:	Lot Num:	Date Rec:	Exp Date:	Rec By:	Num of Cont	Volume /Cont	Conc:	Units:
SPEX	XHCV-20-500	8/215AB	01/06/20	12/30/20	Aliano, Carmela	1	500m		

Veritech Control/Receipt Number: 13047

Description
Hydrochloric Acid

ApprovedBy:
ApproveDate:
Checked: No

Manufacturer	Catalog Num:	Lot Num:	Date Rec:	Exp Date:	Rec By:	Num of Cont	Volume /Cont	Conc:	Units:
J.T.BAKER	9530-33	243992	02/11/20	09/15/24	Burwell, John	6	2L	neat	neat

Veritech Control/Receipt Number: 13084

Description
DI H20

ApprovedBy: jessica
ApproveDate: 02/26/20
Checked: Yes

Manufacturer	Catalog Num:	Lot Num:	Date Rec:	Exp Date:	Rec By:	Num of Cont	Volume /Cont	Conc:	Units:
EVOQUA	1	1	02/26/20	02/25/21	Trivedi, Beena	1			

Run Log

Data File: W:\METALS.FRM\ICPDATA\New\PEICP3A\A25419A3.txt

Analysis Date: 02/27/20 **Instrument:** PEICP3A

Sample Id	DF	Qc Type	Time	Run #	Test Group	Rept Limit Matrix	Qc Matrix	Anal Method	Prep Batch	Comments:	Stds:
CALBLK V-317800	1	CAL	13:36	1							V-317800(ICB/CCB)
CALST1 V-322558	1	CAL	13:40	2							V-322558(ICS1 Lowest std)
CALST2 V-322559	1	CAL	13:43	3							V-322559(ICS2 - Low Std)
CALST3 V-321087	1	CAL	13:46	4							V-321087(ICS3 - Middle Std)
CALST4 V-322349	1	CAL	13:50	5							V-322349(ICS4 High std)
ICS4 V-322349	1	ICS	13:53	6							V-322349(ICS4 High std)
ICV (2) V-317819	1	ICV	13:57	7						Cu, Zn failed	V-317819(ICV Regular)
ICB V-317800	1	ICB	14:00	8							V-317800(ICB/CCB)
ICSA V-321157	1	ICSA	14:04	9							V-321157(ICSA)
ICSAB V-321158	1	ICSAB	14:09	10							V-321158(ICSAB)
CCV V-321090	1	CCV	14:13	11							V-321090(CCV)
CCB V-317800	1	CCB	14:17	12							V-317800(ICB/CCB)
MB 82657 (0.5)	1	MB	14:20	13		AQUEO	AQUEO	EPA600	82657		0
LCSW 82657	1	LCS	14:23	14		AQUEO	AQUEO	EPA600	82657		0
LCSW MR 82657	1	LCS	14:27	15		AQUEO	AQUEO	EPA600	82657		0
AD15784-005	1	SMP	14:30	16	MET-1-AQ	AQUEO	AQUEO	EPA600	82657		0
AD15784-005	1	MR	14:34	17	MET-1-AQ	AQUEO	AQUEO	EPA600	82657		0
AD15784-006	1	MS	14:38	18	MET-1-AQ	AQUEO	AQUEO	EPA600	82657		0
AD15784-007	1	MSD	14:41	19	MET-1-AQ	AQUEO	AQUEO	EPA600	82657		0
AD15784-005	1	PS	14:45	20	MET-1-AQ	AQUEO	AQUEO	EPA600	82657		0
AD15784-005	5	SD	14:49	21	MET-1-AQ	AQUEO	AQUEO	EPA600	82657		0
CCV V-321090	1	CCV	14:52	22							V-321090(CCV)
CCB V-317800	1	CCB	14:55	23							V-317800(ICB/CCB)
AD15839-001	1	SMP	14:59	24	MET-2-AQ	AQUEO	AQUEO	EPA600	82657		0
AD15839-002	1	SMP	15:02	25	MET-2-AQ	AQUEO	AQUEO	EPA600	82657		0
AD15839-003	1	SMP	15:06	26	MET-4-AQ	AQUEO	AQUEO	EPA600	82657		0
AD15784-001	1	SMP	15:09	27	MET-1-AQ	AQUEO	AQUEO	EPA600	82657		0
AD15784-002	1	SMP	15:13	28	MET-1-AQ	AQUEO	AQUEO	EPA600	82657		0
AD15784-003	1	SMP	15:16	29	MET-1-AQ	AQUEO	AQUEO	EPA600	82657		0
ICSA V-321157	1	ICSA	15:20	30							V-321157(ICSA)
ICSAB V-321158	1	ICSAB	15:25	31							V-321158(ICSAB)
CCV V-321090	1	CCV	15:30	32							V-321090(CCV)
CCB V-317800	1	CCB	15:33	33							V-317800(ICB/CCB)
AD15784-004	1	SMP	15:36	34	MET-1-AQ	AQUEO	AQUEO	EPA600	82657		0
AD15784-008	1	SMP	15:41	35	MET-1-AQ	AQUEO	AQUEO	EPA600	82657		0
AD15784-009	1	SMP	15:44	36	MET-1-AQ	AQUEO	AQUEO	EPA600	82657		0
AD15784-010	1	SMP	15:49	37	MET-1-AQ	AQUEO	AQUEO	EPA600	82657		0
AD15784-011	1	SMP	15:53	38	MET-1-AQ	AQUEO	AQUEO	EPA600	82657		0
AD15784-012	1	SMP	15:56	39	MET-1-AQ	AQUEO	AQUEO	EPA600	82657		0
AD15784-013	1	SMP	16:00	40	MET-1-AQ	AQUEO	AQUEO	EPA600	82657		0
ICSA V-321157	1	ICSA	16:04	41							V-321157(ICSA)
ICSAB V-321158	1	ICSAB	16:09	42							V-321158(ICSAB)
CCV V-321090	1	CCV	16:14	43							V-321090(CCV)
CCB V-317800	1	CCB	16:18	44							V-317800(ICB/CCB)
MB 82685 (0.5)	1	MB	16:21	45	MET-2-AQ	AQUEO	AQUEO	EPA600	82685		0
LCSW 82685	1	LCS	16:24	46	MET-2-AQ	AQUEO	AQUEO	EPA600	82685		0
LCSW MR 82685	1	LCS	16:28	47	MET-2-AQ	AQUEO	AQUEO	EPA600	82685		0
AD15912-001	1	SMP	16:31	48	MET-2-AQ	AQUEO	AQUEO	EPA600	82685		0
AD15912-001	1	MR	16:35	49	MET-2-AQ	AQUEO	AQUEO	EPA600	82685		0
AD15912-001	1	MS	16:38	50	MET-2-AQ	AQUEO	AQUEO	EPA600	82685		0
AD15912-001	1	MSD	16:42	51	MET-2-AQ	AQUEO	AQUEO	EPA600	82685		0
AD15912-001	1	PS	16:45	52	MET-2-AQ	AQUEO	AQUEO	EPA600	82685		0
AD15912-001	5	SD	16:49	53	MET-2-AQ	AQUEO	AQUEO	EPA600	82685		0
CCV V-321090	1	CCV	16:52	54							V-321090(CCV)
CCB V-317800	1	CCB	16:56	55							V-317800(ICB/CCB)
AD15912-002	1	SMP	16:59	56	MET-2-AQ	AQUEO	AQUEO	EPA600	82685		0
AD15912-003	1	SMP	17:03	57	MET-2-AQ	AQUEO	AQUEO	EPA600	82685		0
AD15912-004	1	SMP	17:06	58	MET-2-AQ	AQUEO	AQUEO	EPA600	82685		0
AD15912-007	1	SMP	17:09	59	MET-2-AQ	AQUEO	AQUEO	EPA600	82685		0
AD15912-009	1	SMP	17:13	60	MET-2-AQ	AQUEO	AQUEO	EPA600	82685		0

Comments/Reviewedby:

Olufemi
192.168.1.105 2/27/2020 9:02:42 PM

RUN IS OK
All elements reported, except Cu, Zn

3/6/20

Note: ICP-MS dilution factor column does not reflect dilution which is performed prior to analysis. Secondary analytical dilution is documented on prep log. Dilution Factor:_____

Standard/Batch/SnCl2 Lot #:

Run Log

Data File: W:\METALS.FRM\ICPDATA\New\PEICP3A\A25419A3.txt

Analysis Date: 02/27/20 **Instrument:** PEICP3A

Sample Id	DF	Qc Type	Time	Run #	Test Group	Rept Limit Matrix	Qc Matrix	Anal Method	Prep Batch	Comments:	Stds:
AD15939-001	1	SMP	17:16	61	MET-2-AQ	AQUEO	AQUEO	EPA600	82685		()
ICSA V-321157	1	ICSA	17:20	62							V-321157(ICSA)
ICSAB V-321158	1	ICSAB	17:24	63							V-321158(ICSAB)
CCV V-321090	1	CCV	17:29	64							V-321090(CCV)
CCB V-317800	1	CCB	17:33	65							V-317800(ICB/CCB)

Comments/Reviewedby:

Olufemi
192 168 1 105 2/27/2020 9:02:42 PM

RUN IS OK
All elements reported, except Cu, Zn

3/26/20

Note: ICP-MS dilution factor column does not reflect dilution which is performed prior to analysis. Secondary analytical dilution is documented on prep log. Dilution Factor:_____

Standard/Batch/SnCl2 Lot #:

Batches: 25419 - 25444 V021905 0084

A25419A3 25419/82657 200.7

Analysis Begun

Start Time: 2/27/2020 1:36:52 PM
Plasma On Time: 2/27/2020 12:11:21 PM
Logged In Analyst: usermet
Technique: ICP Continuous
Spectrometer Model: Optima 7300 DV, S/N 077C0061602 Autosampler Model: S10

Sample Information File: C:\pe\Administrator\Sample Information\02.27.20.sif
Batch ID:
Results Data Set: A25419A3
Results Library: C:\pe\Administrator\Results\Results.mdb

Method Loaded
Method Name: PE3 7300DV AX 200.7
Method Last Saved: 2/27/2020 1:36:42 PM
IEC File: IECax071519A3.iec
MSF File:
Method Description: 200.7

Sequence No.: 1
Autosampler Location: 1
Sample ID: CALBLK V-317800
Date Collected: 2/27/2020 1:36:52 PM
Analyst:
Data Type: Original
Initial Sample Wt:
Initial Sample Vol:
Dilution:
Sample Prep Vol:

Mean Data: CALBLK V-317800

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	637515.4	7391.12	1.16%	100	%
Y 371.029	273913.8	3298.60	1.20%	100	%
Ag 328.068†	-88.0	27.78	31.57%	[0.00]	mg/L
Al 308.215†	3137.6	9.17	0.29%	[0.00]	mg/L
As 188.979†	5.5	1.18	21.55%	[0.00]	mg/L
Ba 233.527†	24.2	13.40	55.48%	[0.00]	mg/L
Be 313.107†	-1719.7	10.68	0.62%	[0.00]	mg/L
Ca 317.933†	3417.2	70.13	2.05%	[0.00]	mg/L
Cd 228.802†	163.2	0.19	0.11%	[0.00]	mg/L
Co 228.616†	-68.8	4.82	7.01%	[0.00]	mg/L
Cr 267.716†	87.3	15.22	17.44%	[0.00]	mg/L
Cu 327.393†	-165.8	78.43	47.31%	[0.00]	mg/L
Fe 273.955†	-97.0	22.65	23.34%	[0.00]	mg/L
K 404.721†	67915.0	684.63	1.01%	[0.00]	mg/L
Mg 279.077†	-410.2	5.95	1.45%	[0.00]	mg/L
Mn 257.610†	825.2	16.06	1.95%	[0.00]	mg/L
Mo 202.031†	-12.2	1.21	9.96%	[0.00]	mg/L
Na 330.237†	313.9	29.09	9.27%	[0.00]	mg/L
Ni 231.604†	-116.4	6.94	5.96%	[0.00]	mg/L
Pb 220.353†	102.7	2.92	2.84%	[0.00]	mg/L
Sb 206.836†	56.3	4.45	7.90%	[0.00]	mg/L
Se 196.026†	9.2	12.51	136.55%	[0.00]	mg/L
Sn 189.927†	15.1	1.37	9.03%	[0.00]	mg/L
Ti 334.940†	59.4	21.58	36.35%	[0.00]	mg/L
Tl 190.801†	-45.5	0.30	0.66%	[0.00]	mg/L
V 290.880†	1354.4	42.70	3.15%	[0.00]	mg/L
Zn 206.200†	-204.4	0.40	0.19%	[0.00]	mg/L
B 249.772	166.3	14.85	8.93%	[0.00]	mg/L
Si 251.611	-223.5	11.14	4.98%	[0.00]	mg/L

25419/82657

All elements reported, except Na.

Sequence No.: 2
Sample ID: CALST1 V-322558
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 10
Date Collected: 2/27/2020 1:40:08 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CALST1 V-322558

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	633530.5	784.51	0.12%	99.4	%
Y 371.029	272620.5	629.17	0.23%	99.5	%
Be 313.107†	3322.2	6.93	0.21%	[0.003]	mg/L
Cd 228.802†	92.4	1.06	1.14%	[0.003]	mg/L

Sequence No.: 3 Autosampler Location: 9
Sample ID: CALST2 V-322559 Date Collected: 2/27/2020 1:43:26 PM
Analyst: Data Type: Original
Initial Sample Wt: Initial Sample Vol:
Dilution: Sample Prep Vol:

Mean Data: CALST2 V-322559

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	644849.5	10803.13	1.68%	101	%
Y 371.029	277434.5	4598.51	1.66%	101	%
Ag 328.068†	219.9	80.39	36.56%	[0.002]	mg/L
Al 308.215†	1261.9	60.59	4.80%	[0.1]	mg/L
As 188.979†	19.0	3.42	18.04%	[0.010]	mg/L
Ba 233.527†	1224.7	30.46	2.49%	[0.010]	mg/L
Be 313.107†	14008.2	126.68	0.90%	[0.010]	mg/L
Ca 317.933†	97939.1	1144.06	1.17%	[1.0]	mg/L
Cd 228.802†	364.0	6.81	1.87%	[0.010]	mg/L
Co 228.616†	293.1	3.92	1.34%	[0.010]	mg/L
Cr 267.716†	919.5	9.53	1.04%	[0.010]	mg/L
Cu 327.393†	911.0	1.66	0.18%	[0.010]	mg/L
Fe 273.955†	1217.6	51.98	4.27%	[0.1]	mg/L
K 404.721†	-430.0	1039.80	241.82%	[1.0]	mg/L
Standard intensity and concentration values are not in the same order.					
Mg 279.077†	12483.8	116.03	0.93%	[1.0]	mg/L
Mn 257.610†	4100.4	138.52	3.38%	[0.01]	mg/L
Mo 202.031†	151.1	12.10	8.01%	[0.010]	mg/L
Na 330.237†	387.7	23.25	6.00%	[1.0]	mg/L
Ni 231.604†	347.0	20.21	5.83%	[0.010]	mg/L
Pb 220.353†	89.1	9.91	11.12%	[0.010]	mg/L
Sb 206.836†	19.6	1.01	5.16%	[0.010]	mg/L
Se 196.026†	19.7	8.64	43.77%	[0.010]	mg/L
Sn 189.927†	62.4	2.54	4.07%	[0.010]	mg/L
Ti 334.940†	3070.5	30.14	0.98%	[0.01]	mg/L
Tl 190.801†	28.5	8.51	29.81%	[0.010]	mg/L
V 290.880†	750.1	60.76	8.10%	[0.010]	mg/L
Zn 206.200†	467.4	9.74	2.08%	[0.010]	mg/L
B 249.772	5563.2	40.62	0.73%	[0.1]	mg/L
Si 251.611	4742.4	96.23	2.03%	[0.1]	mg/L

Sequence No.: 4
Sample ID: CALST3 V-321087
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/27/2020 1:46:44 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CALST3 V-321087

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	621363.4	11469.81	1.85%	97.5	%
Y 371.029	263319.8	4840.96	1.84%	96.1	%
Ag 328.068†	13004.1	27.44	0.21%	[0.10]	mg/L
Al 308.215†	63860.3	118.35	0.19%	[5]	mg/L
As 188.979†	1223.5	24.44	2.00%	[0.50]	mg/L
Ba 233.527†	61334.1	112.30	0.18%	[0.50]	mg/L
Be 313.107†	740177.8	14801.60	2.00%	[0.50]	mg/L
Ca 317.933†	5243539.6	122865.67	2.34%	[50]	mg/L
Cd 228.802†	19196.7	264.10	1.38%	[0.50]	mg/L
Co 228.616†	14666.0	167.36	1.14%	[0.50]	mg/L
Cr 267.716†	44364.3	87.56	0.20%	[0.50]	mg/L
Cu 327.393†	42123.9	77.07	0.18%	[0.50]	mg/L
Fe 273.955†	61670.0	86.68	0.14%	[5]	mg/L
K 404.721†	33587.5	2010.92	5.99%	[50]	mg/L
Standard intensity and concentration values are not in the same order.					
Mg 279.077†	697617.7	2822.50	0.40%	[50]	mg/L
Mn 257.610†	198395.2	406.08	0.20%	[0.5]	mg/L
Mo 202.031†	7719.6	119.59	1.55%	[0.50]	mg/L
Na 330.237†	21298.0	45.93	0.22%	[50]	mg/L
Ni 231.604†	17331.3	266.03	1.53%	[0.50]	mg/L
Pb 220.353†	4276.5	74.66	1.75%	[0.50]	mg/L
Sb 206.836†	1305.6	14.62	1.12%	[0.50]	mg/L
Se 196.026†	1017.2	22.21	2.18%	[0.50]	mg/L
Sn 189.927†	3735.3	70.86	1.90%	[0.50]	mg/L
Ti 334.940†	155276.9	72.59	0.05%	[0.5]	mg/L
Tl 190.801†	1259.1	16.88	1.34%	[0.50]	mg/L
V 290.880†	36407.5	95.70	0.26%	[0.50]	mg/L
Zn 206.200†	24227.5	479.93	1.98%	[0.50]	mg/L
B 249.772	26152.3	90.69	0.35%	[0.5]	mg/L
Si 251.611	117347.7	2583.98	2.20%	[5.0]	mg/L

Sequence No.: 5 Autosampler Location: 4
Sample ID: CALST4 V-322349 Date Collected: 2/27/2020 1:50:14 PM
Analyst: Data Type: Original
Initial Sample Wt: Initial Sample Vol:
Dilution: Sample Prep Vol:

Mean Data: CALST4 V-322349

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Sc 361.383	587733.1	109.92	0.02%	92.2	%
Y 371.029	250527.6	620.32	0.25%	91.5	%
Ag 328.068†	26009.6	63.76	0.25%	[0.20]	mg/L
Al 308.215†	128823.2	123.43	0.10%	[10]	mg/L
As 188.979†	2409.2	66.05	2.74%	[1.0]	mg/L
Ba 233.527†	122817.8	865.49	0.70%	[1.0]	mg/L
Be 313.107†	1516854.5	12979.13	0.86%	[1.0]	mg/L
Ca 317.933†	10540824.5	80991.93	0.77%	[100]	mg/L
Cd 228.802†	36983.3	231.22	0.63%	[1.0]	mg/L
Co 228.616†	27832.7	218.03	0.78%	[1.0]	mg/L
Cr 267.716†	89111.2	676.30	0.76%	[1.0]	mg/L
Cu 327.393†	86069.0	519.77	0.60%	[1.0]	mg/L
Fe 273.955†	123664.4	1099.04	0.89%	[10]	mg/L
K 404.721†	55213.0	2543.62	4.61%	[100]	mg/L
Standard intensity and concentration values are not in the same order.					
Mg 279.077†	1364656.2	25329.59	1.86%	[100]	mg/L
Mn 257.610†	398324.5	3230.00	0.81%	[1.0]	mg/L
Mo 202.031†	15683.3	219.17	1.40%	[1.0]	mg/L
Na 330.237†	46910.4	385.41	0.82%	[100]	mg/L
Ni 231.604†	32516.5	356.33	1.10%	[1.0]	mg/L
Pb 220.353†	8329.8	182.50	2.19%	[1.0]	mg/L
Sb 206.836†	2623.0	46.29	1.76%	[1.0]	mg/L
Se 196.026†	1976.5	53.29	2.70%	[1.0]	mg/L
Sn 189.927†	7615.4	187.41	2.46%	[1.0]	mg/L
Ti 334.940†	310136.0	486.74	0.16%	[1.0]	mg/L
Tl 190.801†	2476.7	42.27	1.71%	[1.0]	mg/L
V 290.880†	73162.3	468.46	0.64%	[1.0]	mg/L
Zn 206.200†	46418.4	873.80	1.88%	[1.0]	mg/L
B 249.772	53437.0	1007.83	1.89%	[1]	mg/L
Si 251.611	212913.2	620.37	0.29%	[10]	mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	3	Lin, Calc Int	-18.4	130200	0.00000	0.999999	
Al 308.215	3	Lin, Calc Int	-112.3	12870	0.00000	0.999990	
As 188.979	3	Lin, Calc Int	1.1	2415	0.00000	0.999961	
Ba 233.527	3	Lin, Calc Int	-15.2	122800	0.00000	1.000000	
Be 313.107	4	Lin, Calc Int	-3021.9	1513000	0.00000	0.999934	
Ca 317.933	3	Lin, Calc Int	-8281.8	105400	0.00000	0.999997	
Cd 228.802	4	Lin, Calc Int	80.2	37170	0.00000	0.999828	
Co 228.616	3	Lin, Calc Int	143.2	27960	0.00000	0.999619	
Cr 267.716	3	Lin, Calc Int	-21.9	89060	0.00000	0.999997	
Cu 327.393	3	Lin, Calc Int	-142.9	85880	0.00000	0.999938	
Fe 273.955	3	Lin, Calc Int	-38.2	12360	0.00000	0.999999	
K 404.721	3	Lin, Calc Int	642.7	568.2	0.00000	0.993521	
Mg 279.077	3	Lin, Calc Int	2254.9	13680	0.00000	0.999930	
Mn 257.610	3	Lin, Calc Int	-86.4	398100	0.00000	0.999998	
Mo 202.031	3	Lin, Calc Int	-24.8	15660	0.00000	0.999968	
Na 330.237	3	Lin, Calc Int	-429.6	465.7	0.00000	0.998874	
Ni 231.604	3	Lin, Calc Int	205.2	32700	0.00000	0.999430	
Pb 220.353	3	Lin, Calc Int	23.0	8347	0.00000	0.999907	
Sb 206.836	3	Lin, Calc Int	-4.1	2626	0.00000	0.999996	
Se 196.026	3	Lin, Calc Int	5.3	1982	0.00000	0.999886	
Sn 189.927	3	Lin, Calc Int	-19.4	7610	0.00000	0.999955	
Ti 334.940	3	Lin, Calc Int	24.0	310200	0.00000	1.000000	
Tl 190.801	3	Lin, Calc Int	5.5	2478	0.00000	0.999965	
V 290.880	3	Lin, Calc Int	-23.2	73120	0.00000	0.999997	
Zn 206.200	3	Lin, Calc Int	186.8	46600	0.00000	0.999745	
B 249.772	3	Lin, Calc Int	-7.7	53240	0.00000	0.999911	
Si 251.611	3	Lin, Calc Int	3168.6	21350	0.00000	0.998717	

Sequence No.: 6
Sample ID: ICS4 V-322349
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 4
Date Collected: 2/27/2020 1:53:49 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICS4 V-322349

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	588606.3	92.3	%	0.34				0.37%
Y 371.029	252300.4	92.1	%	0.37				0.40%
Ag 328.068†	26470.7	0.203518	mg/L	0.0003297	0.203518	mg/L	0.0003297	0.16%
Al 308.215†	128309.3	9.95265	mg/L	0.004297	9.95265	mg/L	0.004297	0.04%
QC value within limits for Al 308.215 Recovery = 99.53%								
As 188.979†	2236.9	0.921650	mg/L	0.0019306	0.921650	mg/L	0.0019306	0.21%
QC value within limits for As 188.979 Recovery = 92.17%								
Ba 233.527†	118995.9	0.969097	mg/L	0.0018390	0.969097	mg/L	0.0018390	0.19%
QC value within limits for Ba 233.527 Recovery = 96.91%								
Be 313.107†	1480704.6	0.980522	mg/L	0.0005861	0.980522	mg/L	0.0005861	0.06%
QC value within limits for Be 313.107 Recovery = 98.05%								
Ca 317.933†	9876774.1	93.7859	mg/L	0.37085	93.7859	mg/L	0.37085	0.40%
QC value within limits for Ca 317.933 Recovery = 93.79%								
Cd 228.802†	36021.1	0.966982	mg/L	0.0009207	0.966982	mg/L	0.0009207	0.10%
QC value within limits for Cd 228.802 Recovery = 96.70%								
Co 228.616†	26738.1	0.951187	mg/L	0.0016267	0.951187	mg/L	0.0016267	0.17%
QC value within limits for Co 228.616 Recovery = 95.12%								
Cr 267.716†	86380.8	0.970147	mg/L	0.0017091	0.970147	mg/L	0.0017091	0.18%
QC value within limits for Cr 267.716 Recovery = 97.01%								
Cu 327.393†	87636.1	1.02214	mg/L	0.003760	1.02214	mg/L	0.003760	0.37%
QC value within limits for Cu 327.393 Recovery = 102.21%								
Fe 273.955†	119455.6	9.66423	mg/L	0.019169	9.66423	mg/L	0.019169	0.20%
QC value within limits for Fe 273.955 Recovery = 96.64%								
K 404.721†	45746.1	38.7134	mg/L	0.74312	38.7134	mg/L	0.74312	1.92%
QC value less than the lower limit for K 404.721 Recovery = 38.71%								
Mg 279.077†	1266437.8	92.4084	mg/L	0.48648	92.4084	mg/L	0.48648	0.53%
QC value within limits for Mg 279.077 Recovery = 92.41%								
Mn 257.610†	386806.2	0.971792	mg/L	0.0016034	0.971792	mg/L	0.0016034	0.16%
QC value within limits for Mn 257.610 Recovery = 97.18%								
Mo 202.031†	15173.0	0.970214	mg/L	0.0051842	0.970214	mg/L	0.0051842	0.53%
QC value within limits for Mo 202.031 Recovery = 97.02%								
Na 330.237†	48566.8	105.220	mg/L	0.2887	105.220	mg/L	0.2887	0.27%
QC value within limits for Na 330.237 Recovery = 105.22%								
Ni 231.604†	30980.9	0.941209	mg/L	0.0040719	0.941209	mg/L	0.0040719	0.43%
QC value within limits for Ni 231.604 Recovery = 94.12%								
Pb 220.353†	7759.7	0.927815	mg/L	0.0063494	0.927815	mg/L	0.0063494	0.68%
QC value within limits for Pb 220.353 Recovery = 92.78%								
Sb 206.836†	2536.1	0.980014	mg/L	0.0067087	0.980014	mg/L	0.0067087	0.68%
QC value within limits for Sb 206.836 Recovery = 98.00%								
Se 196.026†	1809.9	0.910308	mg/L	0.0037039	0.910308	mg/L	0.0037039	0.41%
QC value within limits for Se 196.026 Recovery = 91.03%								
Sn 189.927†	6931.6	0.907787	mg/L	0.0074616	0.907787	mg/L	0.0074616	0.82%
QC value within limits for Sn 189.927 Recovery = 90.78%								
Ti 334.940†	308476.2	0.994396	mg/L	0.0005394	0.994396	mg/L	0.0005394	0.05%
QC value within limits for Ti 334.940 Recovery = 99.44%								
Tl 190.801†	2378.1	0.979098	mg/L	0.0080907	0.979098	mg/L	0.0080907	0.83%
QC value within limits for Tl 190.801 Recovery = 97.91%								
V 290.880†	71584.5	0.991374	mg/L	0.0009764	0.991374	mg/L	0.0009764	0.10%
QC value within limits for V 290.880 Recovery = 99.14%								
Zn 206.200†	42379.0	0.905412	mg/L	0.0054123	0.905412	mg/L	0.0054123	0.60%
QC value within limits for Zn 206.200 Recovery = 90.54%								
B 249.772	48793.6	0.878759	mg/L	0.0064717	0.878759	mg/L	0.0064717	0.74%
QC value less than the lower limit for B 249.772 Recovery = 87.88%								
Si 251.611	208488.3	9.66984	mg/L	0.060863	9.66984	mg/L	0.060863	0.63%
QC value within limits for Si 251.611 Recovery = 96.70%								

QC Failed. Continue with analysis.

Sequence No.: 7
Sample ID: ICV (2) V-317819
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 11
Date Collected: 2/27/2020 1:57:24 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICV (2) V-317819

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	581174.0	91.2	%	0.13				0.14%
Y 371.029	249786.5	91.2	%	0.04				0.05%
Ag 328.068†	26654.9	0.204934	mg/L	0.0005216	0.204934	mg/L	0.0005216	0.25%
QC value within limits for Ag 328.068 Recovery = 102.47%								
Al 308.215†	132736.5	10.2963	mg/L	0.00330	10.2963	mg/L	0.00330	0.03%
QC value within limits for Al 308.215 Recovery = 102.96%								
As 188.979†	2302.3	0.948690	mg/L	0.0046633	0.948690	mg/L	0.0046633	0.49%
QC value within limits for As 188.979 Recovery = 94.87%								
Ba 233.527†	120474.8	0.981139	mg/L	0.0007779	0.981139	mg/L	0.0007779	0.08%
QC value within limits for Ba 233.527 Recovery = 98.11%								
Be 313.107†	1511899.4	1.00114	mg/L	0.000094	1.00114	mg/L	0.000094	0.01%
QC value within limits for Be 313.107 Recovery = 100.11%								
Ca 317.933†	10097727.8	95.8823	mg/L	1.39743	95.8823	mg/L	1.39743	1.46%
QC value within limits for Ca 317.933 Recovery = 95.88%								
Cd 228.802†	37071.6	0.995246	mg/L	0.0014835	0.995246	mg/L	0.0014835	0.15%
QC value within limits for Cd 228.802 Recovery = 99.52%								
Co 228.616†	27496.1	0.978297	mg/L	0.0032734	0.978297	mg/L	0.0032734	0.33%
QC value within limits for Co 228.616 Recovery = 97.83%								
Cr 267.716†	88946.1	0.998951	mg/L	0.0006665	0.998951	mg/L	0.0006665	0.07%
QC value within limits for Cr 267.716 Recovery = 99.90%								
Cu 327.393†	91970.3	1.07261	mg/L	0.000014	1.07261	mg/L	0.000014	0.00%
QC value within limits for Cu 327.393 Recovery = 107.26%								
Fe 273.955†	121486.3	9.82846	mg/L	0.015250	9.82846	mg/L	0.015250	0.16%
QC value within limits for Fe 273.955 Recovery = 98.28%								
K 404.721†	45400.4	37.4140	mg/L	0.05360	37.4140	mg/L	0.05360	0.14%
QC value less than the lower limit for K 404.721 Recovery = 37.41%								
Mg 279.077†	1274333.1	92.9856	mg/L	0.03647	92.9856	mg/L	0.03647	0.04%
QC value within limits for Mg 279.077 Recovery = 92.99%								
Mn 257.610†	393399.0	0.988351	mg/L	0.0004639	0.988351	mg/L	0.0004639	0.05%
QC value within limits for Mn 257.610 Recovery = 98.84%								
Mo 202.031†	15332.6	0.980401	mg/L	0.0042414	0.980401	mg/L	0.0042414	0.43%
QC value within limits for Mo 202.031 Recovery = 98.04%								
Na 330.237†	50566.5	109.514	mg/L	0.0331	109.514	mg/L	0.0331	0.03%
QC value within limits for Na 330.237 Recovery = 109.51%								
Ni 231.604†	31666.9	0.962189	mg/L	0.0003045	0.962189	mg/L	0.0003045	0.03%
QC value within limits for Ni 231.604 Recovery = 96.22%								
Pb 220.353†	7983.1	0.954612	mg/L	0.0042669	0.954612	mg/L	0.0042669	0.45%
QC value within limits for Pb 220.353 Recovery = 95.46%								
Sb 206.836†	2603.1	1.00567	mg/L	0.005287	1.00567	mg/L	0.005287	0.53%
QC value within limits for Sb 206.836 Recovery = 100.57%								
Se 196.026†	1854.0	0.932558	mg/L	0.0004444	0.932558	mg/L	0.0004444	0.05%
QC value within limits for Se 196.026 Recovery = 93.26%								
Sn 189.927†	7049.0	0.923106	mg/L	0.0035536	0.923106	mg/L	0.0035536	0.38%
QC value within limits for Sn 189.927 Recovery = 92.31%								
Ti 334.940†	314365.2	1.01338	mg/L	0.003296	1.01338	mg/L	0.003296	0.33%
QC value within limits for Ti 334.940 Recovery = 101.34%								
Tl 190.801†	2374.8	0.978337	mg/L	0.0028594	0.978337	mg/L	0.0028594	0.29%
QC value within limits for Tl 190.801 Recovery = 97.83%								
V 290.880†	73638.9	1.01959	mg/L	0.000417	1.01959	mg/L	0.000417	0.04%
QC value within limits for V 290.880 Recovery = 101.96%								
Zn 206.200†	42754.6	0.913470	mg/L	0.0022947	0.913470	mg/L	0.0022947	0.25%
QC value within limits for Zn 206.200 Recovery = 91.35%								
B 249.772	448075.0	8.37783	mg/L	0.034083	8.37783	mg/L	0.034083	0.41%
QC value greater than the upper limit for B 249.772 Recovery = 837.78%								
Si 251.611	22792.9	1.04918	mg/L	0.000607	1.04918	mg/L	0.000607	0.06%
QC value within limits for Si 251.611 Recovery = 104.92%								

QC Failed. Continue with analysis.

Sequence No.: 8
Sample ID: ICB V-317800
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/27/2020 2:00:59 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICB V-317800

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	624027.2	97.9	%	0.58				0.60%
Y 371.029	268421.2	98.0	%	0.62				0.63%
Ag 328.068†	14.2	0.0002505	mg/L	0.00033777	0.0002505	mg/L	0.00033777	134.82%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 308.215†	-36.0	0.0058757	mg/L	0.00098114	0.0058757	mg/L	0.00098114	16.70%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979†	12.5	0.0047061	mg/L	0.00056152	0.0047061	mg/L	0.00056152	11.93%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	37.6	0.0004298	mg/L	0.00003789	0.0004298	mg/L	0.00003789	8.82%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	110.6	0.0020701	mg/L	0.00001057	0.0020701	mg/L	0.00001057	0.51%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933†	503.3	0.0833506	mg/L	0.00097760	0.0833506	mg/L	0.00097760	1.17%
QC value within limits for Ca 317.933 Recovery = Not calculated								
Cd 228.802†	18.9	-0.0016506	mg/L	0.00018238	-0.0016506	mg/L	0.00018238	11.05%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	4.9	-0.0049431	mg/L	0.00005253	-0.0049431	mg/L	0.00005253	1.06%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	-5.2	0.0001880	mg/L	0.00016927	0.0001880	mg/L	0.00016927	90.03%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	445.9	0.0068560	mg/L	0.00021622	0.0068560	mg/L	0.00021622	3.15%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	203.9	0.0195743	mg/L	0.00040055	0.0195743	mg/L	0.00040055	2.05%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 404.721†	3685.9	5.27339	mg/L	0.252673	5.27339	mg/L	0.252673	4.79%
QC value greater than the upper limit for K 404.721 Recovery = Not calculated								
Mg 279.077†	1.7	-0.164696	mg/L	0.0007544	-0.164696	mg/L	0.0007544	0.46%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	225.4	0.0007832	mg/L	0.00003625	0.0007832	mg/L	0.00003625	4.63%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	10.7	0.0022631	mg/L	0.00019233	0.0022631	mg/L	0.00019233	8.50%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 330.237†	49.8	1.02947	mg/L	0.103037	1.02947	mg/L	0.103037	10.01%
QC value within limits for Na 330.237 Recovery = Not calculated								
Ni 231.604†	2.3	-0.0062046	mg/L	0.00010459	-0.0062046	mg/L	0.00010459	1.69%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	22.5	-0.0000559	mg/L	0.00077876	-0.0000559	mg/L	0.00077876	>999.9%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	-1.0	0.0011883	mg/L	0.00097952	0.0011883	mg/L	0.00097952	82.43%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	1.5	-0.0018919	mg/L	0.00082306	-0.0018919	mg/L	0.00082306	43.51%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	83.3	0.0134910	mg/L	0.00020139	0.0134910	mg/L	0.00020139	1.49%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Ti 334.940†	41.1	0.0000551	mg/L	0.00013843	0.0000551	mg/L	0.00013843	251.14%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	-5.0	-0.0042419	mg/L	0.00156351	-0.0042419	mg/L	0.00156351	36.86%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 290.880†	16.9	0.0005766	mg/L	0.00002455	0.0005766	mg/L	0.00002455	4.26%
QC value within limits for V 290.880 Recovery = Not calculated								
Zn 206.200†	33.5	-0.0032892	mg/L	0.00013793	-0.0032892	mg/L	0.00013793	4.19%
QC value within limits for Zn 206.200 Recovery = Not calculated								
B 249.772	5651.7	0.106224	mg/L	0.0140709	0.106224	mg/L	0.0140709	13.25%
QC value within limits for B 249.772 Recovery = Not calculated								
Si 251.611	133.1	-0.141069	mg/L	0.0001999	-0.141069	mg/L	0.0001999	0.14%
QC value less than the lower limit for Si 251.611 Recovery = Not calculated								

QC Failed. Continue with analysis.

Sequence No.: 9
Sample ID: ICSA V-321157
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 7
Date Collected: 2/27/2020 2:04:15 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICSA V-321157

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	556578.6	87.3	%	1.26				1.45%
Y 371.029	234605.4	85.6	%	1.24				1.44%
Ag 328.068†	-417.3	-0.0030647	mg/L	0.00020856	-0.0030647	mg/L	0.00020856	6.81%
Al 308.215†	6416145.8	498.396	mg/L	6.4469	498.396	mg/L	6.4469	1.29%
QC value within limits for Al 308.215 Recovery = 99.68%								
As 188.979†	-39.9	0.0032998	mg/L	0.00224046	0.0032998	mg/L	0.00224046	67.90%
Ba 233.527†	422.6	0.0035648	mg/L	0.00007027	0.0035648	mg/L	0.00007027	1.97%
Be 313.107†	-450.4	0.0016994	mg/L	0.00004563	0.0016994	mg/L	0.00004563	2.69%
Ca 317.933†	45062432.0	427.615	mg/L	7.1288	427.615	mg/L	7.1288	1.67%
QC value within limits for Ca 317.933 Recovery = 85.52%								
Cd 228.802†	-38.1	-0.0031824	mg/L	0.00032485	-0.0031824	mg/L	0.00032485	10.21%
Co 228.616†	88.8	-0.0019437	mg/L	0.00019338	-0.0019437	mg/L	0.00019338	9.95%
Cr 267.716†	18.8	0.0004575	mg/L	0.00019825	0.0004575	mg/L	0.00019825	43.33%
Cu 327.393†	-1716.7	-0.0183266	mg/L	0.00145514	-0.0183266	mg/L	0.00145514	7.94%
Fe 273.955†	2165584.5	175.148	mg/L	2.2684	175.148	mg/L	2.2684	1.30%
QC value within limits for Fe 273.955 Recovery = 87.57%								
K 404.721†	754583.6	589.892	mg/L	7.9369	589.892	mg/L	7.9369	1.35%
Mg 279.077†	6019644.4	439.855	mg/L	5.8617	439.855	mg/L	5.8617	1.33%
QC value within limits for Mg 279.077 Recovery = 87.97%								
Mn 257.610†	-2099.8	-0.0050571	mg/L	0.00006225	-0.0050571	mg/L	0.00006225	1.23%
Mo 202.031†	25.5	0.0032107	mg/L	0.00005041	0.0032107	mg/L	0.00005041	1.57%
Na 330.237†	2.0	0.926754	mg/L	0.0193894	0.926754	mg/L	0.0193894	2.09%
Ni 231.604†	112.3	-0.0028425	mg/L	0.00055588	-0.0028425	mg/L	0.00055588	19.56%
Pb 220.353†	-267.0	0.0107097	mg/L	0.00034332	0.0107097	mg/L	0.00034332	3.21%
Sb 206.836†	30.2	0.0131056	mg/L	0.00209627	0.0131056	mg/L	0.00209627	16.00%
Se 196.026†	-115.8	0.0023907	mg/L	0.00878522	0.0023907	mg/L	0.00878522	367.48%
Sn 189.927†	-36.1	-0.0021843	mg/L	0.00006068	-0.0021843	mg/L	0.00006068	2.78%
Ti 334.940†	-748.3	-0.0024896	mg/L	0.00003514	-0.0024896	mg/L	0.00003514	1.41%
Tl 190.801†	-29.2	-0.0139073	mg/L	0.00474929	-0.0139073	mg/L	0.00474929	34.15%
V 290.880†	496.1	-0.0048414	mg/L	0.00041289	-0.0048414	mg/L	0.00041289	8.53%
Zn 206.200†	-61.6	-0.0053300	mg/L	0.00002431	-0.0053300	mg/L	0.00002431	0.46%
B 249.772	-38301.7	-1.44684	mg/L	0.001248	-1.44684	mg/L	0.001248	0.09%
Si 251.611	815.3	0.0402416	mg/L	0.00043427	0.0402416	mg/L	0.00043427	1.08%

All analyte(s) passed QC.

Sequence No.: 10
Sample ID: ICSAB V-321158
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 2/27/2020 2:09:01 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICSAB V-321158

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	560086.9	87.9	%	0.22				0.25%
Y 371.029	235682.0	86.0	%	0.16				0.18%
Ag 328.068†	137391.9	1.05574	mg/L	0.001101	1.05574	mg/L	0.001101	0.10%
QC value within limits for Ag 328.068 Recovery = 105.57%								
Al 308.215†	6592284.7	512.078	mg/L	0.9418	512.078	mg/L	0.9418	0.18%
QC value within limits for Al 308.215 Recovery = 102.42%								
As 188.979†	2107.8	0.893016	mg/L	0.0050042	0.893016	mg/L	0.0050042	0.56%
QC value within limits for As 188.979 Recovery = 89.30%								
Ba 233.527†	57820.1	0.470948	mg/L	0.0004251	0.470948	mg/L	0.0004251	0.09%
QC value within limits for Ba 233.527 Recovery = 94.19%								
Be 313.107†	703927.6	0.467188	mg/L	0.0001725	0.467188	mg/L	0.0001725	0.04%
QC value within limits for Be 313.107 Recovery = 93.44%								
Ca 317.933†	45242303.6	429.322	mg/L	1.8738	429.322	mg/L	1.8738	0.44%
QC value within limits for Ca 317.933 Recovery = 85.86%								
Cd 228.802†	35407.7	0.950478	mg/L	0.0029305	0.950478	mg/L	0.0029305	0.31%
QC value within limits for Cd 228.802 Recovery = 95.05%								
Co 228.616†	12541.7	0.443443	mg/L	0.0051434	0.443443	mg/L	0.0051434	1.16%
QC value within limits for Co 228.616 Recovery = 88.69%								
Cr 267.716†	40492.4	0.454903	mg/L	0.0016221	0.454903	mg/L	0.0016221	0.36%
QC value within limits for Cr 267.716 Recovery = 90.98%								
Cu 327.393†	42916.1	0.501398	mg/L	0.0029239	0.501398	mg/L	0.0029239	0.58%
QC value within limits for Cu 327.393 Recovery = 100.28%								
Fe 273.955†	2222877.3	179.781	mg/L	0.2516	179.781	mg/L	0.2516	0.14%
QC value within limits for Fe 273.955 Recovery = 89.89%								
K 404.721†	776343.8	608.691	mg/L	0.2923	608.691	mg/L	0.2923	0.05%
Mg 279.077†	6188897.7	452.227	mg/L	0.5453	452.227	mg/L	0.5453	0.12%
QC value within limits for Mg 279.077 Recovery = 90.45%								
Mn 257.610†	181859.7	0.457010	mg/L	0.0003902	0.457010	mg/L	0.0003902	0.09%
QC value within limits for Mn 257.610 Recovery = 91.40%								
Mo 202.031†	13.3	0.0024305	mg/L	0.00066985	0.0024305	mg/L	0.00066985	27.56%
Na 330.237†	-415.0	0.0313571	mg/L	0.08562981	0.0313571	mg/L	0.08562981	273.08%
Ni 231.604†	27916.9	0.847504	mg/L	0.0014376	0.847504	mg/L	0.0014376	0.17%
QC value within limits for Ni 231.604 Recovery = 84.75%								
Pb 220.353†	6989.0	0.881272	mg/L	0.0063668	0.881272	mg/L	0.0063668	0.72%
QC value within limits for Pb 220.353 Recovery = 88.13%								
Sb 206.836†	2547.3	0.971767	mg/L	0.0119145	0.971767	mg/L	0.0119145	1.23%
QC value within limits for Sb 206.836 Recovery = 97.18%								
Se 196.026†	1610.9	0.875886	mg/L	0.0117320	0.875886	mg/L	0.0117320	1.34%
QC value within limits for Se 196.026 Recovery = 87.59%								
Sn 189.927†	-69.4	-0.0065588	mg/L	0.00134086	-0.0065588	mg/L	0.00134086	20.44%
Ti 334.940†	-700.0	-0.0023340	mg/L	0.00001983	-0.0023340	mg/L	0.00001983	0.85%
Tl 190.801†	2111.9	0.855131	mg/L	0.0025533	0.855131	mg/L	0.0025533	0.30%
QC value within limits for Tl 190.801 Recovery = 85.51%								
V 290.880†	34697.4	0.462567	mg/L	0.0006354	0.462567	mg/L	0.0006354	0.14%
QC value within limits for V 290.880 Recovery = 92.51%								
Zn 206.200†	37524.4	0.801236	mg/L	0.0018052	0.801236	mg/L	0.0018052	0.23%
QC value within limits for Zn 206.200 Recovery = 80.12%								
B 249.772	-40543.0	-1.50819	mg/L	0.000819	-1.50819	mg/L	0.000819	0.05%
Si 251.611	752.5	0.0587001	mg/L	0.00003268	0.0587001	mg/L	0.00003268	0.06%

All analyte(s) passed QC.

Sequence No.: 11
Sample ID: CCV V-321090
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 6
Date Collected: 2/27/2020 2:13:49 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV V-321090

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	607902.1	95.4	%	0.24				0.26%
Y 371.029	258675.3	94.4	%	0.26				0.28%
Ag 328.068†	13405.2	0.103135	mg/L	0.0000503	0.103135	mg/L	0.0000503	0.05%
QC value within limits for Ag 328.068 Recovery = 103.13%								
Al 308.215†	65938.1	5.11908	mg/L	0.011088	5.11908	mg/L	0.011088	0.22%
QC value within limits for Al 308.215 Recovery = 102.38%								
As 188.979†	1132.6	0.466424	mg/L	0.0006363	0.466424	mg/L	0.0006363	0.14%
QC value within limits for As 188.979 Recovery = 93.28%								
Ba 233.527†	60943.1	0.496378	mg/L	0.0002609	0.496378	mg/L	0.0002609	0.05%
QC value within limits for Ba 233.527 Recovery = 99.28%								
Be 313.107†	739993.8	0.491023	mg/L	0.0016337	0.491023	mg/L	0.0016337	0.33%
QC value within limits for Be 313.107 Recovery = 98.20%								
Ca 317.933†	5029578.1	47.7974	mg/L	0.18467	47.7974	mg/L	0.18467	0.39%
QC value within limits for Ca 317.933 Recovery = 95.59%								
Cd 228.802†	19261.3	0.516064	mg/L	0.0016814	0.516064	mg/L	0.0016814	0.33%
QC value within limits for Cd 228.802 Recovery = 103.21%								
Co 228.616†	14402.7	0.510003	mg/L	0.0009375	0.510003	mg/L	0.0009375	0.18%
QC value within limits for Co 228.616 Recovery = 102.00%								
Cr 267.716†	44444.5	0.499278	mg/L	0.0002900	0.499278	mg/L	0.0002900	0.06%
QC value within limits for Cr 267.716 Recovery = 99.86%								
Cu 327.393†	46628.3	0.544625	mg/L	0.0020030	0.544625	mg/L	0.0020030	0.37%
QC value within limits for Cu 327.393 Recovery = 108.92%								
Fe 273.955†	61437.5	4.97193	mg/L	0.005773	4.97193	mg/L	0.005773	0.12%
QC value within limits for Fe 273.955 Recovery = 99.44%								
K 404.721†	23040.8	18.4980	mg/L	0.14491	18.4980	mg/L	0.14491	0.78%
QC value less than the lower limit for K 404.721 Recovery = 37.00%								
Mg 279.077†	654436.6	47.6728	mg/L	0.03034	47.6728	mg/L	0.03034	0.06%
QC value within limits for Mg 279.077 Recovery = 95.35%								
Mn 257.610†	200229.3	0.503150	mg/L	0.0007455	0.503150	mg/L	0.0007455	0.15%
QC value within limits for Mn 257.610 Recovery = 100.63%								
Mo 202.031†	7666.6	0.491013	mg/L	0.0016442	0.491013	mg/L	0.0016442	0.33%
QC value within limits for Mo 202.031 Recovery = 98.20%								
Na 330.237†	23608.3	51.6213	mg/L	0.26092	51.6213	mg/L	0.26092	0.51%
QC value within limits for Na 330.237 Recovery = 103.24%								
Ni 231.604†	16718.3	0.505019	mg/L	0.0016885	0.505019	mg/L	0.0016885	0.33%
QC value within limits for Ni 231.604 Recovery = 101.00%								
Pb 220.353†	3999.5	0.476882	mg/L	0.0017139	0.476882	mg/L	0.0017139	0.36%
QC value within limits for Pb 220.353 Recovery = 95.38%								
Sb 206.836†	1309.4	0.506621	mg/L	0.0001369	0.506621	mg/L	0.0001369	0.03%
QC value within limits for Sb 206.836 Recovery = 101.32%								
Se 196.026†	916.8	0.459820	mg/L	0.0009453	0.459820	mg/L	0.0009453	0.21%
QC value within limits for Se 196.026 Recovery = 91.96%								
Sn 189.927†	3513.4	0.461283	mg/L	0.0022165	0.461283	mg/L	0.0022165	0.48%
QC value within limits for Sn 189.927 Recovery = 92.26%								
Ti 334.940†	161998.6	0.522178	mg/L	0.0013276	0.522178	mg/L	0.0013276	0.25%
QC value within limits for Ti 334.940 Recovery = 104.44%								
Tl 190.801†	1211.6	0.497999	mg/L	0.0044078	0.497999	mg/L	0.0044078	0.89%
QC value within limits for Tl 190.801 Recovery = 99.60%								
V 290.880†	37013.2	0.512612	mg/L	0.0008933	0.512612	mg/L	0.0008933	0.17%
QC value within limits for V 290.880 Recovery = 102.52%								
Zn 206.200†	22377.1	0.476186	mg/L	0.0007275	0.476186	mg/L	0.0007275	0.15%
QC value within limits for Zn 206.200 Recovery = 95.24%								
B 249.772	24757.6	0.445662	mg/L	0.0034872	0.445662	mg/L	0.0034872	0.78%
QC value less than the lower limit for B 249.772 Recovery = 89.13%								
Si 251.611	110496.6	5.05466	mg/L	0.003626	5.05466	mg/L	0.003626	0.07%
QC value within limits for Si 251.611 Recovery = 101.09%								

QC Failed. Continue with analysis.

Sequence No.: 12
Sample ID: CCB V-317800
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 2
Date Collected: 2/27/2020 2:17:16 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB V-317800

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	616516.3	96.7	%	0.55				0.57%
Y 371.029	264794.6	96.7	%	0.51				0.53%
Ag 328.068†	41.3	0.0004584	mg/L	0.00021580	0.0004584	mg/L	0.00021580	47.08%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 308.215†	19.3	0.0101756	mg/L	0.00452888	0.0101756	mg/L	0.00452888	44.51%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979†	4.4	0.0013970	mg/L	0.00254428	0.0013970	mg/L	0.00254428	182.12%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	80.0	0.0007749	mg/L	0.00004701	0.0007749	mg/L	0.00004701	6.07%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	57.3	0.0020349	mg/L	0.00001805	0.0020349	mg/L	0.00001805	0.89%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933†	1122.4	0.0892242	mg/L	0.00105991	0.0892242	mg/L	0.00105991	1.19%
QC value within limits for Ca 317.933 Recovery = Not calculated								
Cd 228.802†	23.1	-0.0015372	mg/L	0.00002012	-0.0015372	mg/L	0.00002012	1.31%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	0.9	-0.0050868	mg/L	0.00035200	-0.0050868	mg/L	0.00035200	6.92%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	9.5	0.0003525	mg/L	0.00012312	0.0003525	mg/L	0.00012312	34.93%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	299.6	0.0051522	mg/L	0.00054574	0.0051522	mg/L	0.00054574	10.59%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	2709.4	0.222214	mg/L	0.0007949	0.222214	mg/L	0.0007949	0.36%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 404.721†	4500.8	5.85497	mg/L	0.802121	5.85497	mg/L	0.802121	13.70%
QC value greater than the upper limit for K 404.721 Recovery = Not calculated								
Mg 279.077†	41.4	-0.161799	mg/L	0.0001483	-0.161799	mg/L	0.0001483	0.09%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	485.6	0.0014368	mg/L	0.00001414	0.0014368	mg/L	0.00001414	0.98%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	5.5	0.0019366	mg/L	0.00053896	0.0019366	mg/L	0.00053896	27.83%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 330.237†	35.7	0.999127	mg/L	0.1032515	0.999127	mg/L	0.1032515	10.33%
QC value within limits for Na 330.237 Recovery = Not calculated								
Ni 231.604†	1.1	-0.0062424	mg/L	0.00042885	-0.0062424	mg/L	0.00042885	6.87%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	24.7	0.0002086	mg/L	0.00077482	0.0002086	mg/L	0.00077482	371.41%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	1.8	0.0022641	mg/L	0.00170198	0.0022641	mg/L	0.00170198	75.17%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-6.7	-0.0059374	mg/L	0.00653412	-0.0059374	mg/L	0.00653412	110.05%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	41.6	0.0080241	mg/L	0.00119939	0.0080241	mg/L	0.00119939	14.95%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Ti 334.940†	14.0	-0.0000322	mg/L	0.00001497	-0.0000322	mg/L	0.00001497	46.46%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	-1.5	-0.0028171	mg/L	0.00179082	-0.0028171	mg/L	0.00179082	63.57%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 290.880†	29.1	0.0007263	mg/L	0.00034191	0.0007263	mg/L	0.00034191	47.08%
QC value within limits for V 290.880 Recovery = Not calculated								
Zn 206.200†	121.0	-0.0014113	mg/L	0.00008049	-0.0014113	mg/L	0.00008049	5.70%
QC value within limits for Zn 206.200 Recovery = Not calculated								
B 249.772	1220.0	0.0221402	mg/L	0.00012392	0.0221402	mg/L	0.00012392	0.56%
QC value within limits for B 249.772 Recovery = Not calculated								
Si 251.611	103.7	-0.143268	mg/L	0.0015843	-0.143268	mg/L	0.0015843	1.11%
QC value less than the lower limit for Si 251.611 Recovery = Not calculated								

QC Failed. Continue with analysis.

Sequence No.: 13
Sample ID: MB 82657 (0.5)
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 38
Date Collected: 2/27/2020 2:20:32 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: MB 82657 (0.5)

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	631014.2	99.0	%	0.34				0.35%
Y 371.029	270432.4	98.7	%	0.24				0.25%
Ag 328.068†	-40.4	-0.0001696	mg/L	0.00006857	-0.0001696	mg/L	0.00006857	40.43%
Al 308.215†	36.2	0.0114860	mg/L	0.00235359	0.0114860	mg/L	0.00235359	20.49%
As 188.979†	7.1	0.0024779	mg/L	0.00036083	0.0024779	mg/L	0.00036083	14.56%
Ba 233.527†	12.2	0.0002229	mg/L	0.00000914	0.0002229	mg/L	0.00000914	4.10%
Be 313.107†	86.8	0.0020544	mg/L	0.00002986	0.0020544	mg/L	0.00002986	1.45%
Ca 317.933†	1230.0	0.0902451	mg/L	0.00021095	0.0902451	mg/L	0.00021095	0.23%
Cd 228.802†	14.5	-0.0017676	mg/L	0.00022624	-0.0017676	mg/L	0.00022624	12.80%
Co 228.616†	-5.8	-0.0053290	mg/L	0.00010653	-0.0053290	mg/L	0.00010653	2.00%
Cr 267.716†	-5.0	0.0001896	mg/L	0.00007737	0.0001896	mg/L	0.00007737	40.80%
Cu 327.393†	82.7	0.0026263	mg/L	0.00023347	0.0026263	mg/L	0.00023347	8.89%
Fe 273.955†	-17.0	0.0017154	mg/L	0.00017525	0.0017154	mg/L	0.00017525	10.22%
K 404.721†	2355.4	3.00695	mg/L	0.108138	3.00695	mg/L	0.108138	3.60%
Mg 279.077†	44.7	-0.161560	mg/L	0.0000436	-0.161560	mg/L	0.0000436	0.03%
Mn 257.610†	549.3	0.0015967	mg/L	0.00000194	0.0015967	mg/L	0.00000194	0.12%
Mo 202.031†	9.7	0.0021992	mg/L	0.00012185	0.0021992	mg/L	0.00012185	5.54%
Na 330.237†	-12.1	0.896449	mg/L	0.1464535	0.896449	mg/L	0.1464535	16.34%
Ni 231.604†	-2.7	-0.0063596	mg/L	0.00015446	-0.0063596	mg/L	0.00015446	2.43%
Pb 220.353†	1.2	-0.0026074	mg/L	0.00113108	-0.0026074	mg/L	0.00113108	43.38%
Sb 206.836†	-4.7	-0.0002193	mg/L	0.00081863	-0.0002193	mg/L	0.00081863	373.25%
Se 196.026†	-4.5	-0.0049382	mg/L	0.00007610	-0.0049382	mg/L	0.00007610	1.54%
Sn 189.927†	11.0	0.0039947	mg/L	0.00071496	0.0039947	mg/L	0.00071496	17.90%
Ti 334.940†	43.4	0.0000626	mg/L	0.00012588	0.0000626	mg/L	0.00012588	201.08%
Tl 190.801†	0.8	-0.0018819	mg/L	0.00235754	-0.0018819	mg/L	0.00235754	125.27%
V 290.880†	29.8	0.0007536	mg/L	0.00020474	0.0007536	mg/L	0.00020474	27.17%
Zn 206.200†	238.7	0.0011140	mg/L	0.00005114	0.0011140	mg/L	0.00005114	4.59%
B 249.772	1043.0	0.0197336	mg/L	0.00002241	0.0197336	mg/L	0.00002241	0.11%
Si 251.611	204.7	-0.138662	mg/L	0.0013797	-0.138662	mg/L	0.0013797	0.99%

Sequence No.: 14
Sample ID: LCSW 82657
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 39
Date Collected: 2/27/2020 2:23:49 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: LCSW 82657

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	617011.1	96.8	%	1.19				1.23%
Y 371.029	262248.1	95.7	%	1.10				1.15%
Ag 328.068†	13598.9	0.104623	mg/L	0.0001346	0.104623	mg/L	0.0001346	0.13%
Al 308.215†	65870.8	5.11384	mg/L	0.014097	5.11384	mg/L	0.014097	0.28%
As 188.979†	1113.7	0.458618	mg/L	0.0018363	0.458618	mg/L	0.0018363	0.40%
Ba 233.527†	60916.2	0.496159	mg/L	0.0011422	0.496159	mg/L	0.0011422	0.23%
Be 313.107†	728521.4	0.483441	mg/L	0.0076608	0.483441	mg/L	0.0076608	1.58%
Ca 317.933†	5090480.5	48.3753	mg/L	0.77272	48.3753	mg/L	0.77272	1.60%
Cd 228.802†	19119.9	0.512260	mg/L	0.0027801	0.512260	mg/L	0.0027801	0.54%
Co 228.616†	14217.4	0.503376	mg/L	0.0030261	0.503376	mg/L	0.0030261	0.60%
Cr 267.716†	44387.0	0.498633	mg/L	0.0012618	0.498633	mg/L	0.0012618	0.25%
Cu 327.393†	44776.8	0.523065	mg/L	0.0004671	0.523065	mg/L	0.0004671	0.09%
Fe 273.955†	60750.3	4.91636	mg/L	0.010108	4.91636	mg/L	0.010108	0.21%
K 404.721†	22045.5	16.9802	mg/L	1.01983	16.9802	mg/L	1.01983	6.01%
Mg 279.077†	658243.6	47.9510	mg/L	0.19786	47.9510	mg/L	0.19786	0.41%
Mn 257.610†	198330.0	0.498380	mg/L	0.0012947	0.498380	mg/L	0.0012947	0.26%
Mo 202.031†	7673.2	0.491436	mg/L	0.0033476	0.491436	mg/L	0.0033476	0.68%
Na 330.237†	24079.5	52.6331	mg/L	0.05861	52.6331	mg/L	0.05861	0.11%
Ni 231.604†	16579.7	0.500780	mg/L	0.0031797	0.500780	mg/L	0.0031797	0.63%
Pb 220.353†	3956.0	0.471673	mg/L	0.0018519	0.471673	mg/L	0.0018519	0.39%
Sb 206.836†	1273.4	0.492901	mg/L	0.0014009	0.492901	mg/L	0.0014009	0.28%
Se 196.026†	932.2	0.467565	mg/L	0.0111792	0.467565	mg/L	0.0111792	2.39%
Sn 189.927†	3537.8	0.464562	mg/L	0.0007540	0.464562	mg/L	0.0007540	0.16%
Ti 334.940†	158284.3	0.510204	mg/L	0.0003822	0.510204	mg/L	0.0003822	0.07%
Tl 190.801†	1244.6	0.511134	mg/L	0.0012165	0.511134	mg/L	0.0012165	0.24%
V 290.880†	36710.1	0.508476	mg/L	0.0014537	0.508476	mg/L	0.0014537	0.29%
Zn 206.200†	22171.3	0.471769	mg/L	0.0021022	0.471769	mg/L	0.0021022	0.45%
B 249.772	24276.1	0.436849	mg/L	0.0092188	0.436849	mg/L	0.0092188	2.11%
Si 251.611	30114.2	1.28873	mg/L	0.019305	1.28873	mg/L	0.019305	1.50%

Sequence No.: 15
Sample ID: LCSW MR 82657
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 40
Date Collected: 2/27/2020 2:27:19 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: LCSW MR 82657

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	621614.8	97.5	%	1.04				1.07%
Y 371.029	263867.0	96.3	%	0.94				0.98%
Ag 328.068†	13515.0	0.103979	mg/L	0.0002541	0.103979	mg/L	0.0002541	0.24%
Al 308.215†	65853.5	5.11254	mg/L	0.002620	5.11254	mg/L	0.002620	0.05%
As 188.979†	1111.0	0.457487	mg/L	0.0001135	0.457487	mg/L	0.0001135	0.02%
Ba 233.527†	61039.4	0.497162	mg/L	0.0007018	0.497162	mg/L	0.0007018	0.14%
Be 313.107†	728640.9	0.483520	mg/L	0.0015832	0.483520	mg/L	0.0015832	0.33%
Ca 317.933†	5093279.4	48.4018	mg/L	0.26869	48.4018	mg/L	0.26869	0.56%
Cd 228.802†	19101.4	0.511760	mg/L	0.0036785	0.511760	mg/L	0.0036785	0.72%
Co 228.616†	14198.3	0.502693	mg/L	0.0028289	0.502693	mg/L	0.0028289	0.56%
Cr 267.716†	44231.8	0.496889	mg/L	0.0010759	0.496889	mg/L	0.0010759	0.22%
Cu 327.393†	44929.4	0.524842	mg/L	0.0002770	0.524842	mg/L	0.0002770	0.05%
Fe 273.955†	61023.1	4.93842	mg/L	0.000849	4.93842	mg/L	0.000849	0.02%
K 404.721†	21509.1	15.9435	mg/L	0.96606	15.9435	mg/L	0.96606	6.06%
Mg 279.077†	661605.9	48.1968	mg/L	0.17039	48.1968	mg/L	0.17039	0.35%
Mn 257.610†	198708.9	0.499331	mg/L	0.0000350	0.499331	mg/L	0.0000350	0.01%
Mo 202.031†	7649.8	0.489941	mg/L	0.0040087	0.489941	mg/L	0.0040087	0.82%
Na 330.237†	24044.9	52.5589	mg/L	0.01039	52.5589	mg/L	0.01039	0.02%
Ni 231.604†	16490.4	0.498048	mg/L	0.0029774	0.498048	mg/L	0.0029774	0.60%
Pb 220.353†	3951.3	0.471108	mg/L	0.0029688	0.471108	mg/L	0.0029688	0.63%
Sb 206.836†	1271.9	0.492310	mg/L	0.0055476	0.492310	mg/L	0.0055476	1.13%
Se 196.026†	910.6	0.456666	mg/L	0.0026272	0.456666	mg/L	0.0026272	0.58%
Sn 189.927†	3553.6	0.466632	mg/L	0.0017751	0.466632	mg/L	0.0017751	0.38%
Ti 334.940†	158655.1	0.511399	mg/L	0.0002372	0.511399	mg/L	0.0002372	0.05%
Tl 190.801†	1227.8	0.504365	mg/L	0.0051611	0.504365	mg/L	0.0051611	1.02%
V 290.880†	36680.0	0.508043	mg/L	0.0011387	0.508043	mg/L	0.0011387	0.22%
Zn 206.200†	22215.4	0.472716	mg/L	0.0021471	0.472716	mg/L	0.0021471	0.45%
B 249.772	24538.1	0.441676	mg/L	0.0073701	0.441676	mg/L	0.0073701	1.67%
Si 251.611	29295.6	1.25049	mg/L	0.019653	1.25049	mg/L	0.019653	1.57%

Sequence No.: 16
Sample ID: AD15784-005
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 41
Date Collected: 2/27/2020 2:30:49 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AD15784-005

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	590293.4	92.6	%	1.65				1.78%
Y 371.029	261121.4	95.3	%	1.27				1.33%
Ag 328.068†	67.8	0.0006620	mg/L	0.00000295	0.0006620	mg/L	0.00000295	0.45%
Al 308.215†	48316.9	3.76168	mg/L	0.193915	3.76168	mg/L	0.193915	5.16%
As 188.979†	8.4	0.0036873	mg/L	0.00047079	0.0036873	mg/L	0.00047079	12.77%
Ba 233.527†	45790.8	0.372994	mg/L	0.0132145	0.372994	mg/L	0.0132145	3.54%
Be 313.107†	-182.5	0.0018764	mg/L	0.00007585	0.0018764	mg/L	0.00007585	4.04%
Ca 317.933†	14386223.6	136.570	mg/L	1.2440	136.570	mg/L	1.2440	0.91%
Cd 228.802†	43.2	-0.0009955	mg/L	0.00005704	-0.0009955	mg/L	0.00005704	5.73%
Co 228.616†	1119.3	0.0349124	mg/L	0.00006177	0.0349124	mg/L	0.00006177	0.18%
Cr 267.716†	810.4	0.0093453	mg/L	0.00012100	0.0093453	mg/L	0.00012100	1.29%
Cu 327.393†	1322.3	0.0170616	mg/L	0.00056000	0.0170616	mg/L	0.00056000	3.28%
Fe 273.955†	77231.9	6.24933	mg/L	0.217146	6.24933	mg/L	0.217146	3.47%
K 404.721†	29864.2	25.1317	mg/L	3.18846	25.1317	mg/L	3.18846	12.69%
Mg 279.077†	510073.2	37.1202	mg/L	0.19719	37.1202	mg/L	0.19719	0.53%
Mn 257.610†	2774755.7	6.96981	mg/L	0.023270	6.96981	mg/L	0.023270	0.33%
Mo 202.031†	82.8	0.0068707	mg/L	0.00028401	0.0068707	mg/L	0.00028401	4.13%
Na 330.237†	155160.6	334.129	mg/L	10.4192	334.129	mg/L	10.4192	3.12%
Ni 231.604†	861.9	0.0200840	mg/L	0.00029960	0.0200840	mg/L	0.00029960	1.49%
Pb 220.353†	95.9	0.0090855	mg/L	0.00062998	0.0090855	mg/L	0.00062998	6.93%
Sb 206.836†	9.1	0.0051041	mg/L	0.00330041	0.0051041	mg/L	0.00330041	64.66%
Se 196.026†	12.7	-0.0005608	mg/L	0.00664874	-0.0005608	mg/L	0.00664874	>999.9%
Sn 189.927†	-31.7	-0.0020886	mg/L	0.00126189	-0.0020886	mg/L	0.00126189	60.42%
Ti 334.940†	25973.2	0.0836556	mg/L	0.03132177	0.0836556	mg/L	0.03132177	37.44%
Tl 190.801†	-2.5	-0.0201428	mg/L	0.00280228	-0.0201428	mg/L	0.00280228	13.91%
V 290.880†	1239.6	0.0169331	mg/L	0.00124785	0.0169331	mg/L	0.00124785	7.37%
Zn 206.200†	2944.5	0.0591775	mg/L	0.00097147	0.0591775	mg/L	0.00097147	1.64%
B 249.772	3764.7	0.0449122	mg/L	0.00016025	0.0449122	mg/L	0.00016025	0.36%
Si 251.611	250752.7	11.6426	mg/L	0.67820	11.6426	mg/L	0.67820	5.83%

0021905 0100

Sequence No.: 17
Sample ID: AD15784-005 MR
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 42
Date Collected: 2/27/2020 2:34:32 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AD15784-005 MR

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	584780.0	91.7	%	0.61				0.67%
Y 371.029	261714.7	95.5	%	1.65				1.72%
Ag 328.068†	45.2	0.0004888	mg/L	0.00069686	0.0004888	mg/L	0.00069686	142.57%
Al 308.215†	42142.9	3.28211	mg/L	0.091078	3.28211	mg/L	0.091078	2.77%
As 188.979†	16.1	0.0068934	mg/L	0.00061044	0.0068934	mg/L	0.00061044	8.86%
Ba 233.527†	46911.4	0.382119	mg/L	0.0097383	0.382119	mg/L	0.0097383	2.55%
Be 313.107†	-82.1	0.0019428	mg/L	0.00006767	0.0019428	mg/L	0.00006767	3.48%
Ca 317.933†	14970264.8	142.111	mg/L	1.3911	142.111	mg/L	1.3911	0.98%
Cd 228.802†	42.1	-0.0010254	mg/L	0.00012576	-0.0010254	mg/L	0.00012576	12.26%
Co 228.616†	1182.2	0.0371629	mg/L	0.00028897	0.0371629	mg/L	0.00028897	0.78%
Cr 267.716†	788.5	0.0090998	mg/L	0.00005087	0.0090998	mg/L	0.00005087	0.56%
Cu 327.393†	1555.2	0.0197735	mg/L	0.00033255	0.0197735	mg/L	0.00033255	1.68%
Fe 273.955†	78140.9	6.32285	mg/L	0.166474	6.32285	mg/L	0.166474	2.63%
K 404.721†	30260.0	25.5190	mg/L	1.65213	25.5190	mg/L	1.65213	6.47%
Mg 279.077†	525248.4	38.2294	mg/L	0.12652	38.2294	mg/L	0.12652	0.33%
Mn 257.610†	2888095.4	7.25450	mg/L	0.012959	7.25450	mg/L	0.012959	0.18%
Mo 202.031†	75.8	0.0064211	mg/L	0.00015507	0.0064211	mg/L	0.00015507	2.42%
Na 330.237†	163099.1	351.177	mg/L	9.0213	351.177	mg/L	9.0213	2.57%
Ni 231.604†	879.5	0.0206228	mg/L	0.00033872	0.0206228	mg/L	0.00033872	1.64%
Pb 220.353†	86.2	0.0078820	mg/L	0.00116082	0.0078820	mg/L	0.00116082	14.73%
Sb 206.836†	0.5	0.0018332	mg/L	0.00303121	0.0018332	mg/L	0.00303121	165.35%
Se 196.026†	11.9	-0.0012303	mg/L	0.00158115	-0.0012303	mg/L	0.00158115	128.51%
Sn 189.927†	-39.1	-0.0027575	mg/L	0.00090902	-0.0027575	mg/L	0.00090902	32.97%
Ti 334.940†	9006.5	0.0289580	mg/L	0.00113250	0.0289580	mg/L	0.00113250	3.91%
Tl 190.801†	-1.3	-0.0209953	mg/L	0.00306485	-0.0209953	mg/L	0.00306485	14.60%
V 290.880†	1268.8	0.0173208	mg/L	0.00004019	0.0173208	mg/L	0.00004019	0.23%
Zn 206.200†	2970.4	0.0597345	mg/L	0.00035114	0.0597345	mg/L	0.00035114	0.59%
B 249.772	3647.4	0.0424038	mg/L	0.00148881	0.0424038	mg/L	0.00148881	3.51%
Si 251.611	211413.1	9.80104	mg/L	0.228842	9.80104	mg/L	0.228842	2.33%

Sequence No.: 18
Sample ID: AD15784-006 MS1
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 43
Date Collected: 2/27/2020 2:38:15 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AD15784-006 MS1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sc 361.383	582977.0	91.4	%	0.54				0.60%
Y 371.029	251458.3	91.8	%	0.47				0.51%
Ag 328.068†	13844.5	0.106510	mg/L	0.0002100	0.106510	mg/L	0.0002100	0.20%
Al 308.215†	116845.8	9.07330	mg/L	0.009365	9.07330	mg/L	0.009365	0.10%
As 188.979†	1185.4	0.488977	mg/L	0.0042174	0.488977	mg/L	0.0042174	0.86%
Ba 233.527†	107050.0	0.871822	mg/L	0.0003695	0.871822	mg/L	0.0003695	0.04%
Be 313.107†	753807.3	0.500151	mg/L	0.0013975	0.500151	mg/L	0.0013975	0.28%
Ca 317.933†	19890815.4	188.796	mg/L	0.3591	188.796	mg/L	0.3591	0.19%
Cd 228.802†	19568.7	0.524332	mg/L	0.0044103	0.524332	mg/L	0.0044103	0.84%
Co 228.616†	15350.7	0.543910	mg/L	0.0066304	0.543910	mg/L	0.0066304	1.22%
Cr 267.716†	44767.2	0.502902	mg/L	0.0005996	0.502902	mg/L	0.0005996	0.12%
Cu 327.393†	47282.0	0.552237	mg/L	0.0005250	0.552237	mg/L	0.0005250	0.10%
Fe 273.955†	135151.0	10.9336	mg/L	0.00559	10.9336	mg/L	0.00559	0.05%
K 404.721†	48026.7	37.3858	mg/L	0.64069	37.3858	mg/L	0.64069	1.71%
Mg 279.077†	1161040.6	84.7042	mg/L	0.00025	84.7042	mg/L	0.00025	0.00%
Mn 257.610†	2946783.7	7.40191	mg/L	0.008850	7.40191	mg/L	0.008850	0.12%
Mo 202.031†	7759.7	0.496956	mg/L	0.0053977	0.496956	mg/L	0.0053977	1.09%
Na 330.237†	189133.2	407.085	mg/L	0.4526	407.085	mg/L	0.4526	0.11%
Ni 231.604†	17335.4	0.523890	mg/L	0.0042340	0.523890	mg/L	0.0042340	0.81%
Pb 220.353†	3971.5	0.473884	mg/L	0.0049470	0.473884	mg/L	0.0049470	1.04%
Sb 206.836†	1306.7	0.505651	mg/L	0.0059314	0.505651	mg/L	0.0059314	1.17%
Se 196.026†	963.9	0.478935	mg/L	0.0039032	0.478935	mg/L	0.0039032	0.81%
Sn 189.927†	3647.9	0.478886	mg/L	0.0043837	0.478886	mg/L	0.0043837	0.92%
Ti 334.940†	166068.7	0.535299	mg/L	0.0007013	0.535299	mg/L	0.0007013	0.13%
Tl 190.801†	1175.6	0.465886	mg/L	0.0060095	0.465886	mg/L	0.0060095	1.29%
V 290.880†	37930.9	0.524832	mg/L	0.0013267	0.524832	mg/L	0.0013267	0.25%
Zn 206.200†	24959.5	0.531603	mg/L	0.0053605	0.531603	mg/L	0.0053605	1.01%
B 249.772	26504.8	0.453729	mg/L	0.0010280	0.453729	mg/L	0.0010280	0.23%
Si 251.611	236330.2	10.9928	mg/L	0.06430	10.9928	mg/L	0.06430	0.58%

Sequence No.: 19
Sample ID: AD15784-007 MS2
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 44
Date Collected: 2/27/2020 2:41:51 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AD15784-007 MS2

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	576821.4	90.5	%	1.26				1.39%
Y 371.029	248636.3	90.8	%	1.20				1.32%
Ag 328.068†	12936.9	0.0995367	mg/L	0.00011254	0.0995367	mg/L	0.00011254	0.11%
Al 308.215†	110030.8	8.54449	mg/L	0.079412	8.54449	mg/L	0.079412	0.93%
As 188.979†	1134.0	0.467724	mg/L	0.0001897	0.467724	mg/L	0.0001897	0.04%
Ba 233.527†	101612.0	0.827542	mg/L	0.0009720	0.827542	mg/L	0.0009720	0.12%
Be 313.107†	705635.4	0.468317	mg/L	0.0004265	0.468317	mg/L	0.0004265	0.09%
Ca 317.933†	18800867.6	178.455	mg/L	4.4955	178.455	mg/L	4.4955	2.52%
Cd 228.802†	18597.0	0.498190	mg/L	0.0036643	0.498190	mg/L	0.0036643	0.74%
Co 228.616†	14708.1	0.520925	mg/L	0.0028542	0.520925	mg/L	0.0028542	0.55%
Cr 267.716†	41896.6	0.470670	mg/L	0.0000483	0.470670	mg/L	0.0000483	0.01%
Cu 327.393†	44684.4	0.521990	mg/L	0.0004102	0.521990	mg/L	0.0004102	0.08%
Fe 273.955†	128212.5	10.3725	mg/L	0.02296	10.3725	mg/L	0.02296	0.22%
K 404.721†	46381.3	36.8514	mg/L	1.37057	36.8514	mg/L	1.37057	3.72%
Mg 279.077†	1098409.8	80.1260	mg/L	0.23870	80.1260	mg/L	0.23870	0.30%
Mn 257.610†	2855616.9	7.17292	mg/L	0.006279	7.17292	mg/L	0.006279	0.09%
Mo 202.031†	7383.8	0.472959	mg/L	0.0034213	0.472959	mg/L	0.0034213	0.72%
Na 330.237†	179086.8	385.511	mg/L	0.8822	385.511	mg/L	0.8822	0.23%
Ni 231.604†	16506.2	0.498532	mg/L	0.0038365	0.498532	mg/L	0.0038365	0.77%
Pb 220.353†	3769.0	0.449583	mg/L	0.0039176	0.449583	mg/L	0.0039176	0.87%
Sb 206.836†	1237.9	0.479142	mg/L	0.0066783	0.479142	mg/L	0.0066783	1.39%
Se 196.026†	911.3	0.452639	mg/L	0.0063151	0.452639	mg/L	0.0063151	1.40%
Sn 189.927†	3480.9	0.457133	mg/L	0.0030312	0.457133	mg/L	0.0030312	0.66%
Ti 334.940†	155421.7	0.500975	mg/L	0.0008660	0.500975	mg/L	0.0008660	0.17%
Tl 190.801†	1141.3	0.451823	mg/L	0.0017132	0.451823	mg/L	0.0017132	0.38%
V 290.880†	35526.5	0.491673	mg/L	0.0001034	0.491673	mg/L	0.0001034	0.02%
Zn 206.200†	23992.9	0.510860	mg/L	0.0031148	0.510860	mg/L	0.0031148	0.61%
B 249.772	24868.1	0.425260	mg/L	0.0092035	0.425260	mg/L	0.0092035	2.16%
Si 251.611	219725.9	10.2118	mg/L	0.16154	10.2118	mg/L	0.16154	1.58%

Sequence No.: 20
Sample ID: AD15784-005 PS
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 45
Date Collected: 2/27/2020 2:45:26 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AD15784-005 PS

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sc 361.383	582293.5	91.3	%	0.90				0.99%
Y 371.029	250908.5	91.6	%	0.94				1.03%
Ag 328.068†	13662.3	0.105110	mg/L	0.0005569	0.105110	mg/L	0.0005569	0.53%
Al 308.215†	107764.0	8.36772	mg/L	0.007384	8.36772	mg/L	0.007384	0.09%
As 188.979†	1189.5	0.490627	mg/L	0.0105807	0.490627	mg/L	0.0105807	2.16%
Ba 233.527†	105576.7	0.859825	mg/L	0.0003739	0.859825	mg/L	0.0003739	0.04%
Be 313.107†	748899.3	0.496908	mg/L	0.0002953	0.496908	mg/L	0.0002953	0.06%
Ca 317.933†	19170854.1	181.965	mg/L	3.6095	181.965	mg/L	3.6095	1.98%
Cd 228.802†	19551.3	0.523866	mg/L	0.0074368	0.523866	mg/L	0.0074368	1.42%
Co 228.616†	15237.8	0.539870	mg/L	0.0079164	0.539870	mg/L	0.0079164	1.47%
Cr 267.716†	44527.3	0.500208	mg/L	0.0012838	0.500208	mg/L	0.0012838	0.26%
Cu 327.393†	47110.8	0.550243	mg/L	0.0010624	0.550243	mg/L	0.0010624	0.19%
Fe 273.955†	135131.5	10.9320	mg/L	0.00534	10.9320	mg/L	0.00534	0.05%
K 404.721†	48152.6	37.6141	mg/L	0.95230	37.6141	mg/L	0.95230	2.53%
Mg 279.077†	1126211.0	82.1582	mg/L	0.06864	82.1582	mg/L	0.06864	0.08%
Mn 257.610†	2932747.8	7.36665	mg/L	0.002339	7.36665	mg/L	0.002339	0.03%
Mo 202.031†	7850.4	0.502745	mg/L	0.0064132	0.502745	mg/L	0.0064132	1.28%
Na 330.237†	183654.4	395.320	mg/L	0.7189	395.320	mg/L	0.7189	0.18%
Ni 231.604†	17339.6	0.524021	mg/L	0.0077283	0.524021	mg/L	0.0077283	1.47%
Pb 220.353†	3986.2	0.475589	mg/L	0.0028182	0.475589	mg/L	0.0028182	0.59%
Sb 206.836†	1329.9	0.514558	mg/L	0.0067114	0.514558	mg/L	0.0067114	1.30%
Se 196.026†	971.9	0.483303	mg/L	0.0067038	0.483303	mg/L	0.0067038	1.39%
Sn 189.927†	3717.2	0.488000	mg/L	0.0079150	0.488000	mg/L	0.0079150	1.62%
Ti 334.940†	165690.0	0.534079	mg/L	0.0002351	0.534079	mg/L	0.0002351	0.04%
Tl 190.801†	1210.7	0.480064	mg/L	0.0032623	0.480064	mg/L	0.0032623	0.68%
V 290.880†	37474.3	0.518664	mg/L	0.0009231	0.518664	mg/L	0.0009231	0.18%
Zn 206.200†	25080.4	0.534197	mg/L	0.0081905	0.534197	mg/L	0.0081905	1.53%
B 249.772	25698.8	0.438608	mg/L	0.0035913	0.438608	mg/L	0.0035913	0.82%
Si 251.611	207276.8	9.63067	mg/L	0.126326	9.63067	mg/L	0.126326	1.31%

Sequence No.: 21
Sample ID: AD15784-005 SD
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 46
Date Collected: 2/27/2020 2:49:02 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AD15784-005 SD

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	594370.5	93.2	%	0.18				0.20%
Y 371.029	266302.3	97.2	%	0.74				0.76%
Ag 328.068†	17.3	0.0002741	mg/L	0.00044633	0.0002741	mg/L	0.00044633	162.82%
Al 308.215†	9898.7	0.777529	mg/L	0.0108831	0.777529	mg/L	0.0108831	1.40%
As 188.979†	8.5	0.0031914	mg/L	0.00100959	0.0031914	mg/L	0.00100959	31.63%
Ba 233.527†	10087.6	0.0822663	mg/L	0.00000536	0.0822663	mg/L	0.00000536	0.01%
Be 313.107†	-65.6	0.0019537	mg/L	0.00000595	0.0019537	mg/L	0.00000595	0.30%
Ca 317.933†	3007635.2	28.6140	mg/L	0.05407	28.6140	mg/L	0.05407	0.19%
Cd 228.802†	28.8	-0.0013848	mg/L	0.00024227	-0.0013848	mg/L	0.00024227	17.49%
Co 228.616†	230.5	0.0031230	mg/L	0.00003437	0.0031230	mg/L	0.00003437	1.10%
Cr 267.716†	185.8	0.0023326	mg/L	0.00002755	0.0023326	mg/L	0.00002755	1.18%
Cu 327.393†	732.4	0.0101917	mg/L	0.00035816	0.0101917	mg/L	0.00035816	3.51%
Fe 273.955†	16052.0	1.30131	mg/L	0.010058	1.30131	mg/L	0.010058	0.77%
K 404.721†	10611.7	12.0689	mg/L	0.56229	12.0689	mg/L	0.56229	4.66%
Mg 279.077†	107088.2	7.66304	mg/L	0.076101	7.66304	mg/L	0.076101	0.99%
Mn 257.610†	564407.2	1.41789	mg/L	0.001845	1.41789	mg/L	0.001845	0.13%
Mo 202.031†	38.4	0.0040325	mg/L	0.00045005	0.0040325	mg/L	0.00045005	11.16%
Na 330.237†	25557.0	55.8061	mg/L	0.67156	55.8061	mg/L	0.67156	1.20%
Ni 231.604†	204.7	-0.0000138	mg/L	0.00015014	-0.0000138	mg/L	0.00015014	>999.9%
Pb 220.353†	39.2	0.0020200	mg/L	0.00123600	0.0020200	mg/L	0.00123600	61.19%
Sb 206.836†	0.1	0.0016318	mg/L	0.00526276	0.0016318	mg/L	0.00526276	322.51%
Se 196.026†	6.1	-0.0004965	mg/L	0.00236044	-0.0004965	mg/L	0.00236044	475.38%
Sn 189.927†	25.4	0.0058145	mg/L	0.00000475	0.0058145	mg/L	0.00000475	0.08%
Ti 334.940†	4185.5	0.0134160	mg/L	0.00222407	0.0134160	mg/L	0.00222407	16.58%
Tl 190.801†	2.0	-0.0048170	mg/L	0.00010028	-0.0048170	mg/L	0.00010028	2.08%
V 290.880†	537.5	0.0076322	mg/L	0.00031925	0.0076322	mg/L	0.00031925	4.18%
Zn 206.200†	709.7	0.0112207	mg/L	0.00006222	0.0112207	mg/L	0.00006222	0.55%
B 249.772	1355.3	0.0202047	mg/L	0.00072824	0.0202047	mg/L	0.00072824	3.60%
Si 251.611	48023.6	2.11078	mg/L	0.066788	2.11078	mg/L	0.066788	3.16%

Sequence No.: 22
Sample ID: CCV V-321090
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 6
Date Collected: 2/27/2020 2:52:31 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV V-321090

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sc 361.383	606820.6	95.2	%	0.21				0.22%
Y 371.029	257304.8	93.9	%	0.35				0.37%
Ag 328.068†	13447.5	0.103460	mg/L	0.0002381	0.103460	mg/L	0.0002381	0.23%
QC value within limits for Ag 328.068 Recovery = 103.46%								
Al 308.215†	66211.8	5.14018	mg/L	0.000034	5.14018	mg/L	0.000034	0.00%
QC value within limits for Al 308.215 Recovery = 102.80%								
As 188.979†	1143.3	0.470843	mg/L	0.0004292	0.470843	mg/L	0.0004292	0.09%
QC value within limits for As 188.979 Recovery = 94.17%								
Ba 233.527†	61706.1	0.502591	mg/L	0.0006134	0.502591	mg/L	0.0006134	0.12%
QC value within limits for Ba 233.527 Recovery = 100.52%								
Be 313.107†	747069.0	0.495698	mg/L	0.0034798	0.495698	mg/L	0.0034798	0.70%
QC value within limits for Be 313.107 Recovery = 99.14%								
Ca 317.933†	5078317.9	48.2599	mg/L	0.29952	48.2599	mg/L	0.29952	0.62%
QC value within limits for Ca 317.933 Recovery = 96.52%								
Cd 228.802†	19409.3	0.520046	mg/L	0.0027630	0.520046	mg/L	0.0027630	0.53%
QC value within limits for Cd 228.802 Recovery = 104.01%								
Co 228.616†	14466.0	0.512268	mg/L	0.0016671	0.512268	mg/L	0.0016671	0.33%
QC value within limits for Co 228.616 Recovery = 102.45%								
Cr 267.716†	44841.4	0.503735	mg/L	0.0005349	0.503735	mg/L	0.0005349	0.11%
QC value within limits for Cr 267.716 Recovery = 100.75%								
Cu 327.393†	46867.0	0.547404	mg/L	0.0007440	0.547404	mg/L	0.0007440	0.14%
QC value within limits for Cu 327.393 Recovery = 109.48%								
Fe 273.955†	61804.9	5.00164	mg/L	0.006940	5.00164	mg/L	0.006940	0.14%
QC value within limits for Fe 273.955 Recovery = 100.03%								
K 404.721†	22617.5	17.6281	mg/L	0.05991	17.6281	mg/L	0.05991	0.34%
QC value less than the lower limit for K 404.721 Recovery = 35.26%								
Mg 279.077†	660171.8	48.0920	mg/L	0.04619	48.0920	mg/L	0.04619	0.10%
QC value within limits for Mg 279.077 Recovery = 96.18%								
Mn 257.610†	203435.8	0.511204	mg/L	0.0000948	0.511204	mg/L	0.0000948	0.02%
QC value within limits for Mn 257.610 Recovery = 102.24%								
Mo 202.031†	7774.0	0.497871	mg/L	0.0039580	0.497871	mg/L	0.0039580	0.79%
QC value within limits for Mo 202.031 Recovery = 99.57%								
Na 330.237†	23725.6	51.8731	mg/L	0.18517	51.8731	mg/L	0.18517	0.36%
QC value within limits for Na 330.237 Recovery = 103.75%								
Ni 231.604†	16801.2	0.507554	mg/L	0.0021107	0.507554	mg/L	0.0021107	0.42%
QC value within limits for Ni 231.604 Recovery = 101.51%								
Pb 220.353†	4026.5	0.480116	mg/L	0.0029664	0.480116	mg/L	0.0029664	0.62%
QC value within limits for Pb 220.353 Recovery = 96.02%								
Sb 206.836†	1322.0	0.511501	mg/L	0.0044794	0.511501	mg/L	0.0044794	0.88%
QC value within limits for Sb 206.836 Recovery = 102.30%								
Se 196.026†	918.7	0.460768	mg/L	0.0037841	0.460768	mg/L	0.0037841	0.82%
QC value within limits for Se 196.026 Recovery = 92.15%								
Sn 189.927†	3597.2	0.472279	mg/L	0.0035419	0.472279	mg/L	0.0035419	0.75%
QC value within limits for Sn 189.927 Recovery = 94.46%								
Ti 334.940†	162713.6	0.524483	mg/L	0.0018780	0.524483	mg/L	0.0018780	0.36%
QC value within limits for Ti 334.940 Recovery = 104.90%								
Tl 190.801†	1219.4	0.501240	mg/L	0.0007274	0.501240	mg/L	0.0007274	0.15%
QC value within limits for Tl 190.801 Recovery = 100.25%								
V 290.880†	37355.9	0.517386	mg/L	0.0003189	0.517386	mg/L	0.0003189	0.06%
QC value within limits for V 290.880 Recovery = 103.48%								
Zn 206.200†	22567.5	0.480273	mg/L	0.0033078	0.480273	mg/L	0.0033078	0.69%
QC value within limits for Zn 206.200 Recovery = 96.05%								
B 249.772	24149.9	0.434139	mg/L	0.0004056	0.434139	mg/L	0.0004056	0.09%
QC value less than the lower limit for B 249.772 Recovery = 86.83%								
Si 251.611	111225.1	5.08887	mg/L	0.039279	5.08887	mg/L	0.039279	0.77%
QC value within limits for Si 251.611 Recovery = 101.78%								

QC Failed. Continue with analysis.

Sequence No.: 23
Sample ID: CCB V-317800
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 2
Date Collected: 2/27/2020 2:55:59 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB V-317800

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	618486.1	97.0	%	0.14				0.14%
Y 371.029	264661.4	96.6	%	0.09				0.10%
Ag 328.068†	-19.4	-0.0000078	mg/L	0.00003013	-0.0000078	mg/L	0.00003013	388.41%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 308.215†	85.8	0.0153458	mg/L	0.00244944	0.0153458	mg/L	0.00244944	15.96%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979†	2.3	0.0005182	mg/L	0.00147764	0.0005182	mg/L	0.00147764	285.16%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	146.7	0.0013183	mg/L	0.00009447	0.0013183	mg/L	0.00009447	7.17%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	5.1	0.0020004	mg/L	0.00003827	0.0020004	mg/L	0.00003827	1.91%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933†	1189.7	0.0898626	mg/L	0.00080985	0.0898626	mg/L	0.00080985	0.90%
QC value within limits for Ca 317.933 Recovery = Not calculated								
Cd 228.802†	17.5	-0.0016882	mg/L	0.00030238	-0.0016882	mg/L	0.00030238	17.91%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	2.5	-0.0050301	mg/L	0.00001474	-0.0050301	mg/L	0.00001474	0.29%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	4.5	0.0002967	mg/L	0.00010499	0.0002967	mg/L	0.00010499	35.39%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	341.8	0.0056439	mg/L	0.00091599	0.0056439	mg/L	0.00091599	16.23%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	2754.9	0.225897	mg/L	0.0005035	0.225897	mg/L	0.0005035	0.22%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 404.721†	3849.2	4.69276	mg/L	0.116518	4.69276	mg/L	0.116518	2.48%
QC value within limits for K 404.721 Recovery = Not calculated								
Mg 279.077†	38.5	-0.162010	mg/L	0.0023471	-0.162010	mg/L	0.0023471	1.45%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	948.7	0.0026002	mg/L	0.00004640	0.0026002	mg/L	0.00004640	1.78%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	3.6	0.0018116	mg/L	0.00036896	0.0018116	mg/L	0.00036896	20.37%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 330.237†	60.2	1.05186	mg/L	0.147715	1.05186	mg/L	0.147715	14.04%
QC value within limits for Na 330.237 Recovery = Not calculated								
Ni 231.604†	9.2	-0.0059939	mg/L	0.00006795	-0.0059939	mg/L	0.00006795	1.13%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	22.8	-0.0000124	mg/L	0.00007629	-0.0000124	mg/L	0.00007629	613.31%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	-3.8	0.0001192	mg/L	0.00227250	0.0001192	mg/L	0.00227250	>999.9%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-3.1	-0.0041251	mg/L	0.00068773	-0.0041251	mg/L	0.00068773	16.67%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	43.7	0.0082873	mg/L	0.00026770	0.0082873	mg/L	0.00026770	3.23%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Ti 334.940†	46.0	0.0000708	mg/L	0.00009562	0.0000708	mg/L	0.00009562	135.06%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	0.1	-0.0021562	mg/L	0.00072635	-0.0021562	mg/L	0.00072635	33.69%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 290.880†	74.5	0.0013444	mg/L	0.00002625	0.0013444	mg/L	0.00002625	1.95%
QC value within limits for V 290.880 Recovery = Not calculated								
Zn 206.200†	130.0	-0.0012193	mg/L	0.00008829	-0.0012193	mg/L	0.00008829	7.24%
QC value within limits for Zn 206.200 Recovery = Not calculated								
B 249.772	621.4	0.0108819	mg/L	0.00080809	0.0108819	mg/L	0.00080809	7.43%
QC value within limits for B 249.772 Recovery = Not calculated								
Si 251.611	175.8	-0.139987	mg/L	0.0001159	-0.139987	mg/L	0.0001159	0.08%
QC value less than the lower limit for Si 251.611 Recovery = Not calculated								

QC Failed. Continue with analysis.

Sequence No.: 24
Sample ID: AD15839-001
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 47
Date Collected: 2/27/2020 2:59:15 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AD15839-001

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sc 361.383	611180.4	95.9	%	0.03				0.03%
Y 371.029	258354.5	94.3	%	0.10				0.11%
Ag 328.068†	-36.1	-0.0001364	mg/L	0.00026848	-0.0001364	mg/L	0.00026848	196.76%
Al 308.215†	402.5	0.0398403	mg/L	0.00334889	0.0398403	mg/L	0.00334889	8.41%
As 188.979†	7.8	0.0027214	mg/L	0.00173122	0.0027214	mg/L	0.00173122	63.62%
Ba 233.527†	11904.1	0.0970577	mg/L	0.00008956	0.0970577	mg/L	0.00008956	0.09%
Be 313.107†	-159.5	0.0018916	mg/L	0.00006052	0.0018916	mg/L	0.00006052	3.20%
Ca 317.933†	10931408.2	103.792	mg/L	0.6565	103.792	mg/L	0.6565	0.63%
Cd 228.802†	7.7	-0.0019503	mg/L	0.00026852	-0.0019503	mg/L	0.00026852	13.77%
Co 228.616†	18.8	-0.0044477	mg/L	0.00015912	-0.0044477	mg/L	0.00015912	3.58%
Cr 267.716†	48.6	0.0007913	mg/L	0.00010688	0.0007913	mg/L	0.00010688	13.51%
Cu 327.393†	242.2	0.0044837	mg/L	0.00028361	0.0044837	mg/L	0.00028361	6.33%
Fe 273.955†	103.1	0.0114274	mg/L	0.00134333	0.0114274	mg/L	0.00134333	11.76%
K 404.721†	2911.6	3.94493	mg/L	0.166032	3.94493	mg/L	0.166032	4.21%
Mg 279.077†	380888.0	27.6771	mg/L	0.02689	27.6771	mg/L	0.02689	0.10%
Mn 257.610†	1066.2	0.0028951	mg/L	0.00001555	0.0028951	mg/L	0.00001555	0.54%
Mo 202.031†	73.1	0.0062485	mg/L	0.00033220	0.0062485	mg/L	0.00033220	5.32%
Na 330.237†	111674.8	240.744	mg/L	1.3506	240.744	mg/L	1.3506	0.56%
Ni 231.604†	108.6	-0.0029552	mg/L	0.00047333	-0.0029552	mg/L	0.00047333	16.02%
Pb 220.353†	16.0	-0.0008295	mg/L	0.00122235	-0.0008295	mg/L	0.00122235	147.35%
Sb 206.836†	0.7	0.0018982	mg/L	0.00079425	0.0018982	mg/L	0.00079425	41.84%
Se 196.026†	2.7	-0.0069065	mg/L	0.00119707	-0.0069065	mg/L	0.00119707	17.33%
Sn 189.927†	-25.1	-0.0007490	mg/L	0.00027237	-0.0007490	mg/L	0.00027237	36.36%
Ti 334.940†	-168.2	-0.0006195	mg/L	0.00007425	-0.0006195	mg/L	0.00007425	11.98%
Tl 190.801†	-2.8	-0.0032424	mg/L	0.00216898	-0.0032424	mg/L	0.00216898	66.89%
V 290.880†	524.5	0.0075724	mg/L	0.00009380	0.0075724	mg/L	0.00009380	1.24%
Zn 206.200†	1042.6	0.0183659	mg/L	0.00034908	0.0183659	mg/L	0.00034908	1.90%
B 249.772	12087.1	0.227143	mg/L	0.0010904	0.227143	mg/L	0.0010904	0.48%
Si 251.611	186479.7	8.59729	mg/L	0.007595	8.59729	mg/L	0.007595	0.09%

Sequence No.: 25
Sample ID: AD15839-002
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 48
Date Collected: 2/27/2020 3:02:46 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AD15839-002

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sc 361.383	605099.6	94.9	%	0.13				0.14%
Y 371.029	255827.2	93.4	%	0.19				0.20%
Ag 328.068†	-92.6	-0.0005700	mg/L	0.00004088	-0.0005700	mg/L	0.00004088	7.17%
Al 308.215†	393.2	0.0391221	mg/L	0.00225216	0.0391221	mg/L	0.00225216	5.76%
As 188.979†	10.9	0.0040079	mg/L	0.00141476	0.0040079	mg/L	0.00141476	35.30%
Ba 233.527†	11751.8	0.0958178	mg/L	0.00031889	0.0958178	mg/L	0.00031889	0.33%
Be 313.107†	-241.5	0.0018375	mg/L	0.00000716	0.0018375	mg/L	0.00000716	0.39%
Ca 317.933†	10833326.5	102.861	mg/L	0.7266	102.861	mg/L	0.7266	0.71%
Cd 228.802†	13.7	-0.0017884	mg/L	0.00013035	-0.0017884	mg/L	0.00013035	7.29%
Co 228.616†	5.7	-0.0049157	mg/L	0.00018955	-0.0049157	mg/L	0.00018955	3.86%
Cr 267.716†	71.1	0.0010442	mg/L	0.00022520	0.0010442	mg/L	0.00022520	21.57%
Cu 327.393†	239.6	0.0044541	mg/L	0.00033701	0.0044541	mg/L	0.00033701	7.57%
Fe 273.955†	-228.7	-0.0154108	mg/L	0.00161450	-0.0154108	mg/L	0.00161450	10.48%
K 404.721†	3383.9	4.88919	mg/L	0.404603	4.88919	mg/L	0.404603	8.28%
Mg 279.077†	376690.2	27.3702	mg/L	0.01308	27.3702	mg/L	0.01308	0.05%
Mn 257.610†	1085.4	0.0029434	mg/L	0.00004957	0.0029434	mg/L	0.00004957	1.68%
Mo 202.031†	71.6	0.0061507	mg/L	0.00023404	0.0061507	mg/L	0.00023404	3.81%
Na 330.237†	112625.6	242.786	mg/L	0.2903	242.786	mg/L	0.2903	0.12%
Ni 231.604†	114.3	-0.0027811	mg/L	0.00048362	-0.0027811	mg/L	0.00048362	17.39%
Pb 220.353†	13.0	-0.0011880	mg/L	0.00275076	-0.0011880	mg/L	0.00275076	231.55%
Sb 206.836†	7.2	0.0043699	mg/L	0.00078084	0.0043699	mg/L	0.00078084	17.87%
Se 196.026†	1.1	-0.0076927	mg/L	0.00202941	-0.0076927	mg/L	0.00202941	26.38%
Sn 189.927†	-18.8	0.0000870	mg/L	0.00000373	0.0000870	mg/L	0.00000373	4.29%
Ti 334.940†	-163.0	-0.0006029	mg/L	0.00003794	-0.0006029	mg/L	0.00003794	6.29%
Tl 190.801†	2.0	-0.0013275	mg/L	0.00256549	-0.0013275	mg/L	0.00256549	193.26%
V 290.880†	587.8	0.0084377	mg/L	0.00086842	0.0084377	mg/L	0.00086842	10.29%
Zn 206.200†	1208.4	0.0219228	mg/L	0.00004080	0.0219228	mg/L	0.00004080	0.19%
B 249.772	11861.9	0.223025	mg/L	0.0019737	0.223025	mg/L	0.0019737	0.88%
Si 251.611	179627.6	8.27611	mg/L	0.038388	8.27611	mg/L	0.038388	0.46%

Sequence No.: 26
Sample ID: AD15839-003
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 49
Date Collected: 2/27/2020 3:06:16 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AD15839-003

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	617520.0	96.9	%	0.67				0.69%
Y 371.029	261677.9	95.5	%	0.68				0.71%
Ag 328.068†	-52.4	-0.0002611	mg/L	0.00018546	-0.0002611	mg/L	0.00018546	71.03%
Al 308.215†	334.5	0.0345563	mg/L	0.00315307	0.0345563	mg/L	0.00315307	9.12%
As 188.979†	17.3	0.0079039	mg/L	0.00005620	0.0079039	mg/L	0.00005620	0.71%
Ba 233.527†	13487.7	0.109953	mg/L	0.0001940	0.109953	mg/L	0.0001940	0.18%
Be 313.107†	-162.7	0.0018895	mg/L	0.00003618	0.0018895	mg/L	0.00003618	1.91%
Ca 317.933†	11077677.7	105.180	mg/L	1.4822	105.180	mg/L	1.4822	1.41%
Cd 228.802†	19.7	-0.0016270	mg/L	0.00001223	-0.0016270	mg/L	0.00001223	0.75%
Co 228.616†	30.9	-0.0040166	mg/L	0.00075559	-0.0040166	mg/L	0.00075559	18.81%
Cr 267.716†	64.7	0.0009729	mg/L	0.00002805	0.0009729	mg/L	0.00002805	2.88%
Cu 327.393†	117.5	0.0030323	mg/L	0.00008717	0.0030323	mg/L	0.00008717	2.87%
Fe 273.955†	131678.4	10.6528	mg/L	0.01139	10.6528	mg/L	0.01139	0.11%
K 404.721†	43644.1	30.8546	mg/L	1.03644	30.8546	mg/L	1.03644	3.36%
Mg 279.077†	391369.8	28.4433	mg/L	0.00082	28.4433	mg/L	0.00082	0.00%
Mn 257.610†	198140.9	0.497905	mg/L	0.0002564	0.497905	mg/L	0.0002564	0.05%
Mo 202.031†	74.9	0.0063676	mg/L	0.00058460	0.0063676	mg/L	0.00058460	9.18%
Na 330.237†	100223.8	216.153	mg/L	0.2615	216.153	mg/L	0.2615	0.12%
Ni 231.604†	79.8	-0.0038354	mg/L	0.00011123	-0.0038354	mg/L	0.00011123	2.90%
Pb 220.353†	14.5	-0.0010083	mg/L	0.00062002	-0.0010083	mg/L	0.00062002	61.49%
Sb 206.836†	-1.2	0.0011966	mg/L	0.00162438	0.0011966	mg/L	0.00162438	135.75%
Se 196.026†	-6.1	-0.0061612	mg/L	0.00241751	-0.0061612	mg/L	0.00241751	39.24%
Sn 189.927†	-41.3	-0.0028676	mg/L	0.00002733	-0.0028676	mg/L	0.00002733	0.95%
Ti 334.940†	-210.9	-0.0007574	mg/L	0.00003995	-0.0007574	mg/L	0.00003995	5.27%
Tl 190.801†	-3.9	-0.0049784	mg/L	0.00220643	-0.0049784	mg/L	0.00220643	44.32%
V 290.880†	663.5	0.0087464	mg/L	0.00033301	0.0087464	mg/L	0.00033301	3.81%
Zn 206.200†	884.0	0.0149609	mg/L	0.00009802	0.0149609	mg/L	0.00009802	0.66%
B 249.772	9330.1	0.131155	mg/L	0.0005643	0.131155	mg/L	0.0005643	0.43%
Si 251.611	194850.7	8.99472	mg/L	0.063551	8.99472	mg/L	0.063551	0.71%

Sequence No.: 27
Sample ID: AD15784-001
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 50
Date Collected: 2/27/2020 3:09:48 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AD15784-001

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	597643.3	93.7	%	0.55				0.59%
Y 371.029	256155.5	93.5	%	0.51				0.55%
Ag 328.068†	-149.0	-0.0010037	mg/L	0.00055800	-0.0010037	mg/L	0.00055800	55.60%
Al 308.215†	8461.3	0.665817	mg/L	0.0002152	0.665817	mg/L	0.0002152	0.03%
As 188.979†	7.2	0.0026475	mg/L	0.00261434	0.0026475	mg/L	0.00261434	98.75%
Ba 233.527†	32063.1	0.261211	mg/L	0.0000492	0.261211	mg/L	0.0000492	0.02%
Be 313.107†	-163.0	0.0018893	mg/L	0.00000495	0.0018893	mg/L	0.00000495	0.26%
Ca 317.933†	25179466.0	238.972	mg/L	0.6018	238.972	mg/L	0.6018	0.25%
Cd 228.802†	33.0	-0.0012696	mg/L	0.00010294	-0.0012696	mg/L	0.00010294	8.11%
Co 228.616†	575.3	0.0154571	mg/L	0.00005158	0.0154571	mg/L	0.00005158	0.33%
Cr 267.716†	279.9	0.0033889	mg/L	0.00028497	0.0033889	mg/L	0.00028497	8.41%
Cu 327.393†	-17.4	0.0014616	mg/L	0.00016218	0.0014616	mg/L	0.00016218	11.10%
Fe 273.955†	16632.0	1.34822	mg/L	0.001438	1.34822	mg/L	0.001438	0.11%
K 404.721†	8017.7	7.30634	mg/L	0.748450	7.30634	mg/L	0.748450	10.24%
Mg 279.077†	883925.2	64.4478	mg/L	0.16175	64.4478	mg/L	0.16175	0.25%
Mn 257.610†	1384691.3	3.47827	mg/L	0.005709	3.47827	mg/L	0.005709	0.16%
Mo 202.031†	76.4	0.0064583	mg/L	0.00002802	0.0064583	mg/L	0.00002802	0.43%
Na 330.237†	41609.3	90.2783	mg/L	0.04959	90.2783	mg/L	0.04959	0.05%
Ni 231.604†	879.0	0.0206077	mg/L	0.00003598	0.0206077	mg/L	0.00003598	0.17%
Pb 220.353†	10.2	-0.0014727	mg/L	0.00079752	-0.0014727	mg/L	0.00079752	54.15%
Sb 206.836†	1.9	0.0023558	mg/L	0.00303895	0.0023558	mg/L	0.00303895	129.00%
Se 196.026†	8.9	-0.0104570	mg/L	0.00160678	-0.0104570	mg/L	0.00160678	15.37%
Sn 189.927†	-42.2	-0.0030090	mg/L	0.00076988	-0.0030090	mg/L	0.00076988	25.59%
Ti 334.940†	1170.7	0.0036967	mg/L	0.00004454	0.0036967	mg/L	0.00004454	1.20%
Tl 190.801†	-7.4	-0.0140014	mg/L	0.00173793	-0.0140014	mg/L	0.00173793	12.41%
V 290.880†	901.3	0.0126367	mg/L	0.00068355	0.0126367	mg/L	0.00068355	5.41%
Zn 206.200†	1504.3	0.0282721	mg/L	0.00032907	0.0282721	mg/L	0.00032907	1.16%
B 249.772	4667.9	0.0822366	mg/L	0.00123780	0.0822366	mg/L	0.00123780	1.51%
Si 251.611	255351.2	11.8561	mg/L	0.08519	11.8561	mg/L	0.08519	0.72%

Sequence No.: 28
Sample ID: AD15784-002
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 51
Date Collected: 2/27/2020 3:13:21 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AD15784-002

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	542996.4	85.2	%	0.11				0.13%
Y 371.029	236447.1	86.3	%	0.06				0.07%
Ag 328.068†	-164.8	-0.0011250	mg/L	0.00029213	-0.0011250	mg/L	0.00029213	25.97%
Al 308.215†	41786.8	3.25444	mg/L	0.008511	3.25444	mg/L	0.008511	0.26%
As 188.979†	11.0	0.0045465	mg/L	0.00146419	0.0045465	mg/L	0.00146419	32.20%
Ba 233.527†	348266.3	2.83603	mg/L	0.000262	2.83603	mg/L	0.000262	0.01%
Be 313.107†	-319.8	0.0017857	mg/L	0.00000184	0.0017857	mg/L	0.00000184	0.10%
Ca 317.933†	43675561.2	414.457	mg/L	1.3218	414.457	mg/L	1.3218	0.32%
Cd 228.802†	50.1	-0.0008092	mg/L	0.00025114	-0.0008092	mg/L	0.00025114	31.04%
Co 228.616†	98.4	-0.0016006	mg/L	0.00061877	-0.0016006	mg/L	0.00061877	38.66%
Cr 267.716†	1078.0	0.0123496	mg/L	0.00003234	0.0123496	mg/L	0.00003234	0.26%
Cu 327.393†	1176.8	0.0153667	mg/L	0.00072602	0.0153667	mg/L	0.00072602	4.72%
Fe 273.955†	53586.0	4.33693	mg/L	0.005004	4.33693	mg/L	0.005004	0.12%
K 404.721†	25457.7	25.4235	mg/L	0.09344	25.4235	mg/L	0.09344	0.37%
Mg 279.077†	1102344.5	80.4136	mg/L	0.03881	80.4136	mg/L	0.03881	0.05%
Mn 257.610†	97353.7	0.244749	mg/L	0.0001012	0.244749	mg/L	0.0001012	0.04%
Mo 202.031†	82.3	0.0068398	mg/L	0.00092217	0.0068398	mg/L	0.00092217	13.48%
Na 330.237†	1032889.1	2219.05	mg/L	1.137	2219.05	mg/L	1.137	0.05%
Ni 231.604†	881.8	0.0206937	mg/L	0.00013735	0.0206937	mg/L	0.00013735	0.66%
Pb 220.353†	42.1	0.0025928	mg/L	0.00302980	0.0025928	mg/L	0.00302980	116.85%
Sb 206.836†	8.7	0.0049667	mg/L	0.00732882	0.0049667	mg/L	0.00732882	147.56%
Se 196.026†	-2.8	-0.0243765	mg/L	0.00638838	-0.0243765	mg/L	0.00638838	26.21%
Sn 189.927†	-32.8	-0.0018702	mg/L	0.00136038	-0.0018702	mg/L	0.00136038	72.74%
Ti 334.940†	6387.0	0.0205131	mg/L	0.00018718	0.0205131	mg/L	0.00018718	0.91%
Tl 190.801†	-6.0	-0.0048157	mg/L	0.00196444	-0.0048157	mg/L	0.00196444	40.79%
V 290.880†	1312.8	0.0180638	mg/L	0.00101721	0.0180638	mg/L	0.00101721	5.63%
Zn 206.200†	1693.7	0.0323373	mg/L	0.00030599	0.0323373	mg/L	0.00030599	0.95%
B 249.772	1429.2	0.0089899	mg/L	0.00011221	0.0089899	mg/L	0.00011221	1.25%
Si 251.611	149299.9	6.86707	mg/L	0.038851	6.86707	mg/L	0.038851	0.57%

Sequence No.: 29
Sample ID: AD15784-003
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 52
Date Collected: 2/27/2020 3:16:58 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AD15784-003

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	599828.6	94.1	%	1.32				1.40%
Y 371.029	260758.8	95.2	%	1.37				1.44%
Ag 328.068†	-119.2	-0.0007749	mg/L	0.00011632	-0.0007749	mg/L	0.00011632	15.01%
Al 308.215†	95109.5	7.39640	mg/L	0.020109	7.39640	mg/L	0.020109	0.27%
As 188.979†	13.3	0.0065084	mg/L	0.00018067	0.0065084	mg/L	0.00018067	2.78%
Ba 233.527†	31237.0	0.254484	mg/L	0.0003204	0.254484	mg/L	0.0003204	0.13%
Be 313.107†	488.2	0.0023197	mg/L	0.00002632	0.0023197	mg/L	0.00002632	1.13%
Ca 317.933†	10554881.3	100.220	mg/L	0.5088	100.220	mg/L	0.5088	0.51%
Cd 228.802†	27.8	-0.0014111	mg/L	0.00000170	-0.0014111	mg/L	0.00000170	0.12%
Co 228.616†	225.5	0.0029462	mg/L	0.00017765	0.0029462	mg/L	0.00017765	6.03%
Cr 267.716†	10657.0	0.119905	mg/L	0.0009769	0.119905	mg/L	0.0009769	0.81%
Cu 327.393†	1891.9	0.0236939	mg/L	0.00002515	0.0236939	mg/L	0.00002515	0.11%
Fe 273.955†	158046.5	12.7853	mg/L	0.02958	12.7853	mg/L	0.02958	0.23%
K 404.721†	53393.2	39.0389	mg/L	0.91920	39.0389	mg/L	0.91920	2.35%
Mg 279.077†	524918.4	38.2053	mg/L	0.07027	38.2053	mg/L	0.07027	0.18%
Mn 257.610†	195207.8	0.490537	mg/L	0.0001580	0.490537	mg/L	0.0001580	0.03%
Mo 202.031†	72.8	0.0062309	mg/L	0.00013584	0.0062309	mg/L	0.00013584	2.18%
Na 330.237†	155500.0	334.858	mg/L	0.7570	334.858	mg/L	0.7570	0.23%
Ni 231.604†	848.0	0.0196591	mg/L	0.00000971	0.0196591	mg/L	0.00000971	0.05%
Pb 220.353†	186.8	0.0202999	mg/L	0.00190588	0.0202999	mg/L	0.00190588	9.39%
Sb 206.836†	5.4	0.0036970	mg/L	0.00309676	0.0036970	mg/L	0.00309676	83.76%
Se 196.026†	3.4	-0.0000470	mg/L	0.00346680	-0.0000470	mg/L	0.00346680	>999.9%
Sn 189.927†	-25.1	-0.0009417	mg/L	0.00078601	-0.0009417	mg/L	0.00078601	83.47%
Ti 334.940†	10504.7	0.0337880	mg/L	0.00093894	0.0337880	mg/L	0.00093894	2.78%
Tl 190.801†	-5.6	-0.0051034	mg/L	0.00185415	-0.0051034	mg/L	0.00185415	36.33%
V 290.880†	1487.8	0.0198709	mg/L	0.00094075	0.0198709	mg/L	0.00094075	4.73%
Zn 206.200†	2271.5	0.0447366	mg/L	0.00038320	0.0447366	mg/L	0.00038320	0.86%
B 249.772	555.9	-0.0425098	mg/L	0.00049086	-0.0425098	mg/L	0.00049086	1.15%
Si 251.611	324554.5	15.0696	mg/L	0.30458	15.0696	mg/L	0.30458	2.02%

Sequence No.: 30
Sample ID: ICSA V-321157
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 7
Date Collected: 2/27/2020 3:20:27 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICSA V-321157

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	554539.3	87.0	%	1.36				1.57%
Y 371.029	232998.4	85.1	%	1.39				1.63%
Ag 328.068†	-481.7	-0.0035600	mg/L	0.00015767	-0.0035600	mg/L	0.00015767	4.43%
Al 308.215†	6396807.3	496.894	mg/L	13.5174	496.894	mg/L	13.5174	2.72%
QC value within limits for Al 308.215 Recovery = 99.38%								
As 188.979†	-34.5	0.0055970	mg/L	0.00174622	0.0055970	mg/L	0.00174622	31.20%
Ba 233.527†	554.4	0.0046381	mg/L	0.00004166	0.0046381	mg/L	0.00004166	0.90%
Be 313.107†	-545.6	0.0016365	mg/L	0.00005290	0.0016365	mg/L	0.00005290	3.23%
Ca 317.933†	45084895.3	427.828	mg/L	4.9456	427.828	mg/L	4.9456	1.16%
QC value within limits for Ca 317.933 Recovery = 85.57%								
Cd 228.802†	-41.5	-0.0032760	mg/L	0.00013480	-0.0032760	mg/L	0.00013480	4.11%
Co 228.616†	87.6	-0.0019883	mg/L	0.00009817	-0.0019883	mg/L	0.00009817	4.94%
Cr 267.716†	24.3	0.0005189	mg/L	0.00025528	0.0005189	mg/L	0.00025528	49.20%
Cu 327.393†	-1880.3	-0.0202311	mg/L	0.00011122	-0.0202311	mg/L	0.00011122	0.55%
Fe 273.955†	2174077.7	175.835	mg/L	4.7854	175.835	mg/L	4.7854	2.72%
QC value within limits for Fe 273.955 Recovery = 87.92%								
K 404.721†	755510.3	588.633	mg/L	19.7333	588.633	mg/L	19.7333	3.35%
Mg 279.077†	6029998.2	440.612	mg/L	12.3753	440.612	mg/L	12.3753	2.81%
QC value within limits for Mg 279.077 Recovery = 88.12%								
Mn 257.610†	-1783.5	-0.0042626	mg/L	0.00007603	-0.0042626	mg/L	0.00007603	1.78%
Mo 202.031†	27.5	0.0033369	mg/L	0.00033389	0.0033369	mg/L	0.00033389	10.01%
Na 330.237†	75.0	1.08369	mg/L	0.010523	1.08369	mg/L	0.010523	0.97%
Ni 231.604†	123.7	-0.0024915	mg/L	0.00012952	-0.0024915	mg/L	0.00012952	5.20%
Pb 220.353†	-277.9	0.0092700	mg/L	0.00101793	0.0092700	mg/L	0.00101793	10.98%
Sb 206.836†	14.3	0.0070288	mg/L	0.00310962	0.0070288	mg/L	0.00310962	44.24%
Se 196.026†	-109.5	0.0059197	mg/L	0.00356715	0.0059197	mg/L	0.00356715	60.26%
Sn 189.927†	-70.7	-0.0067236	mg/L	0.00044658	-0.0067236	mg/L	0.00044658	6.64%
Ti 334.940†	-782.0	-0.0025983	mg/L	0.00019489	-0.0025983	mg/L	0.00019489	7.50%
Tl 190.801†	-38.2	-0.0175566	mg/L	0.00038968	-0.0175566	mg/L	0.00038968	2.22%
V 290.880†	543.3	-0.0042411	mg/L	0.00044323	-0.0042411	mg/L	0.00044323	10.45%
Zn 206.200†	-76.5	-0.0056507	mg/L	0.00011954	-0.0056507	mg/L	0.00011954	2.12%
B 249.772	-40332.7	-1.48784	mg/L	0.005058	-1.48784	mg/L	0.005058	0.34%
Si 251.611	1077.9	0.0522331	mg/L	0.01491835	0.0522331	mg/L	0.01491835	28.56%

All analyte(s) passed QC.

Sequence No.: 31
Sample ID: ICSAB V-321158
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 2/27/2020 3:25:14 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICSAB V-321158

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	554127.9	86.9	%	0.23				0.27%
Y 371.029	233188.2	85.1	%	0.32				0.37%
Ag 328.068†	139854.2	1.07466	mg/L	0.001569	1.07466	mg/L	0.001569	0.15%
QC value within limits for Ag 328.068 Recovery = 107.47%								
Al 308.215†	6624049.1	514.545	mg/L	3.3580	514.545	mg/L	3.3580	0.65%
QC value within limits for Al 308.215 Recovery = 102.91%								
As 188.979†	2166.7	0.917670	mg/L	0.0042349	0.917670	mg/L	0.0042349	0.46%
QC value within limits for As 188.979 Recovery = 91.77%								
Ba 233.527†	58954.0	0.480181	mg/L	0.0003800	0.480181	mg/L	0.0003800	0.08%
QC value within limits for Ba 233.527 Recovery = 96.04%								
Be 313.107†	710018.9	0.471214	mg/L	0.0036845	0.471214	mg/L	0.0036845	0.78%
QC value within limits for Be 313.107 Recovery = 94.24%								
Ca 317.933†	45954674.5	436.080	mg/L	0.9725	436.080	mg/L	0.9725	0.22%
QC value within limits for Ca 317.933 Recovery = 87.22%								
Cd 228.802†	35992.4	0.966210	mg/L	0.0010163	0.966210	mg/L	0.0010163	0.11%
QC value within limits for Cd 228.802 Recovery = 96.62%								
Co 228.616†	13033.4	0.461029	mg/L	0.0007390	0.461029	mg/L	0.0007390	0.16%
QC value within limits for Co 228.616 Recovery = 92.21%								
Cr 267.716†	41222.4	0.463100	mg/L	0.0002668	0.463100	mg/L	0.0002668	0.06%
QC value within limits for Cr 267.716 Recovery = 92.62%								
Cu 327.393†	43444.5	0.507551	mg/L	0.0025577	0.507551	mg/L	0.0025577	0.50%
QC value within limits for Cu 327.393 Recovery = 101.51%								
Fe 273.955†	2252362.6	182.166	mg/L	1.1283	182.166	mg/L	1.1283	0.62%
QC value within limits for Fe 273.955 Recovery = 91.08%								
K 404.721†	783260.2	610.829	mg/L	5.9267	610.829	mg/L	5.9267	0.97%
Mg 279.077†	6249641.7	456.667	mg/L	3.3320	456.667	mg/L	3.3320	0.73%
QC value within limits for Mg 279.077 Recovery = 91.33%								
Mn 257.610†	186019.0	0.467457	mg/L	0.0002089	0.467457	mg/L	0.0002089	0.04%
QC value within limits for Mn 257.610 Recovery = 93.49%								
Mo 202.031†	18.4	0.0027567	mg/L	0.00182261	0.0027567	mg/L	0.00182261	66.11%
Na 330.237†	-385.2	0.0952238	mg/L	0.00654846	0.0952238	mg/L	0.00654846	6.88%
Ni 231.604†	30091.4	0.914006	mg/L	0.0039382	0.914006	mg/L	0.0039382	0.43%
QC value within limits for Ni 231.604 Recovery = 91.40%								
Pb 220.353†	7118.4	0.897000	mg/L	0.0029532	0.897000	mg/L	0.0029532	0.33%
QC value within limits for Pb 220.353 Recovery = 89.70%								
Sb 206.836†	2620.0	0.999459	mg/L	0.0040906	0.999459	mg/L	0.0040906	0.41%
QC value within limits for Sb 206.836 Recovery = 99.95%								
Se 196.026†	1646.8	0.894843	mg/L	0.0090463	0.894843	mg/L	0.0090463	1.01%
QC value within limits for Se 196.026 Recovery = 89.48%								
Sn 189.927†	-86.5	-0.0088024	mg/L	0.00184429	-0.0088024	mg/L	0.00184429	20.95%
Ti 334.940†	-698.9	-0.0023304	mg/L	0.00001641	-0.0023304	mg/L	0.00001641	0.70%
Tl 190.801†	2170.5	0.878851	mg/L	0.0015754	0.878851	mg/L	0.0015754	0.18%
QC value within limits for Tl 190.801 Recovery = 87.89%								
V 290.880†	35358.6	0.471450	mg/L	0.0000492	0.471450	mg/L	0.0000492	0.01%
QC value within limits for V 290.880 Recovery = 94.29%								
Zn 206.200†	38290.3	0.817671	mg/L	0.0028558	0.817671	mg/L	0.0028558	0.35%
QC value within limits for Zn 206.200 Recovery = 81.77%								
B 249.772	-41621.6	-1.53835	mg/L	0.001870	-1.53835	mg/L	0.001870	0.12%
Si 251.611	850.7	0.0654449	mg/L	0.00039688	0.0654449	mg/L	0.00039688	0.61%

All analyte(s) passed QC.

Sequence No.: 32
Sample ID: CCV V-321090
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 6
Date Collected: 2/27/2020 3:30:03 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV V-321090

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sc 361.383	595102.0	93.3	%	1.78				1.91%
Y 371.029	253048.8	92.4	%	1.71				1.85%
Ag 328.068†	13620.5	0.104789	mg/L	0.0004585	0.104789	mg/L	0.0004585	0.44%
QC value within limits for Ag 328.068 Recovery = 104.79%								
Al 308.215†	66369.3	5.15224	mg/L	0.017757	5.15224	mg/L	0.017757	0.34%
QC value within limits for Al 308.215 Recovery = 103.04%								
As 188.979†	1168.9	0.481414	mg/L	0.0025032	0.481414	mg/L	0.0025032	0.52%
QC value within limits for As 188.979 Recovery = 96.28%								
Ba 233.527†	62141.5	0.506136	mg/L	0.0010288	0.506136	mg/L	0.0010288	0.20%
QC value within limits for Ba 233.527 Recovery = 101.23%								
Be 313.107†	758751.1	0.503418	mg/L	0.0016427	0.503418	mg/L	0.0016427	0.33%
QC value within limits for Be 313.107 Recovery = 100.68%								
Ca 317.933†	5143535.3	48.8786	mg/L	0.07671	48.8786	mg/L	0.07671	0.16%
QC value within limits for Ca 317.933 Recovery = 97.76%								
Cd 228.802†	19694.1	0.527707	mg/L	0.0075964	0.527707	mg/L	0.0075964	1.44%
QC value within limits for Cd 228.802 Recovery = 105.54%								
Co 228.616†	14888.0	0.527361	mg/L	0.0076208	0.527361	mg/L	0.0076208	1.45%
QC value within limits for Co 228.616 Recovery = 105.47%								
Cr 267.716†	45144.5	0.507138	mg/L	0.0001467	0.507138	mg/L	0.0001467	0.03%
QC value within limits for Cr 267.716 Recovery = 101.43%								
Cu 327.393†	47230.9	0.551642	mg/L	0.0021915	0.551642	mg/L	0.0021915	0.40%
QC value greater than the upper limit for Cu 327.393 Recovery = 110.33%								
Fe 273.955†	62595.4	5.06558	mg/L	0.008465	5.06558	mg/L	0.008465	0.17%
QC value within limits for Fe 273.955 Recovery = 101.31%								
K 404.721†	23604.2	19.0956	mg/L	2.13703	19.0956	mg/L	2.13703	11.19%
QC value less than the lower limit for K 404.721 Recovery = 38.19%								
Mg 279.077†	663102.0	48.3062	mg/L	0.07884	48.3062	mg/L	0.07884	0.16%
QC value within limits for Mg 279.077 Recovery = 96.61%								
Mn 257.610†	204484.3	0.513838	mg/L	0.0007876	0.513838	mg/L	0.0007876	0.15%
QC value within limits for Mn 257.610 Recovery = 102.77%								
Mo 202.031†	7895.6	0.505634	mg/L	0.0073971	0.505634	mg/L	0.0073971	1.46%
QC value within limits for Mo 202.031 Recovery = 101.13%								
Na 330.237†	23505.9	51.4013	mg/L	0.06171	51.4013	mg/L	0.06171	0.12%
QC value within limits for Na 330.237 Recovery = 102.80%								
Ni 231.604†	17126.0	0.517485	mg/L	0.0074788	0.517485	mg/L	0.0074788	1.45%
QC value within limits for Ni 231.604 Recovery = 103.50%								
Pb 220.353†	4070.3	0.485370	mg/L	0.0078025	0.485370	mg/L	0.0078025	1.61%
QC value within limits for Pb 220.353 Recovery = 97.07%								
Sb 206.836†	1345.9	0.520699	mg/L	0.0092878	0.520699	mg/L	0.0092878	1.78%
QC value within limits for Sb 206.836 Recovery = 104.14%								
Se 196.026†	952.5	0.477832	mg/L	0.0035343	0.477832	mg/L	0.0035343	0.74%
QC value within limits for Se 196.026 Recovery = 95.57%								
Sn 189.927†	3635.2	0.477205	mg/L	0.0059821	0.477205	mg/L	0.0059821	1.25%
QC value within limits for Sn 189.927 Recovery = 95.44%								
Ti 334.940†	166439.8	0.536496	mg/L	0.0005468	0.536496	mg/L	0.0005468	0.10%
QC value within limits for Ti 334.940 Recovery = 107.30%								
Tl 190.801†	1253.9	0.515290	mg/L	0.0111495	0.515290	mg/L	0.0111495	2.16%
QC value within limits for Tl 190.801 Recovery = 103.06%								
V 290.880†	37566.7	0.520367	mg/L	0.0006045	0.520367	mg/L	0.0006045	0.12%
QC value within limits for V 290.880 Recovery = 104.07%								
Zn 206.200†	22976.1	0.489039	mg/L	0.0058812	0.489039	mg/L	0.0058812	1.20%
QC value within limits for Zn 206.200 Recovery = 97.81%								
B 249.772	23734.4	0.426087	mg/L	0.0048125	0.426087	mg/L	0.0048125	1.13%
QC value less than the lower limit for B 249.772 Recovery = 85.22%								
Si 251.611	111742.9	5.11328	mg/L	0.095394	5.11328	mg/L	0.095394	1.87%
QC value within limits for Si 251.611 Recovery = 102.27%								

QC Failed. Continue with analysis.

Sequence No.: 33 Autosampler Location: 2
Sample ID: CCB V-317800 Date Collected: 2/27/2020 3:33:31 PM
Analyst: Data Type: Original
Initial Sample Wt: Initial Sample Vol:
Dilution: Sample Prep Vol:

Mean Data: CCB V-317800

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	610259.8	95.7	%	0.70				0.73%
Y 371.029	261799.5	95.6	%	0.65				0.68%
Ag 328.068†	-30.1	-0.0000904	mg/L	0.00003322	-0.0000904	mg/L	0.00003322	36.74%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 308.215†	148.5	0.0202131	mg/L	0.00422048	0.0202131	mg/L	0.00422048	20.88%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979†	0.8	-0.0001230	mg/L	0.00068149	-0.0001230	mg/L	0.00068149	554.21%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	217.1	0.0018911	mg/L	0.00003637	0.0018911	mg/L	0.00003637	1.92%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-17.3	0.0019856	mg/L	0.00002984	0.0019856	mg/L	0.00002984	1.50%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933†	1621.2	0.0939561	mg/L	0.00021145	0.0939561	mg/L	0.00021145	0.23%
QC value within limits for Ca 317.933 Recovery = Not calculated								
Cd 228.802†	22.0	-0.0015662	mg/L	0.00006182	-0.0015662	mg/L	0.00006182	3.95%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	6.7	-0.0048815	mg/L	0.00008094	-0.0048815	mg/L	0.00008094	1.66%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	24.1	0.0005161	mg/L	0.00003715	0.0005161	mg/L	0.00003715	7.20%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	305.6	0.0052223	mg/L	0.00076290	0.0052223	mg/L	0.00076290	14.61%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	2960.6	0.242528	mg/L	0.0003660	0.242528	mg/L	0.0003660	0.15%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 404.721†	4469.7	5.71482	mg/L	1.247402	5.71482	mg/L	1.247402	21.83%
QC value greater than the upper limit for K 404.721 Recovery = Not calculated								
Mg 279.077†	28.1	-0.162773	mg/L	0.0017817	-0.162773	mg/L	0.0017817	1.09%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	939.1	0.0025759	mg/L	0.00000071	0.0025759	mg/L	0.00000071	0.03%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	6.2	0.0019787	mg/L	0.00015796	0.0019787	mg/L	0.00015796	7.98%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 330.237†	62.8	1.05731	mg/L	0.011032	1.05731	mg/L	0.011032	1.04%
QC value within limits for Na 330.237 Recovery = Not calculated								
Ni 231.604†	24.4	-0.0055291	mg/L	0.00015070	-0.0055291	mg/L	0.00015070	2.73%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	24.0	0.0001241	mg/L	0.00054381	0.0001241	mg/L	0.00054381	438.34%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	-2.0	0.0008319	mg/L	0.00133376	0.0008319	mg/L	0.00133376	160.33%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-7.2	-0.0061711	mg/L	0.00327360	-0.0061711	mg/L	0.00327360	53.05%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	31.4	0.0066829	mg/L	0.00045765	0.0066829	mg/L	0.00045765	6.85%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Ti 334.940†	32.8	0.0000285	mg/L	0.00006932	0.0000285	mg/L	0.00006932	243.13%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	2.0	-0.0013840	mg/L	0.00145556	-0.0013840	mg/L	0.00145556	105.17%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 290.880†	100.8	0.0017059	mg/L	0.00015366	0.0017059	mg/L	0.00015366	9.01%
QC value within limits for V 290.880 Recovery = Not calculated								
Zn 206.200†	121.9	-0.0013915	mg/L	0.00037260	-0.0013915	mg/L	0.00037260	26.78%
QC value within limits for Zn 206.200 Recovery = Not calculated								
B 249.772	455.6	0.0076997	mg/L	0.00079608	0.0076997	mg/L	0.00079608	10.34%
QC value within limits for B 249.772 Recovery = Not calculated								
Si 251.611	179.6	-0.139842	mg/L	0.0011752	-0.139842	mg/L	0.0011752	0.84%
QC value less than the lower limit for Si 251.611 Recovery = Not calculated								

QC Failed. Continue with analysis.

Sequence No.: 34
Sample ID: AD15784-004
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 53
Date Collected: 2/27/2020 3:36:47 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AD15784-004

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	591763.4	92.8	%	2.41				2.60%
Y 371.029	253266.5	92.5	%	2.27				2.46%
Ag 328.068†	-15.3	0.0000233	mg/L	0.00056836	0.0000233	mg/L	0.00056836	>999.9%
Al 308.215†	13081.3	1.02464	mg/L	0.012350	1.02464	mg/L	0.012350	1.21%
As 188.979†	-186.3	-0.0774417	mg/L	0.00222078	-0.0774417	mg/L	0.00222078	2.87%
Ba 233.527†	25313.7	0.206251	mg/L	0.0011377	0.206251	mg/L	0.0011377	0.55%
Be 313.107†	-431.2	0.0017121	mg/L	0.00000797	0.0017121	mg/L	0.00000797	0.47%
Ca 317.933†	16724141.5	158.751	mg/L	4.9977	158.751	mg/L	4.9977	3.15%
Cd 228.802†	116.2	0.0009679	mg/L	0.00006159	0.0009679	mg/L	0.00006159	6.36%
Co 228.616†	134.9	-0.0002962	mg/L	0.00041659	-0.0002962	mg/L	0.00041659	140.65%
Cr 267.716†	1384076.9	15.5409	mg/L	0.02990	15.5409	mg/L	0.02990	0.19%
Cu 327.393†	2420.0	0.0298429	mg/L	0.00003378	0.0298429	mg/L	0.00003378	0.11%
Fe 273.955†	22509.2	1.82355	mg/L	0.002785	1.82355	mg/L	0.002785	0.15%
K 404.721†	11192.6	10.8939	mg/L	2.56084	10.8939	mg/L	2.56084	23.51%
Mg 279.077†	500477.8	36.4188	mg/L	0.03346	36.4188	mg/L	0.03346	0.09%
Mn 257.610†	118812.4	0.298648	mg/L	0.0013982	0.298648	mg/L	0.0013982	0.47%
Mo 202.031†	109.6	0.0085798	mg/L	0.00057182	0.0085798	mg/L	0.00057182	6.66%
Na 330.237†	138193.8	297.693	mg/L	2.1358	297.693	mg/L	2.1358	0.72%
Ni 231.604†	1211.9	0.0307864	mg/L	0.00081122	0.0307864	mg/L	0.00081122	2.64%
Pb 220.353†	12.4	-0.0011715	mg/L	0.00006260	-0.0011715	mg/L	0.00006260	5.34%
Sb 206.836†	232.5	0.0902236	mg/L	0.00338993	0.0902236	mg/L	0.00338993	3.76%
Se 196.026†	16.9	-0.0018258	mg/L	0.00163178	-0.0018258	mg/L	0.00163178	89.38%
Sn 189.927†	-46.6	-0.0036382	mg/L	0.00044328	-0.0036382	mg/L	0.00044328	12.18%
Ti 334.940†	3382.3	0.0108265	mg/L	0.00058298	0.0108265	mg/L	0.00058298	5.38%
Tl 190.801†	8.8	0.0006120	mg/L	0.00155171	0.0006120	mg/L	0.00155171	253.54%
V 290.880†	-286.9	-0.0036183	mg/L	0.00054068	-0.0036183	mg/L	0.00054068	14.94%
Zn 206.200†	-990.1	-0.0252552	mg/L	0.00009589	-0.0252552	mg/L	0.00009589	0.38%
B 249.772	8730.4	0.156572	mg/L	0.0070123	0.156572	mg/L	0.0070123	4.48%
Si 251.611	129055.5	5.91366	mg/L	0.140811	5.91366	mg/L	0.140811	2.38%

Sequence No.: 35
Sample ID: AD15784-008
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 54
Date Collected: 2/27/2020 3:41:20 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AD15784-008

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	589687.1	92.5	%	1.44				1.56%
Y 371.029	270715.4	98.8	%	1.60				1.62%
Ag 328.068†	-216.5	-0.0015221	mg/L	0.00001227	-0.0015221	mg/L	0.00001227	0.81%
Al 308.215†	363773.7	28.2653	mg/L	0.01686	28.2653	mg/L	0.01686	0.06%
As 188.979†	50.8	0.0295120	mg/L	0.00197269	0.0295120	mg/L	0.00197269	6.68%
Ba 233.527†	260770.5	2.12355	mg/L	0.002488	2.12355	mg/L	0.002488	0.12%
Be 313.107†	1921.5	0.0032669	mg/L	0.00005132	0.0032669	mg/L	0.00005132	1.57%
Ca 317.933†	25805607.4	244.913	mg/L	0.6165	244.913	mg/L	0.6165	0.25%
Cd 228.802†	49.7	-0.0008214	mg/L	0.00000942	-0.0008214	mg/L	0.00000942	1.15%
Co 228.616†	1363.9	0.0436600	mg/L	0.00051970	0.0436600	mg/L	0.00051970	1.19%
Cr 267.716†	112377.4	1.26204	mg/L	0.002907	1.26204	mg/L	0.002907	0.23%
Cu 327.393†	9664.0	0.114196	mg/L	0.0020763	0.114196	mg/L	0.0020763	1.82%
Fe 273.955†	962402.2	77.8387	mg/L	0.17544	77.8387	mg/L	0.17544	0.23%
K 404.721†	313451.0	222.989	mg/L	2.2485	222.989	mg/L	2.2485	1.01%
Mg 279.077†	768117.1	55.9825	mg/L	0.19193	55.9825	mg/L	0.19193	0.34%
Mn 257.610†	2474975.2	6.21683	mg/L	0.010089	6.21683	mg/L	0.010089	0.16%
Mo 202.031†	176.9	0.0128741	mg/L	0.00027891	0.0128741	mg/L	0.00027891	2.17%
Na 330.237†	157131.5	338.362	mg/L	0.6655	338.362	mg/L	0.6655	0.20%
Ni 231.604†	3121.9	0.0892016	mg/L	0.00291732	0.0892016	mg/L	0.00291732	3.27%
Pb 220.353†	445.9	0.0532513	mg/L	0.00017774	0.0532513	mg/L	0.00017774	0.33%
Sb 206.836†	35.8	0.0153631	mg/L	0.00402388	0.0153631	mg/L	0.00402388	26.19%
Se 196.026†	-35.5	0.0046542	mg/L	0.00018964	0.0046542	mg/L	0.00018964	4.07%
Sn 189.927†	-72.9	-0.0074985	mg/L	0.00015896	-0.0074985	mg/L	0.00015896	2.12%
Ti 334.940†	25568.2	0.0823501	mg/L	0.00038660	0.0823501	mg/L	0.00038660	0.47%
Tl 190.801†	-9.7	-0.0203938	mg/L	0.00191973	-0.0203938	mg/L	0.00191973	9.41%
V 290.880†	5079.5	0.0646273	mg/L	0.00178046	0.0646273	mg/L	0.00178046	2.75%
Zn 206.200†	9946.9	0.209444	mg/L	0.0007420	0.209444	mg/L	0.0007420	0.35%
B 249.772	-14254.9	-0.590919	mg/L	0.0048149	-0.590919	mg/L	0.0048149	0.81%
Si 251.611	1020879.2	47.7590	mg/L	0.87704	47.7590	mg/L	0.87704	1.84%

Sequence No.: 36
Sample ID: AD15784-009
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 55
Date Collected: 2/27/2020 3:44:56 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AD15784-009

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	604056.7	94.8	%	0.67				0.71%
Y 371.029	288426.7	105	%	0.7				0.68%
Ag 328.068†	-125.5	-0.0008234	mg/L	0.00012658	-0.0008234	mg/L	0.00012658	15.37%
Al 308.215†	666637.6	51.7901	mg/L	0.10489	51.7901	mg/L	0.10489	0.20%
As 188.979†	79.0	0.0476972	mg/L	0.00091497	0.0476972	mg/L	0.00091497	1.92%
Ba 233.527†	153221.0	1.24779	mg/L	0.001929	1.24779	mg/L	0.001929	0.15%
Be 313.107†	3414.3	0.0042534	mg/L	0.00003196	0.0042534	mg/L	0.00003196	0.75%
Ca 317.933†	21261411.1	201.799	mg/L	0.3761	201.799	mg/L	0.3761	0.19%
Cd 228.802†	37.9	-0.0011379	mg/L	0.00016133	-0.0011379	mg/L	0.00016133	14.18%
Co 228.616†	1171.9	0.0367938	mg/L	0.00059780	0.0367938	mg/L	0.00059780	1.62%
Cr 267.716†	14498.5	0.163038	mg/L	0.0016366	0.163038	mg/L	0.0016366	1.00%
Cu 327.393†	22763.0	0.266727	mg/L	0.0003485	0.266727	mg/L	0.0003485	0.13%
Fe 273.955†	1672112.1	135.238	mg/L	0.2488	135.238	mg/L	0.2488	0.18%
K 404.721†	541518.9	382.849	mg/L	0.9682	382.849	mg/L	0.9682	0.25%
Mg 279.077†	671363.5	48.9101	mg/L	0.19971	48.9101	mg/L	0.19971	0.41%
Mn 257.610†	3514623.4	8.82820	mg/L	0.021291	8.82820	mg/L	0.021291	0.24%
Mo 202.031†	677.4	0.0448298	mg/L	0.00056991	0.0448298	mg/L	0.00056991	1.27%
Na 330.237†	122574.0	264.150	mg/L	0.1941	264.150	mg/L	0.1941	0.07%
Ni 231.604†	3839.1	0.111136	mg/L	0.0000053	0.111136	mg/L	0.0000053	0.00%
Pb 220.353†	2608.2	0.314452	mg/L	0.0000041	0.314452	mg/L	0.0000041	0.00%
Sb 206.836†	29.8	0.0135011	mg/L	0.00115773	0.0135011	mg/L	0.00115773	8.58%
Se 196.026†	-51.8	0.0271889	mg/L	0.00139389	0.0271889	mg/L	0.00139389	5.13%
Sn 189.927†	-19.6	-0.0007494	mg/L	0.00184152	-0.0007494	mg/L	0.00184152	245.74%
Ti 334.940†	39552.7	0.127434	mg/L	0.0006670	0.127434	mg/L	0.0006670	0.52%
Tl 190.801†	-13.2	-0.0275645	mg/L	0.00432955	-0.0275645	mg/L	0.00432955	15.71%
V 290.880†	7943.2	0.100282	mg/L	0.0012134	0.100282	mg/L	0.0012134	1.21%
Zn 206.200†	89438.0	1.91526	mg/L	0.007482	1.91526	mg/L	0.007482	0.39%
B 249.772	-24498.1	-1.02168	mg/L	0.008610	-1.02168	mg/L	0.008610	0.84%
Si 251.611	1475432.5	69.0826	mg/L	0.34369	69.0826	mg/L	0.34369	0.50%

Sequence No.: 37
Sample ID: AD15784-010
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 56
Date Collected: 2/27/2020 3:49:32 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AD15784-010

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	581825.4	91.3	%	0.47				0.51%
Y 371.029	272251.5	99.4	%	0.47				0.47%
Ag 328.068†	-312.2	-0.0022578	mg/L	0.00037966	-0.0022578	mg/L	0.00037966	16.82%
Al 308.215†	590218.4	45.8549	mg/L	0.06023	45.8549	mg/L	0.06023	0.13%
As 188.979†	39.1	0.0263626	mg/L	0.00039098	0.0263626	mg/L	0.00039098	1.48%
Ba 233.527†	334427.4	2.72334	mg/L	0.003955	2.72334	mg/L	0.003955	0.15%
Be 313.107†	2715.6	0.0037917	mg/L	0.00001857	0.0037917	mg/L	0.00001857	0.49%
Ca 317.933†	23190035.4	220.097	mg/L	0.7818	220.097	mg/L	0.7818	0.36%
Cd 228.802†	22.4	-0.0015564	mg/L	0.00011300	-0.0015564	mg/L	0.00011300	7.26%
Co 228.616†	1362.2	0.0435986	mg/L	0.00016715	0.0435986	mg/L	0.00016715	0.38%
Cr 267.716†	8653.6	0.0974107	mg/L	0.00042337	0.0974107	mg/L	0.00042337	0.43%
Cu 327.393†	12084.3	0.142379	mg/L	0.0008094	0.142379	mg/L	0.0008094	0.57%
Fe 273.955†	1138693.4	92.0965	mg/L	0.20882	92.0965	mg/L	0.20882	0.23%
K 404.721†	369858.6	262.269	mg/L	0.9210	262.269	mg/L	0.9210	0.35%
Mg 279.077†	1145958.9	83.6017	mg/L	0.12355	83.6017	mg/L	0.12355	0.15%
Mn 257.610†	1700810.8	4.27229	mg/L	0.007063	4.27229	mg/L	0.007063	0.17%
Mo 202.031†	134.3	0.0101561	mg/L	0.00010163	0.0101561	mg/L	0.00010163	1.00%
Na 330.237†	334590.0	719.453	mg/L	1.5335	719.453	mg/L	1.5335	0.21%
Ni 231.604†	3674.8	0.106111	mg/L	0.0003031	0.106111	mg/L	0.0003031	0.29%
Pb 220.353†	711.4	0.0866673	mg/L	0.00148853	0.0866673	mg/L	0.00148853	1.72%
Sb 206.836†	10.8	0.0057905	mg/L	0.00027091	0.0057905	mg/L	0.00027091	4.68%
Se 196.026†	-44.4	0.0085815	mg/L	0.00883230	0.0085815	mg/L	0.00883230	102.92%
Sn 189.927†	-63.6	-0.0071478	mg/L	0.00000654	-0.0071478	mg/L	0.00000654	0.09%
Ti 334.940†	73673.1	0.237432	mg/L	0.0018383	0.237432	mg/L	0.0018383	0.77%
Tl 190.801†	-18.0	-0.0165943	mg/L	0.00229328	-0.0165943	mg/L	0.00229328	13.82%
V 290.880†	7244.5	0.0932247	mg/L	0.00184681	0.0932247	mg/L	0.00184681	1.98%
Zn 206.200†	15787.7	0.334782	mg/L	0.0016057	0.334782	mg/L	0.0016057	0.48%
B 249.772	-18400.3	-0.728017	mg/L	0.0029860	-0.728017	mg/L	0.0029860	0.41%
Si 251.611	1232413.7	57.6618	mg/L	0.03601	57.6618	mg/L	0.03601	0.06%

Sequence No.: 38
Sample ID: AD15784-011
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 57
Date Collected: 2/27/2020 3:53:07 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AD15784-011

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sc 361.383	587642.2	92.2	%	1.92				2.08%
Y 371.029	265183.0	96.8	%	0.73				0.75%
Ag 328.068†	12.5	0.0002374	mg/L	0.00063907	0.0002374	mg/L	0.00063907	269.21%
Al 308.215†	212687.6	16.5295	mg/L	0.55007	16.5295	mg/L	0.55007	3.33%
As 188.979†	20.2	0.0117713	mg/L	0.00229405	0.0117713	mg/L	0.00229405	19.49%
Ba 233.527†	86479.3	0.704317	mg/L	0.0227035	0.704317	mg/L	0.0227035	3.22%
Be 313.107†	644.3	0.0024229	mg/L	0.00003967	0.0024229	mg/L	0.00003967	1.64%
Ca 317.933†	18033505.6	171.174	mg/L	3.6441	171.174	mg/L	3.6441	2.13%
Cd 228.802†	25.4	-0.0014751	mg/L	0.00014873	-0.0014751	mg/L	0.00014873	10.08%
Co 228.616†	700.1	0.0199213	mg/L	0.00063204	0.0199213	mg/L	0.00063204	3.17%
Cr 267.716†	13095.4	0.147284	mg/L	0.0048148	0.147284	mg/L	0.0048148	3.27%
Cu 327.393†	3767.3	0.0455323	mg/L	0.00180181	0.0455323	mg/L	0.00180181	3.96%
Fe 273.955†	417551.0	33.7731	mg/L	0.02003	33.7731	mg/L	0.02003	0.06%
K 404.721†	136737.7	97.4066	mg/L	2.28374	97.4066	mg/L	2.28374	2.34%
Mg 279.077†	1277881.6	93.2449	mg/L	0.20459	93.2449	mg/L	0.20459	0.22%
Mn 257.610†	3926264.2	9.86215	mg/L	0.003882	9.86215	mg/L	0.003882	0.04%
Mo 202.031†	79.2	0.0066387	mg/L	0.00001187	0.0066387	mg/L	0.00001187	0.18%
Na 330.237†	104164.1	224.614	mg/L	6.9864	224.614	mg/L	6.9864	3.11%
Ni 231.604†	2010.0	0.0551961	mg/L	0.00148520	0.0551961	mg/L	0.00148520	2.69%
Pb 220.353†	373.3	0.0434764	mg/L	0.00216219	0.0434764	mg/L	0.00216219	4.97%
Sb 206.836†	9.5	0.0052414	mg/L	0.00279537	0.0052414	mg/L	0.00279537	53.33%
Se 196.026†	-1.1	0.0042423	mg/L	0.00387733	0.0042423	mg/L	0.00387733	91.40%
Sn 189.927†	-57.4	-0.0054772	mg/L	0.00148271	-0.0054772	mg/L	0.00148271	27.07%
Ti 334.940†	26739.6	0.0861265	mg/L	0.00650930	0.0861265	mg/L	0.00650930	7.56%
Tl 190.801†	-9.6	-0.0301540	mg/L	0.00262358	-0.0301540	mg/L	0.00262358	8.70%
V 290.880†	3104.9	0.0405561	mg/L	0.00245450	0.0405561	mg/L	0.00245450	6.05%
Zn 206.200†	4905.5	0.101260	mg/L	0.0019557	0.101260	mg/L	0.0019557	1.93%
B 249.772	2008.5	-0.102408	mg/L	0.0016929	-0.102408	mg/L	0.0016929	1.65%
Si 251.611	700864.6	32.7603	mg/L	0.67635	32.7603	mg/L	0.67635	2.06%

Sequence No.: 39
Sample ID: AD15784-012
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 58
Date Collected: 2/27/2020 3:56:50 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AD15784-012

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	597609.6	93.7	%	0.35				0.37%
Y 371.029	266846.1	97.4	%	0.32				0.33%
Ag 328.068†	-101.8	-0.0006409	mg/L	0.00021034	-0.0006409	mg/L	0.00021034	32.82%
Al 308.215†	278698.8	21.6570	mg/L	0.00361	21.6570	mg/L	0.00361	0.02%
As 188.979†	7.4	0.0072419	mg/L	0.00082878	0.0072419	mg/L	0.00082878	11.44%
Ba 233.527†	58342.7	0.475203	mg/L	0.0003263	0.475203	mg/L	0.0003263	0.07%
Be 313.107†	1179.1	0.0027763	mg/L	0.00000335	0.0027763	mg/L	0.00000335	0.12%
Ca 317.933†	14949941.5	141.918	mg/L	0.6286	141.918	mg/L	0.6286	0.44%
Cd 228.802†	74.6	-0.0001525	mg/L	0.00007130	-0.0001525	mg/L	0.00007130	46.74%
Co 228.616†	1079.2	0.0334795	mg/L	0.00041334	0.0334795	mg/L	0.00041334	1.23%
Cr 267.716†	174780.2	1.96271	mg/L	0.000922	1.96271	mg/L	0.000922	0.05%
Cu 327.393†	6063.0	0.0722636	mg/L	0.00077124	0.0722636	mg/L	0.00077124	1.07%
Fe 273.955†	500758.5	40.5026	mg/L	0.02091	40.5026	mg/L	0.02091	0.05%
K 404.721†	160500.4	110.911	mg/L	0.6990	110.911	mg/L	0.6990	0.63%
Mg 279.077†	741283.3	54.0210	mg/L	0.06030	54.0210	mg/L	0.06030	0.11%
Mn 257.610†	1193794.9	2.99877	mg/L	0.000092	2.99877	mg/L	0.000092	0.00%
Mo 202.031†	109.6	0.0085773	mg/L	0.00012637	0.0085773	mg/L	0.00012637	1.47%
Na 330.237†	144461.9	311.154	mg/L	0.1517	311.154	mg/L	0.1517	0.05%
Ni 231.604†	2314.7	0.0645146	mg/L	0.00103246	0.0645146	mg/L	0.00103246	1.60%
Pb 220.353†	368.3	0.0433537	mg/L	0.00098542	0.0433537	mg/L	0.00098542	2.27%
Sb 206.836†	30.4	0.0132336	mg/L	0.00036760	0.0132336	mg/L	0.00036760	2.78%
Se 196.026†	-11.9	0.0036772	mg/L	0.00207251	0.0036772	mg/L	0.00207251	56.36%
Sn 189.927†	-50.8	-0.0046373	mg/L	0.00025181	-0.0046373	mg/L	0.00025181	5.43%
Ti 334.940†	28086.5	0.0904687	mg/L	0.00118792	0.0904687	mg/L	0.00118792	1.31%
Tl 190.801†	-1.8	-0.0090561	mg/L	0.00163222	-0.0090561	mg/L	0.00163222	18.02%
V 290.880†	3482.9	0.0452902	mg/L	0.00019871	0.0452902	mg/L	0.00019871	0.44%
Zn 206.200†	6470.0	0.134834	mg/L	0.0004101	0.134834	mg/L	0.0004101	0.30%
B 249.772	-4545.8	-0.253469	mg/L	0.0000716	-0.253469	mg/L	0.0000716	0.03%
Si 251.611	668163.1	31.1930	mg/L	0.22994	31.1930	mg/L	0.22994	0.74%

Sequence No.: 40
Sample ID: AD15784-013
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 59
Date Collected: 2/27/2020 4:00:23 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AD15784-013

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sc 361.383	588414.2	92.3	%	0.82				0.89%
Y 371.029	252554.1	92.2	%	0.76				0.83%
Ag 328.068†	-42.6	-0.0001857	mg/L	0.00029860	-0.0001857	mg/L	0.00029860	160.76%
Al 308.215†	17080.4	1.33528	mg/L	0.009097	1.33528	mg/L	0.009097	0.68%
As 188.979†	-201.0	-0.0834586	mg/L	0.00293590	-0.0834586	mg/L	0.00293590	3.52%
Ba 233.527†	28475.7	0.231999	mg/L	0.0000580	0.231999	mg/L	0.0000580	0.03%
Be 313.107†	-483.7	0.0016774	mg/L	0.00001972	0.0016774	mg/L	0.00001972	1.18%
Ca 317.933†	17233602.1	163.585	mg/L	2.5862	163.585	mg/L	2.5862	1.58%
Cd 228.802†	131.5	0.0013796	mg/L	0.00003018	0.0013796	mg/L	0.00003018	2.19%
Co 228.616†	152.6	0.0003383	mg/L	0.00024523	0.0003383	mg/L	0.00024523	72.48%
Cr 267.716†	1458732.5	16.3792	mg/L	0.00113	16.3792	mg/L	0.00113	0.01%
Cu 327.393†	2693.2	0.0330246	mg/L	0.00010258	0.0330246	mg/L	0.00010258	0.31%
Fe 273.955†	29355.7	2.37727	mg/L	0.002823	2.37727	mg/L	0.002823	0.12%
K 404.721†	13429.7	12.5011	mg/L	1.27678	12.5011	mg/L	1.27678	10.21%
Mg 279.077†	522001.7	37.9921	mg/L	0.01059	37.9921	mg/L	0.01059	0.03%
Mn 257.610†	133343.2	0.335147	mg/L	0.0004661	0.335147	mg/L	0.0004661	0.14%
Mo 202.031†	109.1	0.0085499	mg/L	0.00051791	0.0085499	mg/L	0.00051791	6.06%
Na 330.237†	144322.6	310.855	mg/L	1.1337	310.855	mg/L	1.1337	0.36%
Ni 231.604†	1362.1	0.0353817	mg/L	0.00013411	0.0353817	mg/L	0.00013411	0.38%
Pb 220.353†	7.5	-0.0017256	mg/L	0.00086443	-0.0017256	mg/L	0.00086443	50.09%
Sb 206.836†	260.1	0.100737	mg/L	0.0061977	0.100737	mg/L	0.0061977	6.15%
Se 196.026†	26.6	0.0031091	mg/L	0.00261179	0.0031091	mg/L	0.00261179	84.00%
Sn 189.927†	-49.1	-0.0039758	mg/L	0.00075519	-0.0039758	mg/L	0.00075519	18.99%
Ti 334.940†	4125.3	0.0132219	mg/L	0.00029607	0.0132219	mg/L	0.00029607	2.24%
Tl 190.801†	15.4	0.0032368	mg/L	0.00267863	0.0032368	mg/L	0.00267863	82.76%
V 290.880†	-233.3	-0.0029241	mg/L	0.00047201	-0.0029241	mg/L	0.00047201	16.14%
Zn 206.200†	-955.8	-0.0245182	mg/L	0.00062875	-0.0245182	mg/L	0.00062875	2.56%
B 249.772	8839.5	0.156322	mg/L	0.0022411	0.156322	mg/L	0.0022411	1.43%
Si 251.611	142380.2	6.53873	mg/L	0.033650	6.53873	mg/L	0.033650	0.51%

Sequence No.: 41
Sample ID: ICSA V-321157
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 7
Date Collected: 2/27/2020 4:04:57 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICSA V-321157

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sc 361.383	558506.0	87.6	%	0.78				0.89%
Y 371.029	235689.2	86.0	%	0.88				1.02%
Ag 328.068†	-498.0	-0.0036846	mg/L	0.00030912	-0.0036846	mg/L	0.00030912	8.39%
Al 308.215†	6431238.3	499.568	mg/L	13.4296	499.568	mg/L	13.4296	2.69%
QC value within limits for Al 308.215 Recovery = 99.91%								
As 188.979†	-31.2	0.0072278	mg/L	0.00800840	0.0072278	mg/L	0.00800840	110.80%
Ba 233.527†	551.1	0.0046109	mg/L	0.00014628	0.0046109	mg/L	0.00014628	3.17%
Be 313.107†	-574.4	0.0016174	mg/L	0.00000171	0.0016174	mg/L	0.00000171	0.11%
Ca 317.933†	44630779.8	423.520	mg/L	3.4608	423.520	mg/L	3.4608	0.82%
QC value within limits for Ca 317.933 Recovery = 84.70%								
Cd 228.802†	-33.8	-0.0030679	mg/L	0.00045425	-0.0030679	mg/L	0.00045425	14.81%
Co 228.616†	99.3	-0.0015674	mg/L	0.00118398	-0.0015674	mg/L	0.00118398	75.54%
Cr 267.716†	1057.3	0.0121175	mg/L	0.00229338	0.0121175	mg/L	0.00229338	18.93%
Cu 327.393†	-1926.3	-0.0207664	mg/L	0.00044618	-0.0207664	mg/L	0.00044618	2.15%
Fe 273.955†	2200003.3	177.932	mg/L	4.8422	177.932	mg/L	4.8422	2.72%
QC value within limits for Fe 273.955 Recovery = 88.97%								
K 404.721†	760288.2	588.219	mg/L	14.5203	588.219	mg/L	14.5203	2.47%
Mg 279.077†	6073657.4	443.803	mg/L	13.3844	443.803	mg/L	13.3844	3.02%
QC value within limits for Mg 279.077 Recovery = 88.76%								
Mn 257.610†	-1647.7	-0.0039215	mg/L	0.00003127	-0.0039215	mg/L	0.00003127	0.80%
Mo 202.031†	24.5	0.0031483	mg/L	0.00020253	0.0031483	mg/L	0.00020253	6.43%
Na 330.237†	38.3	1.00470	mg/L	0.034089	1.00470	mg/L	0.034089	3.39%
Ni 231.604†	136.6	-0.0020985	mg/L	0.00055149	-0.0020985	mg/L	0.00055149	26.28%
Pb 220.353†	-275.1	0.0098492	mg/L	0.00210113	0.0098492	mg/L	0.00210113	21.33%
Sb 206.836†	21.8	0.0099002	mg/L	0.00682425	0.0099002	mg/L	0.00682425	68.93%
Se 196.026†	-111.8	0.0060378	mg/L	0.00861368	0.0060378	mg/L	0.00861368	142.66%
Sn 189.927†	-77.4	-0.0075991	mg/L	0.00060174	-0.0075991	mg/L	0.00060174	7.92%
Ti 334.940†	-782.8	-0.0026010	mg/L	0.00002810	-0.0026010	mg/L	0.00002810	1.08%
Tl 190.801†	-35.6	-0.0164649	mg/L	0.00005458	-0.0164649	mg/L	0.00005458	0.33%
V 290.880†	619.4	-0.0033469	mg/L	0.00056668	-0.0033469	mg/L	0.00056668	16.93%
Zn 206.200†	-42.6	-0.0049230	mg/L	0.00041529	-0.0049230	mg/L	0.00041529	8.44%
B 249.772	-40716.1	-1.50375	mg/L	0.009998	-1.50375	mg/L	0.009998	0.66%
Si 251.611	893.6	0.0441165	mg/L	0.00677986	0.0441165	mg/L	0.00677986	15.37%

All analyte(s) passed QC.

Sequence No.: 42
Sample ID: ICSAB V-321158
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 2/27/2020 4:09:44 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICSAB V-321158

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sc 361.383	554404.8	87.0	%	0.19				0.22%
Y 371.029	234119.4	85.5	%	0.12				0.15%
Ag 328.068†	140726.6	1.08136	mg/L	0.001734	1.08136	mg/L	0.001734	0.16%
QC value within limits for Ag 328.068 Recovery = 108.14%								
Al 308.215†	6691847.7	519.812	mg/L	6.6118	519.812	mg/L	6.6118	1.27%
QC value within limits for Al 308.215 Recovery = 103.96%								
As 188.979†	2182.0	0.924332	mg/L	0.0054943	0.924332	mg/L	0.0054943	0.59%
QC value within limits for As 188.979 Recovery = 92.43%								
Ba 233.527†	59022.1	0.480735	mg/L	0.0015679	0.480735	mg/L	0.0015679	0.33%
QC value within limits for Ba 233.527 Recovery = 96.15%								
Be 313.107†	715078.3	0.474557	mg/L	0.0056152	0.474557	mg/L	0.0056152	1.18%
QC value within limits for Be 313.107 Recovery = 94.91%								
Ca 317.933†	45541582.4	432.161	mg/L	3.5582	432.161	mg/L	3.5582	0.82%
QC value within limits for Ca 317.933 Recovery = 86.43%								
Cd 228.802†	36011.2	0.966715	mg/L	0.0012681	0.966715	mg/L	0.0012681	0.13%
QC value within limits for Cd 228.802 Recovery = 96.67%								
Co 228.616†	13186.5	0.466505	mg/L	0.0014288	0.466505	mg/L	0.0014288	0.31%
QC value within limits for Co 228.616 Recovery = 93.30%								
Cr 267.716†	41836.9	0.469999	mg/L	0.0003474	0.469999	mg/L	0.0003474	0.07%
QC value within limits for Cr 267.716 Recovery = 94.00%								
Cu 327.393†	43653.2	0.509981	mg/L	0.0021256	0.509981	mg/L	0.0021256	0.42%
QC value within limits for Cu 327.393 Recovery = 102.00%								
Fe 273.955†	2284968.6	184.803	mg/L	2.4825	184.803	mg/L	2.4825	1.34%
QC value within limits for Fe 273.955 Recovery = 92.40%								
K 404.721†	793482.1	617.723	mg/L	7.4863	617.723	mg/L	7.4863	1.21%
Mg 279.077†	6316213.9	461.534	mg/L	6.4217	461.534	mg/L	6.4217	1.39%
QC value within limits for Mg 279.077 Recovery = 92.31%								
Mn 257.610†	186766.1	0.469334	mg/L	0.0002104	0.469334	mg/L	0.0002104	0.04%
QC value within limits for Mn 257.610 Recovery = 93.87%								
Mo 202.031†	24.1	0.0031200	mg/L	0.00091954	0.0031200	mg/L	0.00091954	29.47%
Na 330.237†	-382.4	0.101331	mg/L	0.0216623	0.101331	mg/L	0.0216623	21.38%
Ni 231.604†	30346.9	0.921819	mg/L	0.0023773	0.921819	mg/L	0.0023773	0.26%
QC value within limits for Ni 231.604 Recovery = 92.18%								
Pb 220.353†	7181.7	0.905064	mg/L	0.0019746	0.905064	mg/L	0.0019746	0.22%
QC value within limits for Pb 220.353 Recovery = 90.51%								
Sb 206.836†	2626.4	1.00191	mg/L	0.001489	1.00191	mg/L	0.001489	0.15%
QC value within limits for Sb 206.836 Recovery = 100.19%								
Se 196.026†	1653.2	0.899561	mg/L	0.0069367	0.899561	mg/L	0.0069367	0.77%
QC value within limits for Se 196.026 Recovery = 89.96%								
Sn 189.927†	-96.2	-0.0100801	mg/L	0.00077465	-0.0100801	mg/L	0.00077465	7.68%
Ti 334.940†	-710.8	-0.0023689	mg/L	0.00002023	-0.0023689	mg/L	0.00002023	0.85%
Tl 190.801†	2172.2	0.879593	mg/L	0.0004146	0.879593	mg/L	0.0004146	0.05%
QC value within limits for Tl 190.801 Recovery = 87.96%								
V 290.880†	35570.5	0.474173	mg/L	0.0001938	0.474173	mg/L	0.0001938	0.04%
QC value within limits for V 290.880 Recovery = 94.83%								
Zn 206.200†	38389.9	0.819809	mg/L	0.0004547	0.819809	mg/L	0.0004547	0.06%
QC value within limits for Zn 206.200 Recovery = 81.98%								
B 249.772	-41630.2	-1.54947	mg/L	0.008322	-1.54947	mg/L	0.008322	0.54%
Si 251.611	832.9	0.0657787	mg/L	0.00049010	0.0657787	mg/L	0.00049010	0.75%

All analyte(s) passed QC.

Sequence No.: 43
Sample ID: CCV V-321090
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 6
Date Collected: 2/27/2020 4:14:33 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV V-321090

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	589316.0	92.4	%	1.31				1.42%
Y 371.029	252150.1	92.1	%	1.25				1.35%
Ag 328.068†	13148.8	0.101165	mg/L	0.0001760	0.101165	mg/L	0.0001760	0.17%
QC value within limits for Ag 328.068 Recovery = 101.17%								
Al 308.215†	63717.3	4.94684	mg/L	0.001113	4.94684	mg/L	0.001113	0.02%
QC value within limits for Al 308.215 Recovery = 98.94%								
As 188.979†	1122.7	0.462408	mg/L	0.0006501	0.462408	mg/L	0.0006501	0.14%
QC value within limits for As 188.979 Recovery = 92.48%								
Ba 233.527†	59491.8	0.484560	mg/L	0.0000787	0.484560	mg/L	0.0000787	0.02%
QC value within limits for Ba 233.527 Recovery = 96.91%								
Be 313.107†	733762.8	0.486905	mg/L	0.0060866	0.486905	mg/L	0.0060866	1.25%
QC value within limits for Be 313.107 Recovery = 97.38%								
Ca 317.933†	4952762.8	47.0686	mg/L	0.63056	47.0686	mg/L	0.63056	1.34%
QC value within limits for Ca 317.933 Recovery = 94.14%								
Cd 228.802†	18897.1	0.506265	mg/L	0.0016102	0.506265	mg/L	0.0016102	0.32%
QC value within limits for Cd 228.802 Recovery = 101.25%								
Co 228.616†	14580.6	0.516367	mg/L	0.0003696	0.516367	mg/L	0.0003696	0.07%
QC value within limits for Co 228.616 Recovery = 103.27%								
Cr 267.716†	43659.6	0.490465	mg/L	0.0000577	0.490465	mg/L	0.0000577	0.01%
QC value within limits for Cr 267.716 Recovery = 98.09%								
Cu 327.393†	45356.6	0.529816	mg/L	0.0002945	0.529816	mg/L	0.0002945	0.06%
QC value within limits for Cu 327.393 Recovery = 105.96%								
Fe 273.955†	60287.7	4.87894	mg/L	0.002981	4.87894	mg/L	0.002981	0.06%
QC value within limits for Fe 273.955 Recovery = 97.58%								
K 404.721†	23201.7	19.1726	mg/L	1.30110	19.1726	mg/L	1.30110	6.79%
QC value less than the lower limit for K 404.721 Recovery = 38.35%								
Mg 279.077†	634607.3	46.2233	mg/L	0.07014	46.2233	mg/L	0.07014	0.15%
QC value within limits for Mg 279.077 Recovery = 92.45%								
Mn 257.610†	196240.4	0.493131	mg/L	0.0001829	0.493131	mg/L	0.0001829	0.04%
QC value within limits for Mn 257.610 Recovery = 98.63%								
Mo 202.031†	7488.3	0.479632	mg/L	0.0003800	0.479632	mg/L	0.0003800	0.08%
QC value within limits for Mo 202.031 Recovery = 95.93%								
Na 330.237†	22380.9	48.9855	mg/L	0.06486	48.9855	mg/L	0.06486	0.13%
QC value within limits for Na 330.237 Recovery = 97.97%								
Ni 231.604†	16586.9	0.501001	mg/L	0.0008725	0.501001	mg/L	0.0008725	0.17%
QC value within limits for Ni 231.604 Recovery = 100.20%								
Pb 220.353†	3918.4	0.467154	mg/L	0.0016038	0.467154	mg/L	0.0016038	0.34%
QC value within limits for Pb 220.353 Recovery = 93.43%								
Sb 206.836†	1091.7	0.423550	mg/L	0.0019087	0.423550	mg/L	0.0019087	0.45%
QC value less than the lower limit for Sb 206.836 Recovery = 84.71%								
Se 196.026†	912.6	0.457699	mg/L	0.0030587	0.457699	mg/L	0.0030587	0.67%
QC value within limits for Se 196.026 Recovery = 91.54%								
Sn 189.927†	3458.1	0.454031	mg/L	0.0013968	0.454031	mg/L	0.0013968	0.31%
QC value within limits for Sn 189.927 Recovery = 90.81%								
Ti 334.940†	160771.0	0.518220	mg/L	0.0008554	0.518220	mg/L	0.0008554	0.17%
QC value within limits for Ti 334.940 Recovery = 103.64%								
Tl 190.801†	1205.5	0.495359	mg/L	0.0030566	0.495359	mg/L	0.0030566	0.62%
QC value within limits for Tl 190.801 Recovery = 99.07%								
V 290.880†	36064.1	0.499489	mg/L	0.0003137	0.499489	mg/L	0.0003137	0.06%
QC value within limits for V 290.880 Recovery = 99.90%								
Zn 206.200†	22096.6	0.470167	mg/L	0.0003026	0.470167	mg/L	0.0003026	0.06%
QC value within limits for Zn 206.200 Recovery = 94.03%								
B 249.772	22803.3	0.409313	mg/L	0.0105437	0.409313	mg/L	0.0105437	2.58%
QC value less than the lower limit for B 249.772 Recovery = 81.86%								
Si 251.611	109036.2	4.98550	mg/L	0.082381	4.98550	mg/L	0.082381	1.65%
QC value within limits for Si 251.611 Recovery = 99.71%								

QC Failed. Continue with analysis.

Sequence No.: 44 **Autosampler Location: 2**
Sample ID: CCB V-317800 **Date Collected: 2/27/2020 4:18:00 PM**
Analyst: **Data Type: Original**
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Mean Data: CCB V-317800

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	612853.6	96.1	%	0.66				0.69%
Y 371.029	264652.7	96.6	%	0.62				0.64%
Ag 328.068†	4.5	0.0001758	mg/L	0.00040067	0.0001758	mg/L	0.00040067	227.87%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 308.215†	96.0	0.0161188	mg/L	0.00317435	0.0161188	mg/L	0.00317435	19.69%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979†	12.8	0.0048664	mg/L	0.00007508	0.0048664	mg/L	0.00007508	1.54%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	216.6	0.0018871	mg/L	0.00009652	0.0018871	mg/L	0.00009652	5.11%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-7.6	0.0019920	mg/L	0.00002412	0.0019920	mg/L	0.00002412	1.21%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933†	1614.6	0.0938940	mg/L	0.00060159	0.0938940	mg/L	0.00060159	0.64%
QC value within limits for Ca 317.933 Recovery = Not calculated								
Cd 228.802†	23.8	-0.0015174	mg/L	0.00003367	-0.0015174	mg/L	0.00003367	2.22%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	16.1	-0.0045449	mg/L	0.00004640	-0.0045449	mg/L	0.00004640	1.02%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	205.0	0.0025481	mg/L	0.00016430	0.0025481	mg/L	0.00016430	6.45%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	333.3	0.0055451	mg/L	0.00063289	0.0055451	mg/L	0.00063289	11.41%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	3039.5	0.248912	mg/L	0.0014727	0.248912	mg/L	0.0014727	0.59%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 404.721†	4065.1	4.97584	mg/L	0.667991	4.97584	mg/L	0.667991	13.42%
QC value within limits for K 404.721 Recovery = Not calculated								
Mg 279.077†	69.4	-0.159748	mg/L	0.0002719	-0.159748	mg/L	0.0002719	0.17%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	1109.5	0.0030040	mg/L	0.00000336	0.0030040	mg/L	0.00000336	0.11%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	14.2	0.0024869	mg/L	0.00009426	0.0024869	mg/L	0.00009426	3.79%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 330.237†	54.6	1.03982	mg/L	0.053731	1.03982	mg/L	0.053731	5.17%
QC value within limits for Na 330.237 Recovery = Not calculated								
Ni 231.604†	14.5	-0.0058315	mg/L	0.00042286	-0.0058315	mg/L	0.00042286	7.25%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	12.0	-0.0013085	mg/L	0.00099627	-0.0013085	mg/L	0.00099627	76.14%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	8.9	0.0049653	mg/L	0.00129789	0.0049653	mg/L	0.00129789	26.14%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	1.4	-0.0018525	mg/L	0.00350720	-0.0018525	mg/L	0.00350720	189.32%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	20.7	0.0052689	mg/L	0.00022716	0.0052689	mg/L	0.00022716	4.31%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Ti 334.940†	-6.7	-0.0000988	mg/L	0.00001023	-0.0000988	mg/L	0.00001023	10.35%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	4.1	-0.0005541	mg/L	0.00166838	-0.0005541	mg/L	0.00166838	301.10%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 290.880†	92.1	0.0015933	mg/L	0.00012859	0.0015933	mg/L	0.00012859	8.07%
QC value within limits for V 290.880 Recovery = Not calculated								
Zn 206.200†	127.9	-0.0012639	mg/L	0.00014739	-0.0012639	mg/L	0.00014739	11.66%
QC value within limits for Zn 206.200 Recovery = Not calculated								
B 249.772	266.1	0.0041141	mg/L	0.00142963	0.0041141	mg/L	0.00142963	34.75%
QC value within limits for B 249.772 Recovery = Not calculated								
Si 251.611	180.3	-0.139854	mg/L	0.0006097	-0.139854	mg/L	0.0006097	0.44%
QC value less than the lower limit for Si 251.611 Recovery = Not calculated								

QC Failed. Continue with analysis.

Sequence No.: 45
Sample ID: MB 82685 (0.5)
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 60
Date Collected: 2/27/2020 4:21:16 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: MB 82685 (0.5)

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	631958.7	99.1	%	1.07				1.08%
Y 371.029	272334.4	99.4	%	0.97				0.98%
Ag 328.068†	5.0	0.0001793	mg/L	0.00074425	0.0001793	mg/L	0.00074425	415.08%
Al 308.215†	56.9	0.0131027	mg/L	0.00281848	0.0131027	mg/L	0.00281848	21.51%
As 188.979†	10.3	0.0038048	mg/L	0.00143568	0.0038048	mg/L	0.00143568	37.73%
Ba 233.527†	-6.8	0.0000680	mg/L	0.00000125	0.0000680	mg/L	0.00000125	1.83%
Be 313.107†	-155.7	0.0018942	mg/L	0.00001417	0.0018942	mg/L	0.00001417	0.75%
Ca 317.933†	889.2	0.0870112	mg/L	0.00055823	0.0870112	mg/L	0.00055823	0.64%
Cd 228.802†	17.9	-0.0016760	mg/L	0.00008729	-0.0016760	mg/L	0.00008729	5.21%
Co 228.616†	19.7	-0.0044168	mg/L	0.00031559	-0.0044168	mg/L	0.00031559	7.15%
Cr 267.716†	408.8	0.0048357	mg/L	0.00006550	0.0048357	mg/L	0.00006550	1.35%
Cu 327.393†	29.0	0.0020019	mg/L	0.00011304	0.0020019	mg/L	0.00011304	5.65%
Fe 273.955†	-58.7	-0.0016582	mg/L	0.00134363	-0.0016582	mg/L	0.00134363	81.03%
K 404.721†	1750.2	1.95610	mg/L	1.145081	1.95610	mg/L	1.145081	58.54%
Mg 279.077†	49.8	-0.161181	mg/L	0.0000077	-0.161181	mg/L	0.0000077	0.00%
Mn 257.610†	-149.4	-0.0001583	mg/L	0.00005437	-0.0001583	mg/L	0.00005437	34.35%
Mo 202.031†	4.3	0.0018543	mg/L	0.00043588	0.0018543	mg/L	0.00043588	23.51%
Na 330.237†	24.5	0.975076	mg/L	0.0113125	0.975076	mg/L	0.0113125	1.16%
Ni 231.604†	44.5	-0.0049151	mg/L	0.00078514	-0.0049151	mg/L	0.00078514	15.97%
Pb 220.353†	14.1	-0.0010575	mg/L	0.00043360	-0.0010575	mg/L	0.00043360	41.00%
Sb 206.836†	4.9	0.0034283	mg/L	0.00024053	0.0034283	mg/L	0.00024053	7.02%
Se 196.026†	-6.0	-0.0056968	mg/L	0.00433141	-0.0056968	mg/L	0.00433141	76.03%
Sn 189.927†	-4.6	0.0019510	mg/L	0.00051050	0.0019510	mg/L	0.00051050	26.17%
Ti 334.940†	75.9	0.0001672	mg/L	0.00000021	0.0001672	mg/L	0.00000021	0.12%
Tl 190.801†	1.1	-0.0017667	mg/L	0.00053732	-0.0017667	mg/L	0.00053732	30.41%
V 290.880†	76.7	0.0013903	mg/L	0.00019234	0.0013903	mg/L	0.00019234	13.83%
Zn 206.200†	135.3	-0.0011042	mg/L	0.00010414	-0.0011042	mg/L	0.00010414	9.43%
B 249.772	238.5	0.0046358	mg/L	0.00027727	0.0046358	mg/L	0.00027727	5.98%
Si 251.611	401.6	-0.129613	mg/L	0.0002495	-0.129613	mg/L	0.0002495	0.19%

Sequence No.: 46
Sample ID: LCSW 82685
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 61
Date Collected: 2/27/2020 4:24:34 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: LCSW 82685

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	617223.7	96.8	%	0.62				0.64%
Y 371.029	263955.8	96.4	%	0.65				0.67%
Ag 328.068†	14067.8	0.108226	mg/L	0.0001778	0.108226	mg/L	0.0001778	0.16%
Al 308.215†	68213.7	5.29533	mg/L	0.008855	5.29533	mg/L	0.008855	0.17%
As 188.979†	1184.6	0.487881	mg/L	0.0069070	0.487881	mg/L	0.0069070	1.42%
Ba 233.527†	63774.4	0.519433	mg/L	0.0004173	0.519433	mg/L	0.0004173	0.08%
Be 313.107†	760419.2	0.504521	mg/L	0.0025189	0.504521	mg/L	0.0025189	0.50%
Ca 317.933†	5215693.8	49.5632	mg/L	0.21591	49.5632	mg/L	0.21591	0.44%
Cd 228.802†	20113.0	0.538976	mg/L	0.0094545	0.538976	mg/L	0.0094545	1.75%
Co 228.616†	15463.7	0.547949	mg/L	0.0101511	0.547949	mg/L	0.0101511	1.85%
Cr 267.716†	46503.7	0.522399	mg/L	0.0004943	0.522399	mg/L	0.0004943	0.09%
Cu 327.393†	46389.7	0.541846	mg/L	0.0005740	0.541846	mg/L	0.0005740	0.11%
Fe 273.955†	64317.7	5.20488	mg/L	0.011733	5.20488	mg/L	0.011733	0.23%
K 404.721†	22141.4	15.9351	mg/L	0.93928	15.9351	mg/L	0.93928	5.89%
Mg 279.077†	682819.8	49.7475	mg/L	0.07317	49.7475	mg/L	0.07317	0.15%
Mn 257.610†	207633.3	0.521747	mg/L	0.0006935	0.521747	mg/L	0.0006935	0.13%
Mo 202.031†	8008.8	0.512857	mg/L	0.0078777	0.512857	mg/L	0.0078777	1.54%
Na 330.237†	24413.5	53.3504	mg/L	0.16366	53.3504	mg/L	0.16366	0.31%
Ni 231.604†	17592.4	0.531750	mg/L	0.0101989	0.531750	mg/L	0.0101989	1.92%
Pb 220.353†	4166.3	0.496884	mg/L	0.0075927	0.496884	mg/L	0.0075927	1.53%
Sb 206.836†	1357.8	0.525326	mg/L	0.0143779	0.525326	mg/L	0.0143779	2.74%
Se 196.026†	981.6	0.492555	mg/L	0.0135718	0.492555	mg/L	0.0135718	2.76%
Sn 189.927†	3848.3	0.505134	mg/L	0.0067901	0.505134	mg/L	0.0067901	1.34%
Ti 334.940†	170909.2	0.550904	mg/L	0.0004382	0.550904	mg/L	0.0004382	0.08%
Tl 190.801†	1306.5	0.536798	mg/L	0.0089702	0.536798	mg/L	0.0089702	1.67%
V 290.880†	38252.8	0.529835	mg/L	0.0002188	0.529835	mg/L	0.0002188	0.04%
Zn 206.200†	23506.7	0.500428	mg/L	0.0087576	0.500428	mg/L	0.0087576	1.75%
B 249.772	25382.5	0.456482	mg/L	0.0050701	0.456482	mg/L	0.0050701	1.11%
Si 251.611	14423.4	0.555003	mg/L	0.0043335	0.555003	mg/L	0.0043335	0.78%

Sequence No.: 47
Sample ID: LCSW MR 82685
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 62
Date Collected: 2/27/2020 4:28:06 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: LCSW MR 82685

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	614710.5	96.4	%	1.48				1.54%
Y 371.029	263610.3	96.2	%	1.55				1.61%
Ag 328.068†	14265.6	0.109745	mg/L	0.0002082	0.109745	mg/L	0.0002082	0.19%
Al 308.215†	69385.6	5.38620	mg/L	0.001552	5.38620	mg/L	0.001552	0.03%
As 188.979†	1199.0	0.493824	mg/L	0.0034536	0.493824	mg/L	0.0034536	0.70%
Ba 233.527†	64591.1	0.526083	mg/L	0.0002791	0.526083	mg/L	0.0002791	0.05%
Be 313.107†	764258.2	0.507058	mg/L	0.0115968	0.507058	mg/L	0.0115968	2.29%
Ca 317.933†	5252409.7	49.9116	mg/L	1.17654	49.9116	mg/L	1.17654	2.36%
Cd 228.802†	20442.5	0.547843	mg/L	0.0060595	0.547843	mg/L	0.0060595	1.11%
Co 228.616†	15779.8	0.559256	mg/L	0.0067856	0.559256	mg/L	0.0067856	1.21%
Cr 267.716†	47171.1	0.529893	mg/L	0.0002193	0.529893	mg/L	0.0002193	0.04%
Cu 327.393†	47568.0	0.555567	mg/L	0.0000873	0.555567	mg/L	0.0000873	0.02%
Fe 273.955†	65109.4	5.26891	mg/L	0.005123	5.26891	mg/L	0.005123	0.10%
K 404.721†	22697.4	16.6442	mg/L	1.85247	16.6442	mg/L	1.85247	11.13%
Mg 279.077†	694188.5	50.5785	mg/L	0.14527	50.5785	mg/L	0.14527	0.29%
Mn 257.610†	210561.9	0.529104	mg/L	0.0001677	0.529104	mg/L	0.0001677	0.03%
Mo 202.031†	8117.5	0.519796	mg/L	0.0028545	0.519796	mg/L	0.0028545	0.55%
Na 330.237†	24871.0	54.3330	mg/L	0.03717	54.3330	mg/L	0.03717	0.07%
Ni 231.604†	17881.8	0.540601	mg/L	0.0063263	0.540601	mg/L	0.0063263	1.17%
Pb 220.353†	4216.7	0.502923	mg/L	0.0037899	0.502923	mg/L	0.0037899	0.75%
Sb 206.836†	1370.7	0.530320	mg/L	0.0047454	0.530320	mg/L	0.0047454	0.89%
Se 196.026†	1000.4	0.502040	mg/L	0.0035839	0.502040	mg/L	0.0035839	0.71%
Sn 189.927†	3934.7	0.516416	mg/L	0.0055798	0.516416	mg/L	0.0055798	1.08%
Ti 334.940†	174694.6	0.563108	mg/L	0.0001728	0.563108	mg/L	0.0001728	0.03%
Tl 190.801†	1326.8	0.545220	mg/L	0.0060897	0.545220	mg/L	0.0060897	1.12%
V 290.880†	38803.3	0.537451	mg/L	0.0006012	0.537451	mg/L	0.0006012	0.11%
Zn 206.200†	23974.8	0.510472	mg/L	0.0048606	0.510472	mg/L	0.0048606	0.95%
B 249.772	26272.3	0.472946	mg/L	0.0128136	0.472946	mg/L	0.0128136	2.71%
Si 251.611	14912.6	0.578475	mg/L	0.0024570	0.578475	mg/L	0.0024570	0.42%

Sequence No.: 48
Sample ID: AD15912-001
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 63
Date Collected: 2/27/2020 4:31:35 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AD15912-001

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	576616.9	90.4	%	1.13				1.24%
Y 371.029	247026.1	90.2	%	1.12				1.25%
Ag 328.068†	-89.3	-0.0005448	mg/L	0.00037807	-0.0005448	mg/L	0.00037807	69.40%
Al 308.215†	25197.1	1.96580	mg/L	0.000812	1.96580	mg/L	0.000812	0.04%
As 188.979†	7.9	0.0065965	mg/L	0.00074040	0.0065965	mg/L	0.00074040	11.22%
Ba 233.527†	48677.7	0.396502	mg/L	0.0005260	0.396502	mg/L	0.0005260	0.13%
Be 313.107†	-393.7	0.0017368	mg/L	0.00005158	0.0017368	mg/L	0.00005158	2.97%
Ca 317.933†	10450807.1	99.2322	mg/L	0.86629	99.2322	mg/L	0.86629	0.87%
Cd 228.802†	17.3	-0.0016920	mg/L	0.00020133	-0.0016920	mg/L	0.00020133	11.90%
Co 228.616†	60.4	-0.0029612	mg/L	0.00003184	-0.0029612	mg/L	0.00003184	1.08%
Cr 267.716†	1010.5	0.0115918	mg/L	0.00023468	0.0115918	mg/L	0.00023468	2.02%
Cu 327.393†	749.3	0.0103890	mg/L	0.00055380	0.0103890	mg/L	0.00055380	5.33%
Fe 273.955†	406897.5	32.9115	mg/L	0.03184	32.9115	mg/L	0.03184	0.10%
K 404.721†	131348.2	91.5471	mg/L	1.53813	91.5471	mg/L	1.53813	1.68%
Mg 279.077†	610931.5	44.4926	mg/L	0.05745	44.4926	mg/L	0.05745	0.13%
Mn 257.610†	229270.6	0.576096	mg/L	0.0001474	0.576096	mg/L	0.0001474	0.03%
Mo 202.031†	83.2	0.0068950	mg/L	0.00018175	0.0068950	mg/L	0.00018175	2.64%
Na 330.237†	764510.3	1642.71	mg/L	1.398	1642.71	mg/L	1.398	0.09%
Ni 231.604†	207.7	0.0000778	mg/L	0.00005834	0.0000778	mg/L	0.00005834	75.02%
Pb 220.353†	42.1	0.0024682	mg/L	0.00058021	0.0024682	mg/L	0.00058021	23.51%
Sb 206.836†	4.2	0.0032414	mg/L	0.00507332	0.0032414	mg/L	0.00507332	156.52%
Se 196.026†	-13.1	0.0016516	mg/L	0.00014067	0.0016516	mg/L	0.00014067	8.52%
Sn 189.927†	-25.8	-0.0008609	mg/L	0.00092550	-0.0008609	mg/L	0.00092550	107.50%
Ti 334.940†	1435.9	0.0045518	mg/L	0.00138536	0.0045518	mg/L	0.00138536	30.44%
Tl 190.801†	-0.5	-0.0036656	mg/L	0.00169098	-0.0036656	mg/L	0.00169098	46.13%
V 290.880†	1145.4	0.0138204	mg/L	0.00050947	0.0138204	mg/L	0.00050947	3.69%
Zn 206.200†	1424.6	0.0265622	mg/L	0.00035081	0.0265622	mg/L	0.00035081	1.32%
B 249.772	46173.8	0.730730	mg/L	0.0052045	0.730730	mg/L	0.0052045	0.71%
Si 251.611	260303.0	12.0504	mg/L	0.16535	12.0504	mg/L	0.16535	1.37%

Sequence No.: 49
Sample ID: AD15912-001 MR
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 64
Date Collected: 2/27/2020 4:35:05 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AD15912-001 MR

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sc 361.383	564626.8	88.6	%	1.07				1.20%
Y 371.029	243236.4	88.8	%	1.09				1.23%
Ag 328.068†	-81.0	-0.0004809	mg/L	0.00037770	-0.0004809	mg/L	0.00037770	78.53%
Al 308.215†	25248.9	1.96985	mg/L	0.007566	1.96985	mg/L	0.007566	0.38%
As 188.979†	13.3	0.0089531	mg/L	0.00216283	0.0089531	mg/L	0.00216283	24.16%
Ba 233.527†	50678.2	0.412791	mg/L	0.0011876	0.412791	mg/L	0.0011876	0.29%
Be 313.107†	-498.9	0.0016673	mg/L	0.00002673	0.0016673	mg/L	0.00002673	1.60%
Ca 317.933†	11114286.6	105.527	mg/L	2.2983	105.527	mg/L	2.2983	2.18%
Cd 228.802†	19.4	-0.0016353	mg/L	0.00028951	-0.0016353	mg/L	0.00028951	17.70%
Co 228.616†	44.6	-0.0035240	mg/L	0.00034860	-0.0035240	mg/L	0.00034860	9.89%
Cr 267.716†	515.2	0.0060303	mg/L	0.00018876	0.0060303	mg/L	0.00018876	3.13%
Cu 327.393†	220.9	0.0042362	mg/L	0.00077607	0.0042362	mg/L	0.00077607	18.32%
Fe 273.955†	418002.2	33.8096	mg/L	0.09952	33.8096	mg/L	0.09952	0.29%
K 404.721†	137310.8	98.2615	mg/L	1.17206	98.2615	mg/L	1.17206	1.19%
Mg 279.077†	628753.8	45.7954	mg/L	0.17589	45.7954	mg/L	0.17589	0.38%
Mn 257.610†	232451.5	0.584086	mg/L	0.0010946	0.584086	mg/L	0.0010946	0.19%
Mo 202.031†	64.5	0.0057010	mg/L	0.00025714	0.0057010	mg/L	0.00025714	4.51%
Na 330.237†	786918.6	1690.83	mg/L	0.184	1690.83	mg/L	0.184	0.01%
Ni 231.604†	140.3	-0.0019862	mg/L	0.00027250	-0.0019862	mg/L	0.00027250	13.72%
Pb 220.353†	13.8	-0.0009141	mg/L	0.00110065	-0.0009141	mg/L	0.00110065	120.41%
Sb 206.836†	1.6	0.0022458	mg/L	0.00579359	0.0022458	mg/L	0.00579359	257.98%
Se 196.026†	-22.0	-0.0027544	mg/L	0.00637486	-0.0027544	mg/L	0.00637486	231.44%
Sn 189.927†	-46.3	-0.0035391	mg/L	0.00006794	-0.0035391	mg/L	0.00006794	1.92%
Ti 334.940†	102.6	0.0002533	mg/L	0.00007002	0.0002533	mg/L	0.00007002	27.65%
Tl 190.801†	-1.1	-0.0039767	mg/L	0.00142217	-0.0039767	mg/L	0.00142217	35.76%
V 290.880†	1148.9	0.0137911	mg/L	0.00093530	0.0137911	mg/L	0.00093530	6.78%
Zn 206.200†	1364.1	0.0252638	mg/L	0.00013859	0.0252638	mg/L	0.00013859	0.55%
B 249.772	47695.2	0.755573	mg/L	0.0180460	0.755573	mg/L	0.0180460	2.39%
Si 251.611	258580.8	11.9701	mg/L	0.19407	11.9701	mg/L	0.19407	1.62%

Sequence No.: 50
Sample ID: AD15912-001 MS1
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 65
Date Collected: 2/27/2020 4:38:36 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AD15912-001 MS1

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	557804.7	87.5	%	1.16				1.33%
Y 371.029	241494.8	88.2	%	1.14				1.29%
Ag 328.068†	14502.0	0.111562	mg/L	0.0008757	0.111562	mg/L	0.0008757	0.78%
Al 308.215†	96176.1	7.46709	mg/L	0.004482	7.46709	mg/L	0.004482	0.06%
As 188.979†	1299.7	0.539413	mg/L	0.0000514	0.539413	mg/L	0.0000514	0.01%
Ba 233.527†	115704.7	0.942297	mg/L	0.0000589	0.942297	mg/L	0.0000589	0.01%
Be 313.107†	776836.4	0.515370	mg/L	0.0004787	0.515370	mg/L	0.0004787	0.09%
Ca 317.933†	16090164.3	152.736	mg/L	1.5284	152.736	mg/L	1.5284	1.00%
Cd 228.802†	20848.6	0.558769	mg/L	0.0047147	0.558769	mg/L	0.0047147	0.84%
Co 228.616†	15889.9	0.563195	mg/L	0.0045156	0.563195	mg/L	0.0045156	0.80%
Cr 267.716†	46807.4	0.525809	mg/L	0.0009274	0.525809	mg/L	0.0009274	0.18%
Cu 327.393†	51517.4	0.601556	mg/L	0.0016947	0.601556	mg/L	0.0016947	0.28%
Fe 273.955†	485013.4	39.2292	mg/L	0.07342	39.2292	mg/L	0.07342	0.19%
K 404.721†	160905.4	116.982	mg/L	1.4579	116.982	mg/L	1.4579	1.25%
Mg 279.077†	1298268.3	94.7352	mg/L	0.27838	94.7352	mg/L	0.27838	0.29%
Mn 257.610†	443676.7	1.11464	mg/L	0.001226	1.11464	mg/L	0.001226	0.11%
Mo 202.031†	8192.1	0.524557	mg/L	0.0055322	0.524557	mg/L	0.0055322	1.05%
Na 330.237†	828250.1	1779.59	mg/L	3.458	1779.59	mg/L	3.458	0.19%
Ni 231.604†	17962.2	0.543061	mg/L	0.0047619	0.543061	mg/L	0.0047619	0.88%
Pb 220.353†	4122.1	0.491790	mg/L	0.0040636	0.491790	mg/L	0.0040636	0.83%
Sb 206.836†	1450.5	0.560772	mg/L	0.0035505	0.560772	mg/L	0.0035505	0.63%
Se 196.026†	1026.7	0.526561	mg/L	0.0019681	0.526561	mg/L	0.0019681	0.37%
Sn 189.927†	3941.9	0.517360	mg/L	0.0036038	0.517360	mg/L	0.0036038	0.70%
Ti 334.940†	174661.3	0.563001	mg/L	0.0005639	0.563001	mg/L	0.0005639	0.10%
Tl 190.801†	1182.6	0.485680	mg/L	0.0075662	0.485680	mg/L	0.0075662	1.56%
V 290.880†	39649.5	0.546761	mg/L	0.0004625	0.546761	mg/L	0.0004625	0.08%
Zn 206.200†	26036.6	0.554717	mg/L	0.0045618	0.554717	mg/L	0.0045618	0.82%
B 249.772	73354.7	1.21624	mg/L	0.031777	1.21624	mg/L	0.031777	2.61%
Si 251.611	274282.9	12.7334	mg/L	0.20278	12.7334	mg/L	0.20278	1.59%

Sequence No.: 51
Sample ID: AD15912-001 MS2
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 66
Date Collected: 2/27/2020 4:42:12 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AD15912-001 MS2

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	563757.1	88.4	%	0.75				0.84%
Y 371.029	243799.9	89.0	%	0.73				0.82%
Ag 328.068†	14536.8	0.111829	mg/L	0.0002861	0.111829	mg/L	0.0002861	0.26%
Al 308.215†	95460.1	7.41157	mg/L	0.006364	7.41157	mg/L	0.006364	0.09%
As 188.979†	1301.7	0.540181	mg/L	0.0006131	0.540181	mg/L	0.0006131	0.11%
Ba 233.527†	114633.4	0.933574	mg/L	0.0006933	0.933574	mg/L	0.0006933	0.07%
Be 313.107†	772117.0	0.512251	mg/L	0.0012164	0.512251	mg/L	0.0012164	0.24%
Ca 317.933†	15689887.5	148.939	mg/L	1.6942	148.939	mg/L	1.6942	1.14%
Cd 228.802†	20649.5	0.553413	mg/L	0.0034607	0.553413	mg/L	0.0034607	0.63%
Co 228.616†	15804.7	0.560146	mg/L	0.0029430	0.560146	mg/L	0.0029430	0.53%
Cr 267.716†	46483.9	0.522177	mg/L	0.0003123	0.522177	mg/L	0.0003123	0.06%
Cu 327.393†	51317.1	0.599224	mg/L	0.0014086	0.599224	mg/L	0.0014086	0.24%
Fe 273.955†	477633.7	38.6324	mg/L	0.01037	38.6324	mg/L	0.01037	0.03%
K 404.721†	157952.2	114.296	mg/L	0.9088	114.296	mg/L	0.9088	0.80%
Mg 279.077†	1283000.9	93.6191	mg/L	0.07870	93.6191	mg/L	0.07870	0.08%
Mn 257.610†	438112.2	1.10066	mg/L	0.001098	1.10066	mg/L	0.001098	0.10%
Mo 202.031†	8125.6	0.520312	mg/L	0.0027721	0.520312	mg/L	0.0027721	0.53%
Na 330.237†	811774.7	1744.21	mg/L	1.720	1744.21	mg/L	1.720	0.10%
Ni 231.604†	17808.5	0.538361	mg/L	0.0028377	0.538361	mg/L	0.0028377	0.53%
Pb 220.353†	4081.6	0.486931	mg/L	0.0022524	0.486931	mg/L	0.0022524	0.46%
Sb 206.836†	1451.3	0.561037	mg/L	0.0046657	0.561037	mg/L	0.0046657	0.83%
Se 196.026†	1014.5	0.520313	mg/L	0.0042353	0.520313	mg/L	0.0042353	0.81%
Sn 189.927†	3931.7	0.516033	mg/L	0.0037933	0.516033	mg/L	0.0037933	0.74%
Ti 334.940†	174126.1	0.561275	mg/L	0.0002932	0.561275	mg/L	0.0002932	0.05%
Tl 190.801†	1180.7	0.484860	mg/L	0.0006946	0.484860	mg/L	0.0006946	0.14%
V 290.880†	39398.9	0.543319	mg/L	0.0013836	0.543319	mg/L	0.0013836	0.25%
Zn 206.200†	25903.3	0.551855	mg/L	0.0025781	0.551855	mg/L	0.0025781	0.47%
B 249.772	73340.1	1.21843	mg/L	0.008297	1.21843	mg/L	0.008297	0.68%
Si 251.611	272812.5	12.6644	mg/L	0.09977	12.6644	mg/L	0.09977	0.79%

Sequence No.: 52
Sample ID: AD15912-001 PS
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 67
Date Collected: 2/27/2020 4:45:48 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AD15912-001 PS

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	566892.0	88.9	%	0.34				0.38%
Y 371.029	245616.1	89.7	%	0.38				0.42%
Ag 328.068†	13984.0	0.107581	mg/L	0.0000486	0.107581	mg/L	0.0000486	0.05%
Al 308.215†	92496.6	7.18184	mg/L	0.011166	7.18184	mg/L	0.011166	0.16%
As 188.979†	1261.3	0.523431	mg/L	0.0006054	0.523431	mg/L	0.0006054	0.12%
Ba 233.527†	110828.0	0.902587	mg/L	0.0009534	0.902587	mg/L	0.0009534	0.11%
Be 313.107†	743186.1	0.493132	mg/L	0.0004300	0.493132	mg/L	0.0004300	0.09%
Ca 317.933†	15236112.8	144.633	mg/L	1.0517	144.633	mg/L	1.0517	0.73%
Cd 228.802†	19946.0	0.534485	mg/L	0.0001962	0.534485	mg/L	0.0001962	0.04%
Co 228.616†	15243.6	0.540078	mg/L	0.0016286	0.540078	mg/L	0.0016286	0.30%
Cr 267.716†	45562.7	0.511833	mg/L	0.0005262	0.511833	mg/L	0.0005262	0.10%
Cu 327.393†	49661.8	0.579948	mg/L	0.0009314	0.579948	mg/L	0.0009314	0.16%
Fe 273.955†	462987.8	37.4479	mg/L	0.06438	37.4479	mg/L	0.06438	0.17%
K 404.721†	152355.7	109.430	mg/L	0.7129	109.430	mg/L	0.7129	0.65%
Mg 279.077†	1242710.2	90.6740	mg/L	0.03939	90.6740	mg/L	0.03939	0.04%
Mn 257.610†	426046.2	1.07035	mg/L	0.000889	1.07035	mg/L	0.000889	0.08%
Mo 202.031†	7816.1	0.500557	mg/L	0.0003004	0.500557	mg/L	0.0003004	0.06%
Na 330.237†	780757.1	1677.60	mg/L	0.235	1677.60	mg/L	0.235	0.01%
Ni 231.604†	17335.2	0.523886	mg/L	0.0019843	0.523886	mg/L	0.0019843	0.38%
Pb 220.353†	3964.8	0.472911	mg/L	0.0008832	0.472911	mg/L	0.0008832	0.19%
Sb 206.836†	1389.3	0.537156	mg/L	0.0031638	0.537156	mg/L	0.0031638	0.59%
Se 196.026†	984.8	0.504985	mg/L	0.0070371	0.504985	mg/L	0.0070371	1.39%
Sn 189.927†	3791.2	0.497666	mg/L	0.0006830	0.497666	mg/L	0.0006830	0.14%
Ti 334.940†	168791.3	0.544077	mg/L	0.0015106	0.544077	mg/L	0.0015106	0.28%
Tl 190.801†	1157.8	0.475224	mg/L	0.0028466	0.475224	mg/L	0.0028466	0.60%
V 290.880†	37803.5	0.521323	mg/L	0.0018288	0.521323	mg/L	0.0018288	0.35%
Zn 206.200†	24750.1	0.527108	mg/L	0.0001947	0.527108	mg/L	0.0001947	0.04%
B 249.772	71040.6	1.18011	mg/L	0.002951	1.18011	mg/L	0.002951	0.25%
Si 251.611	266959.3	12.3895	mg/L	0.00844	12.3895	mg/L	0.00844	0.07%

Sequence No.: 53
Sample ID: AD15912-001 SD
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 68
Date Collected: 2/27/2020 4:49:25 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AD15912-001 SD

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sc 361.383	592531.3	92.9	%	0.82				0.89%
Y 371.029	268093.2	97.9	%	0.40				0.41%
Ag 328.068†	1.8	0.0001547	mg/L	0.00004408	0.0001547	mg/L	0.00004408	28.49%
Al 308.215†	5222.0	0.414263	mg/L	0.0081790	0.414263	mg/L	0.0081790	1.97%
As 188.979†	5.8	0.0027121	mg/L	0.00157019	0.0027121	mg/L	0.00157019	57.90%
Ba 233.527†	11043.3	0.0900483	mg/L	0.00146521	0.0900483	mg/L	0.00146521	1.63%
Be 313.107†	-206.9	0.0018603	mg/L	0.00000164	0.0018603	mg/L	0.00000164	0.09%
Ca 317.933†	2188640.3	20.8436	mg/L	0.01658	20.8436	mg/L	0.01658	0.08%
Cd 228.802†	25.2	-0.0014810	mg/L	0.00007299	-0.0014810	mg/L	0.00007299	4.93%
Co 228.616†	21.5	-0.0043527	mg/L	0.00025326	-0.0043527	mg/L	0.00025326	5.82%
Cr 267.716†	266.5	0.0032384	mg/L	0.00011946	0.0032384	mg/L	0.00011946	3.69%
Cu 327.393†	245.1	0.0045177	mg/L	0.00011419	0.0045177	mg/L	0.00011419	2.53%
Fe 273.955†	85593.1	6.92555	mg/L	0.093138	6.92555	mg/L	0.093138	1.34%
K 404.721†	31483.7	25.1365	mg/L	1.71533	25.1365	mg/L	1.71533	6.82%
Mg 279.077†	128658.6	9.23978	mg/L	0.142564	9.23978	mg/L	0.142564	1.54%
Mn 257.610†	48025.2	0.120846	mg/L	0.0013882	0.120846	mg/L	0.0013882	1.15%
Mo 202.031†	36.4	0.0039081	mg/L	0.00040932	0.0039081	mg/L	0.00040932	10.47%
Na 330.237†	129209.3	278.399	mg/L	2.3621	278.399	mg/L	2.3621	0.85%
Ni 231.604†	54.4	-0.0046111	mg/L	0.00010549	-0.0046111	mg/L	0.00010549	2.29%
Pb 220.353†	15.9	-0.0008087	mg/L	0.00218054	-0.0008087	mg/L	0.00218054	269.65%
Sb 206.836†	3.5	0.0029302	mg/L	0.00075525	0.0029302	mg/L	0.00075525	25.77%
Se 196.026†	2.9	0.0011206	mg/L	0.00051236	0.0011206	mg/L	0.00051236	45.72%
Sn 189.927†	14.6	0.0044634	mg/L	0.00057439	0.0044634	mg/L	0.00057439	12.87%
Ti 334.940†	187.8	0.0005279	mg/L	0.00029215	0.0005279	mg/L	0.00029215	55.34%
Tl 190.801†	4.1	-0.0007631	mg/L	0.00148147	-0.0007631	mg/L	0.00148147	194.14%
V 290.880†	469.6	0.0063165	mg/L	0.00014213	0.0063165	mg/L	0.00014213	2.25%
Zn 206.200†	353.0	0.0035672	mg/L	0.00017795	0.0035672	mg/L	0.00017795	4.99%
B 249.772	10835.9	0.174915	mg/L	0.0007913	0.174915	mg/L	0.0007913	0.45%
Si 251.611	52961.9	2.33509	mg/L	0.006976	2.33509	mg/L	0.006976	0.30%

Sequence No.: 54
Sample ID: CCV V-321090
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 6
Date Collected: 2/27/2020 4:52:53 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV V-321090

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	621332.9	97.5	%	1.13				1.16%
Y 371.029	267926.0	97.8	%	1.10				1.12%
Ag 328.068†	13189.2	0.101475	mg/L	0.0002936	0.101475	mg/L	0.0002936	0.29%
QC value within limits for Ag 328.068 Recovery = 101.48%								
Al 308.215†	63855.7	4.95781	mg/L	0.002953	4.95781	mg/L	0.002953	0.06%
QC value within limits for Al 308.215 Recovery = 99.16%								
As 188.979†	1121.7	0.462034	mg/L	0.0040257	0.462034	mg/L	0.0040257	0.87%
QC value within limits for As 188.979 Recovery = 92.41%								
Ba 233.527†	59662.5	0.485950	mg/L	0.0000323	0.485950	mg/L	0.0000323	0.01%
QC value within limits for Ba 233.527 Recovery = 97.19%								
Be 313.107†	709780.9	0.471056	mg/L	0.0074828	0.471056	mg/L	0.0074828	1.59%
QC value within limits for Be 313.107 Recovery = 94.21%								
Ca 317.933†	4768792.7	45.3232	mg/L	0.71465	45.3232	mg/L	0.71465	1.58%
QC value within limits for Ca 317.933 Recovery = 90.65%								
Cd 228.802†	18720.9	0.501524	mg/L	0.0040514	0.501524	mg/L	0.0040514	0.81%
QC value within limits for Cd 228.802 Recovery = 100.30%								
Co 228.616†	14858.0	0.526285	mg/L	0.0052996	0.526285	mg/L	0.0052996	1.01%
QC value within limits for Co 228.616 Recovery = 105.26%								
Cr 267.716†	43726.4	0.491215	mg/L	0.0003045	0.491215	mg/L	0.0003045	0.06%
QC value within limits for Cr 267.716 Recovery = 98.24%								
Cu 327.393†	45326.0	0.529460	mg/L	0.0019985	0.529460	mg/L	0.0019985	0.38%
QC value within limits for Cu 327.393 Recovery = 105.89%								
Fe 273.955†	61042.6	4.94000	mg/L	0.007052	4.94000	mg/L	0.007052	0.14%
QC value within limits for Fe 273.955 Recovery = 98.80%								
K 404.721†	20537.9	14.2275	mg/L	1.49900	14.2275	mg/L	1.49900	10.54%
QC value less than the lower limit for K 404.721 Recovery = 28.46%								
Mg 279.077†	639070.5	46.5495	mg/L	0.07629	46.5495	mg/L	0.07629	0.16%
QC value within limits for Mg 279.077 Recovery = 93.10%								
Mn 257.610†	195834.3	0.492111	mg/L	0.0001317	0.492111	mg/L	0.0001317	0.03%
QC value within limits for Mn 257.610 Recovery = 98.42%								
Mo 202.031†	7340.7	0.470205	mg/L	0.0045876	0.470205	mg/L	0.0045876	0.98%
QC value within limits for Mo 202.031 Recovery = 94.04%								
Na 330.237†	22406.8	49.0410	mg/L	0.09019	49.0410	mg/L	0.09019	0.18%
QC value within limits for Na 330.237 Recovery = 98.08%								
Ni 231.604†	16599.0	0.501371	mg/L	0.0046698	0.501371	mg/L	0.0046698	0.93%
QC value within limits for Ni 231.604 Recovery = 100.27%								
Pb 220.353†	3920.4	0.467386	mg/L	0.0032490	0.467386	mg/L	0.0032490	0.70%
QC value within limits for Pb 220.353 Recovery = 93.48%								
Sb 206.836†	1108.1	0.429676	mg/L	0.0028532	0.429676	mg/L	0.0028532	0.66%
QC value less than the lower limit for Sb 206.836 Recovery = 85.94%								
Se 196.026†	913.2	0.458133	mg/L	0.0025892	0.458133	mg/L	0.0025892	0.57%
QC value within limits for Se 196.026 Recovery = 91.63%								
Sn 189.927†	3521.0	0.462219	mg/L	0.0052853	0.462219	mg/L	0.0052853	1.14%
QC value within limits for Sn 189.927 Recovery = 92.44%								
Ti 334.940†	165480.2	0.533402	mg/L	0.0000724	0.533402	mg/L	0.0000724	0.01%
QC value within limits for Ti 334.940 Recovery = 106.68%								
Tl 190.801†	1198.5	0.492689	mg/L	0.0056079	0.492689	mg/L	0.0056079	1.14%
QC value within limits for Tl 190.801 Recovery = 98.54%								
V 290.880†	36061.5	0.499325	mg/L	0.0000276	0.499325	mg/L	0.0000276	0.01%
QC value within limits for V 290.880 Recovery = 99.87%								
Zn 206.200†	22130.5	0.470894	mg/L	0.0036471	0.470894	mg/L	0.0036471	0.77%
QC value within limits for Zn 206.200 Recovery = 94.18%								
B 249.772	25769.0	0.464743	mg/L	0.0023804	0.464743	mg/L	0.0023804	0.51%
QC value within limits for B 249.772 Recovery = 92.95%								
Si 251.611	119921.1	5.49605	mg/L	0.073179	5.49605	mg/L	0.073179	1.33%
QC value within limits for Si 251.611 Recovery = 109.92%								

QC Failed. Continue with analysis.

Sequence No.: 55 Autosampler Location: 2
Sample ID: CCB V-317800 Date Collected: 2/27/2020 4:56:21 PM
Analyst: Data Type: Original
Initial Sample Wt: Initial Sample Vol:
Dilution: Sample Prep Vol:

Mean Data: CCB V-317800

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	632075.3	99.1	%	2.54				2.57%
Y 371.029	274878.9	100	%	2.6				2.57%
Ag 328.068†	-26.3	-0.0000612	mg/L	0.00057319	-0.0000612	mg/L	0.00057319	936.45%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 308.215†	-3.1	0.0084378	mg/L	0.00421800	0.0084378	mg/L	0.00421800	49.99%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979†	5.4	0.0017976	mg/L	0.00013862	0.0017976	mg/L	0.00013862	7.71%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	195.3	0.0017143	mg/L	0.00000315	0.0017143	mg/L	0.00000315	0.18%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-46.8	0.0019661	mg/L	0.00003640	0.0019661	mg/L	0.00003640	1.85%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933†	1419.2	0.0920402	mg/L	0.00056221	0.0920402	mg/L	0.00056221	0.61%
QC value within limits for Ca 317.933 Recovery = Not calculated								
Cd 228.802†	25.1	-0.0014829	mg/L	0.00006528	-0.0014829	mg/L	0.00006528	4.40%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	21.7	-0.0043428	mg/L	0.00046117	-0.0043428	mg/L	0.00046117	10.62%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	66.7	0.0009954	mg/L	0.00017535	0.0009954	mg/L	0.00017535	17.62%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	281.3	0.0049398	mg/L	0.00037191	0.0049398	mg/L	0.00037191	7.53%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	3138.9	0.256952	mg/L	0.0072074	0.256952	mg/L	0.0072074	2.80%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 404.721†	2803.9	2.72239	mg/L	2.406064	2.72239	mg/L	2.406064	88.38%
QC value within limits for K 404.721 Recovery = Not calculated								
Mg 279.077†	40.1	-0.161896	mg/L	0.0006043	-0.161896	mg/L	0.0006043	0.37%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	1026.1	0.0027944	mg/L	0.00009421	0.0027944	mg/L	0.00009421	3.37%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	6.5	0.0019989	mg/L	0.00058139	0.0019989	mg/L	0.00058139	29.09%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 330.237†	79.2	1.09251	mg/L	0.007702	1.09251	mg/L	0.007702	0.70%
QC value within limits for Na 330.237 Recovery = Not calculated								
Ni 231.604†	28.2	-0.0054137	mg/L	0.00006328	-0.0054137	mg/L	0.00006328	1.17%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	13.1	-0.0011768	mg/L	0.00016352	-0.0011768	mg/L	0.00016352	13.90%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	0.7	0.0018646	mg/L	0.00188912	0.0018646	mg/L	0.00188912	101.31%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-1.1	-0.0030689	mg/L	0.00070549	-0.0030689	mg/L	0.00070549	22.99%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	34.4	0.0070687	mg/L	0.00012233	0.0070687	mg/L	0.00012233	1.73%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Ti 334.940†	34.2	0.0000328	mg/L	0.00005970	0.0000328	mg/L	0.00005970	181.92%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	9.8	0.0017466	mg/L	0.00112073	0.0017466	mg/L	0.00112073	64.16%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 290.880†	55.1	0.0010791	mg/L	0.00051086	0.0010791	mg/L	0.00051086	47.34%
QC value within limits for V 290.880 Recovery = Not calculated								
Zn 206.200†	141.6	-0.0009694	mg/L	0.00010316	-0.0009694	mg/L	0.00010316	10.64%
QC value within limits for Zn 206.200 Recovery = Not calculated								
B 249.772	647.5	0.0112443	mg/L	0.00057772	0.0112443	mg/L	0.00057772	5.14%
QC value within limits for B 249.772 Recovery = Not calculated								
Si 251.611	276.3	-0.135273	mg/L	0.0017459	-0.135273	mg/L	0.0017459	1.29%
QC value less than the lower limit for Si 251.611 Recovery = Not calculated								

QC Failed. Continue with analysis.

Sequence No.: 56
Sample ID: AD15912-002
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 69
Date Collected: 2/27/2020 4:59:37 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AD15912-002

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	574413.1	90.1	%	1.02				1.13%
Y 371.029	259206.0	94.6	%	0.60				0.63%
Ag 328.068†	-47.9	-0.0002271	mg/L	0.00014075	-0.0002271	mg/L	0.00014075	61.98%
Al 308.215†	225400.0	17.5170	mg/L	0.31916	17.5170	mg/L	0.31916	1.82%
As 188.979†	13.3	0.0054232	mg/L	0.00194246	0.0054232	mg/L	0.00194246	35.82%
Ba 233.527†	6028.5	0.0492135	mg/L	0.00002898	0.0492135	mg/L	0.00002898	0.06%
Be 313.107†	-520.7	0.0016529	mg/L	0.00000747	0.0016529	mg/L	0.00000747	0.45%
Ca 317.933†	2239893.9	21.3299	mg/L	0.10170	21.3299	mg/L	0.10170	0.48%
Cd 228.802†	24.8	-0.0014902	mg/L	0.00061422	-0.0014902	mg/L	0.00061422	41.22%
Co 228.616†	31.7	-0.0039856	mg/L	0.00015397	-0.0039856	mg/L	0.00015397	3.86%
Cr 267.716†	217.4	0.0026866	mg/L	0.00013063	0.0026866	mg/L	0.00013063	4.86%
Cu 327.393†	285.8	0.0049922	mg/L	0.00069540	0.0049922	mg/L	0.00069540	13.93%
Fe 273.955†	41361.2	3.34824	mg/L	0.073042	3.34824	mg/L	0.073042	2.18%
K 404.721†	20850.8	21.4761	mg/L	1.43916	21.4761	mg/L	1.43916	6.70%
Mg 279.077†	562164.9	40.9279	mg/L	0.15848	40.9279	mg/L	0.15848	0.39%
Mn 257.610†	39471.7	0.0993616	mg/L	0.00190821	0.0993616	mg/L	0.00190821	1.92%
Mo 202.031†	38.8	0.0040603	mg/L	0.00029107	0.0040603	mg/L	0.00029107	7.17%
Na 330.237†	971193.1	2086.56	mg/L	6.018	2086.56	mg/L	6.018	0.29%
Ni 231.604†	44.9	-0.0049014	mg/L	0.00035742	-0.0049014	mg/L	0.00035742	7.29%
Pb 220.353†	-9.1	-0.0022389	mg/L	0.00026314	-0.0022389	mg/L	0.00026314	11.75%
Sb 206.836†	2.0	0.0023652	mg/L	0.00285509	0.0023652	mg/L	0.00285509	120.71%
Se 196.026†	-1.1	-0.0026876	mg/L	0.00572814	-0.0026876	mg/L	0.00572814	213.13%
Sn 189.927†	-13.4	0.0007838	mg/L	0.00016283	0.0007838	mg/L	0.00016283	20.77%
Ti 334.940†	129.9	0.0003413	mg/L	0.00015012	0.0003413	mg/L	0.00015012	43.99%
Tl 190.801†	-2.4	-0.0032491	mg/L	0.00210925	-0.0032491	mg/L	0.00210925	64.92%
V 290.880†	1020.7	0.0141005	mg/L	0.00046608	0.0141005	mg/L	0.00046608	3.31%
Zn 206.200†	391.1	0.0043851	mg/L	0.00017630	0.0043851	mg/L	0.00017630	4.02%
B 249.772	59330.4	1.10065	mg/L	0.005360	1.10065	mg/L	0.005360	0.49%
Si 251.611	144073.9	6.58110	mg/L	0.055283	6.58110	mg/L	0.055283	0.84%

Sequence No.: 57
Sample ID: AD15912-003
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 70
Date Collected: 2/27/2020 5:03:06 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AD15912-003

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	567991.5	89.1	%	0.94				1.05%
Y 371.029	257078.9	93.9	%	0.96				1.02%
Ag 328.068†	-62.5	-0.0003386	mg/L	0.00029606	-0.0003386	mg/L	0.00029606	87.43%
Al 308.215†	190357.2	14.7950	mg/L	0.29345	14.7950	mg/L	0.29345	1.98%
As 188.979†	11.3	0.0042457	mg/L	0.00244737	0.0042457	mg/L	0.00244737	57.64%
Ba 233.527†	1163.3	0.0095963	mg/L	0.00013643	0.0095963	mg/L	0.00013643	1.42%
Be 313.107†	-572.2	0.0016189	mg/L	0.00008685	0.0016189	mg/L	0.00008685	5.36%
Ca 317.933†	1623903.6	15.4856	mg/L	0.00721	15.4856	mg/L	0.00721	0.05%
Cd 228.802†	30.6	-0.0013346	mg/L	0.00028143	-0.0013346	mg/L	0.00028143	21.09%
Co 228.616†	17.1	-0.0045100	mg/L	0.00004242	-0.0045100	mg/L	0.00004242	0.94%
Cr 267.716†	130.8	0.0017150	mg/L	0.00004592	0.0017150	mg/L	0.00004592	2.68%
Cu 327.393†	121.9	0.0030838	mg/L	0.00022270	0.0030838	mg/L	0.00022270	7.22%
Fe 273.955†	2477.8	0.203485	mg/L	0.0000200	0.203485	mg/L	0.0000200	0.01%
K 404.721†	9600.7	14.9091	mg/L	2.03002	14.9091	mg/L	2.03002	13.62%
Mg 279.077†	558393.4	40.6523	mg/L	0.01052	40.6523	mg/L	0.01052	0.03%
Mn 257.610†	18284.9	0.0461448	mg/L	0.00098893	0.0461448	mg/L	0.00098893	2.14%
Mo 202.031†	24.2	0.0031259	mg/L	0.00021388	0.0031259	mg/L	0.00021388	6.84%
Na 330.237†	979577.3	2104.56	mg/L	9.108	2104.56	mg/L	9.108	0.43%
Ni 231.604†	42.0	-0.0049907	mg/L	0.00076324	-0.0049907	mg/L	0.00076324	15.29%
Pb 220.353†	5.1	-0.0007932	mg/L	0.00053655	-0.0007932	mg/L	0.00053655	67.64%
Sb 206.836†	11.1	0.0058203	mg/L	0.00057126	0.0058203	mg/L	0.00057126	9.81%
Se 196.026†	-4.5	-0.0056372	mg/L	0.00547007	-0.0056372	mg/L	0.00547007	97.04%
Sn 189.927†	-17.8	0.0002072	mg/L	0.00066162	0.0002072	mg/L	0.00066162	319.30%
Ti 334.940†	49.4	0.0000819	mg/L	0.00003980	0.0000819	mg/L	0.00003980	48.60%
Tl 190.801†	-3.0	-0.0033566	mg/L	0.00224154	-0.0033566	mg/L	0.00224154	66.78%
V 290.880†	1058.8	0.0148241	mg/L	0.00071296	0.0148241	mg/L	0.00071296	4.81%
Zn 206.200†	105.2	-0.0017507	mg/L	0.00027019	-0.0017507	mg/L	0.00027019	15.43%
B 249.772	60244.4	1.13088	mg/L	0.006573	1.13088	mg/L	0.006573	0.58%
Si 251.611	93517.4	4.21034	mg/L	0.038217	4.21034	mg/L	0.038217	0.91%

Sequence No.: 58
Sample ID: AD15912-004
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 71
Date Collected: 2/27/2020 5:06:35 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AD15912-004

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sc 361.383	577089.9	90.5	%	0.93				1.03%
Y 371.029	249807.5	91.2	%	0.91				1.00%
Ag 328.068†	-22.4	-0.0000311	mg/L	0.00024203	-0.0000311	mg/L	0.00024203	778.65%
Al 308.215†	176148.6	13.6914	mg/L	0.00507	13.6914	mg/L	0.00507	0.04%
As 188.979†	4.9	0.0015912	mg/L	0.00130720	0.0015912	mg/L	0.00130720	82.15%
Ba 233.527†	1018.2	0.0084150	mg/L	0.00010401	0.0084150	mg/L	0.00010401	1.24%
Be 313.107†	-534.7	0.0016437	mg/L	0.00000088	0.0016437	mg/L	0.00000088	0.05%
Ca 317.933†	980680.4	9.38293	mg/L	0.016708	9.38293	mg/L	0.016708	0.18%
Cd 228.802†	38.4	-0.0011252	mg/L	0.00006730	-0.0011252	mg/L	0.00006730	5.98%
Co 228.616†	26.5	-0.0041736	mg/L	0.00021607	-0.0041736	mg/L	0.00021607	5.18%
Cr 267.716†	107.8	0.0014569	mg/L	0.00006251	0.0014569	mg/L	0.00006251	4.29%
Cu 327.393†	60.6	0.0023689	mg/L	0.00004700	0.0023689	mg/L	0.00004700	1.98%
Fe 273.955†	2085.2	0.171733	mg/L	0.0035710	0.171733	mg/L	0.0035710	2.08%
K 404.721†	7983.6	12.1967	mg/L	1.01981	12.1967	mg/L	1.01981	8.36%
Mg 279.077†	536034.6	39.0179	mg/L	0.05519	39.0179	mg/L	0.05519	0.14%
Mn 257.610†	13675.5	0.0345671	mg/L	0.00006901	0.0345671	mg/L	0.00006901	0.20%
Mo 202.031†	23.0	0.0030519	mg/L	0.00067665	0.0030519	mg/L	0.00067665	22.17%
Na 330.237†	1005829.2	2160.94	mg/L	3.040	2160.94	mg/L	3.040	0.14%
Ni 231.604†	35.8	-0.0051802	mg/L	0.00035741	-0.0051802	mg/L	0.00035741	6.90%
Pb 220.353†	4.3	-0.0009891	mg/L	0.00101863	-0.0009891	mg/L	0.00101863	102.98%
Sb 206.836†	3.9	0.0030689	mg/L	0.00436254	0.0030689	mg/L	0.00436254	142.15%
Se 196.026†	0.4	-0.0028533	mg/L	0.00572569	-0.0028533	mg/L	0.00572569	200.67%
Sn 189.927†	-20.5	-0.0001499	mg/L	0.00073294	-0.0001499	mg/L	0.00073294	488.89%
Ti 334.940†	86.7	0.0002021	mg/L	0.00009352	0.0002021	mg/L	0.00009352	46.27%
Tl 190.801†	-0.9	-0.0024953	mg/L	0.00212257	-0.0024953	mg/L	0.00212257	85.06%
V 290.880†	1001.0	0.0140349	mg/L	0.00057448	0.0140349	mg/L	0.00057448	4.09%
Zn 206.200†	80.9	-0.0022735	mg/L	0.00028869	-0.0022735	mg/L	0.00028869	12.70%
B 249.772	60025.6	1.12690	mg/L	0.005185	1.12690	mg/L	0.005185	0.46%
Si 251.611	55567.1	2.43057	mg/L	0.021501	2.43057	mg/L	0.021501	0.88%

Sequence No.: 59
Sample ID: AD15912-007
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 72
Date Collected: 2/27/2020 5:09:54 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AD15912-007

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	572112.6	89.7	%	0.30				0.34%
Y 371.029	247969.1	90.5	%	0.33				0.37%
Ag 328.068†	-11.4	0.0000538	mg/L	0.00052923	0.0000538	mg/L	0.00052923	984.09%
Al 308.215†	155051.2	12.0526	mg/L	0.00152	12.0526	mg/L	0.00152	0.01%
As 188.979†	11.9	0.0044603	mg/L	0.00039150	0.0044603	mg/L	0.00039150	8.78%
Ba 233.527†	923.5	0.0076438	mg/L	0.00001123	0.0076438	mg/L	0.00001123	0.15%
Be 313.107†	-540.0	0.0016402	mg/L	0.00000909	0.0016402	mg/L	0.00000909	0.55%
Ca 317.933†	1035683.5	9.90478	mg/L	0.021676	9.90478	mg/L	0.021676	0.22%
Cd 228.802†	29.9	-0.0013546	mg/L	0.00023661	-0.0013546	mg/L	0.00023661	17.47%
Co 228.616†	7.0	-0.0048704	mg/L	0.00030390	-0.0048704	mg/L	0.00030390	6.24%
Cr 267.716†	377.4	0.0044834	mg/L	0.00003618	0.0044834	mg/L	0.00003618	0.81%
Cu 327.393†	334.7	0.0055615	mg/L	0.00032889	0.0055615	mg/L	0.00032889	5.91%
Fe 273.955†	59.6	0.0079101	mg/L	0.00063146	0.0079101	mg/L	0.00063146	7.98%
K 404.721†	7591.0	12.1951	mg/L	0.29380	12.1951	mg/L	0.29380	2.41%
Mg 279.077†	518980.4	37.7713	mg/L	0.05973	37.7713	mg/L	0.05973	0.16%
Mn 257.610†	12915.0	0.0326568	mg/L	0.00000580	0.0326568	mg/L	0.00000580	0.02%
Mo 202.031†	20.7	0.0029013	mg/L	0.00002953	0.0029013	mg/L	0.00002953	1.02%
Na 330.237†	1007473.6	2164.47	mg/L	0.841	2164.47	mg/L	0.841	0.04%
Ni 231.604†	73.7	-0.0040227	mg/L	0.00012996	-0.0040227	mg/L	0.00012996	3.23%
Pb 220.353†	10.7	-0.0003739	mg/L	0.00032860	-0.0003739	mg/L	0.00032860	87.88%
Sb 206.836†	5.6	0.0037434	mg/L	0.00109632	0.0037434	mg/L	0.00109632	29.29%
Se 196.026†	-4.0	-0.0051802	mg/L	0.00893860	-0.0051802	mg/L	0.00893860	172.55%
Sn 189.927†	-24.9	-0.0007210	mg/L	0.00007333	-0.0007210	mg/L	0.00007333	10.17%
Ti 334.940†	203.5	0.0005788	mg/L	0.00009732	0.0005788	mg/L	0.00009732	16.81%
Tl 190.801†	-2.7	-0.0031766	mg/L	0.00005567	-0.0031766	mg/L	0.00005567	1.75%
V 290.880†	1008.5	0.0141466	mg/L	0.00006853	0.0141466	mg/L	0.00006853	0.48%
Zn 206.200†	2475.6	0.0491153	mg/L	0.00009911	0.0491153	mg/L	0.00009911	0.20%
B 249.772	60559.5	1.13761	mg/L	0.008046	1.13761	mg/L	0.008046	0.71%
Si 251.611	45948.2	1.98005	mg/L	0.000130	1.98005	mg/L	0.000130	0.01%

Sequence No.: 60
Sample ID: AD15912-009
Analyst:
Initial Sample Wt:
Dilution:
Autosampler Location: 73
Date Collected: 2/27/2020 5:13:13 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AD15912-009

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	568055.7	89.1	%	0.49				0.55%
Y 371.029	246571.6	90.0	%	0.52				0.58%
Ag 328.068†	73.4	0.0007051	mg/L	0.00002965	0.0007051	mg/L	0.00002965	4.21%
Al 308.215†	3908.2	0.312233	mg/L	0.0046446	0.312233	mg/L	0.0046446	1.49%
As 188.979†	11.0	0.0040769	mg/L	0.00150138	0.0040769	mg/L	0.00150138	36.83%
Ba 233.527†	947.1	0.0078355	mg/L	0.00003919	0.0078355	mg/L	0.00003919	0.50%
Be 313.107†	-499.1	0.0016672	mg/L	0.00003923	0.0016672	mg/L	0.00003923	2.35%
Ca 317.933†	1167045.4	11.1511	mg/L	0.00149	11.1511	mg/L	0.00149	0.01%
Cd 228.802†	30.2	-0.0013468	mg/L	0.00014919	-0.0013468	mg/L	0.00014919	11.08%
Co 228.616†	16.2	-0.0045390	mg/L	0.00027609	-0.0045390	mg/L	0.00027609	6.08%
Cr 267.716†	107.6	0.0014540	mg/L	0.00021730	0.0014540	mg/L	0.00021730	14.95%
Cu 327.393†	-12.7	0.0015163	mg/L	0.00005334	0.0015163	mg/L	0.00005334	3.52%
Fe 273.955†	-287.3	-0.0201508	mg/L	0.00115076	-0.0201508	mg/L	0.00115076	5.71%
K 404.721†	8382.4	13.7060	mg/L	0.49985	13.7060	mg/L	0.49985	3.65%
Mg 279.077†	534648.5	38.9166	mg/L	0.04140	38.9166	mg/L	0.04140	0.11%
Mn 257.610†	14673.8	0.0370746	mg/L	0.00003801	0.0370746	mg/L	0.00003801	0.10%
Mo 202.031†	23.3	0.0030693	mg/L	0.00069391	0.0030693	mg/L	0.00069391	22.61%
Na 330.237†	982217.0	2110.23	mg/L	1.413	2110.23	mg/L	1.413	0.07%
Ni 231.604†	76.4	-0.0039383	mg/L	0.00046631	-0.0039383	mg/L	0.00046631	11.84%
Pb 220.353†	8.5	-0.0017091	mg/L	0.00150299	-0.0017091	mg/L	0.00150299	87.94%
Sb 206.836†	0.7	0.0018494	mg/L	0.00167487	0.0018494	mg/L	0.00167487	90.56%
Se 196.026†	3.7	-0.0013868	mg/L	0.00118031	-0.0013868	mg/L	0.00118031	85.11%
Sn 189.927†	-15.7	0.0004914	mg/L	0.00001950	0.0004914	mg/L	0.00001950	3.97%
Ti 334.940†	76.9	0.0001706	mg/L	0.00018006	0.0001706	mg/L	0.00018006	105.56%
Tl 190.801†	-2.2	-0.0029996	mg/L	0.00192940	-0.0029996	mg/L	0.00192940	64.32%
V 290.880†	960.7	0.0134973	mg/L	0.00091701	0.0134973	mg/L	0.00091701	6.79%
Zn 206.200†	73.3	-0.0024355	mg/L	0.00014358	-0.0024355	mg/L	0.00014358	5.90%
B 249.772	60991.4	1.14584	mg/L	0.002535	1.14584	mg/L	0.002535	0.22%
Si 251.611	34337.0	1.43601	mg/L	0.012670	1.43601	mg/L	0.012670	0.88%

Sequence No.: 61
Sample ID: AD15939-001
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 74
Date Collected: 2/27/2020 5:16:34 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: AD15939-001

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	609761.9	95.6	%	0.57				0.59%
Y 371.029	283534.4	104	%	0.3				0.34%
Ag 328.068†	-67.9	-0.0003804	mg/L	0.00026753	-0.0003804	mg/L	0.00026753	70.33%
Al 308.215†	4977.1	0.395180	mg/L	0.0124015	0.395180	mg/L	0.0124015	3.14%
As 188.979†	3.2	0.0008824	mg/L	0.00304413	0.0008824	mg/L	0.00304413	344.97%
Ba 233.527†	2835.9	0.0232162	mg/L	0.00038073	0.0232162	mg/L	0.00038073	1.64%
Be 313.107†	-328.4	0.0017800	mg/L	0.00002570	0.0017800	mg/L	0.00002570	1.44%
Ca 317.933†	3189012.0	30.3348	mg/L	0.07235	30.3348	mg/L	0.07235	0.24%
Cd 228.802†	31.6	-0.0013078	mg/L	0.00003472	-0.0013078	mg/L	0.00003472	2.65%
Co 228.616†	20.2	-0.0043979	mg/L	0.00040289	-0.0043979	mg/L	0.00040289	9.16%
Cr 267.716†	325.6	0.0039022	mg/L	0.00006432	0.0039022	mg/L	0.00006432	1.65%
Cu 327.393†	5620.3	0.0671094	mg/L	0.00012216	0.0671094	mg/L	0.00012216	0.18%
Fe 273.955†	6689.3	0.544090	mg/L	0.0103608	0.544090	mg/L	0.0103608	1.90%
K 404.721†	5937.5	7.02896	mg/L	0.592214	7.02896	mg/L	0.592214	8.43%
Mg 279.077†	140133.9	10.0786	mg/L	0.03239	10.0786	mg/L	0.03239	0.32%
Mn 257.610†	26444.6	0.0666404	mg/L	0.00027292	0.0666404	mg/L	0.00027292	0.41%
Mo 202.031†	73.2	0.0062565	mg/L	0.00014872	0.0062565	mg/L	0.00014872	2.38%
Na 330.237†	58058.2	125.602	mg/L	0.3542	125.602	mg/L	0.3542	0.28%
Ni 231.604†	210.2	0.0001535	mg/L	0.00010734	0.0001535	mg/L	0.00010734	69.91%
Pb 220.353†	4.6	-0.0021672	mg/L	0.00102303	-0.0021672	mg/L	0.00102303	47.20%
Sb 206.836†	-0.4	0.0014849	mg/L	0.00042847	0.0014849	mg/L	0.00042847	28.86%
Se 196.026†	1.7	-0.0031686	mg/L	0.00256288	-0.0031686	mg/L	0.00256288	80.88%
Sn 189.927†	11.8	0.0040523	mg/L	0.00046977	0.0040523	mg/L	0.00046977	11.59%
Ti 334.940†	2932.0	0.0093749	mg/L	0.00122228	0.0093749	mg/L	0.00122228	13.04%
Tl 190.801†	-1.2	-0.0026826	mg/L	0.00238347	-0.0026826	mg/L	0.00238347	88.85%
V 290.880†	472.4	0.0068226	mg/L	0.00056445	0.0068226	mg/L	0.00056445	8.27%
Zn 206.200†	11457.4	0.241858	mg/L	0.0054677	0.241858	mg/L	0.0054677	2.26%
B 249.772	3659.7	0.0666389	mg/L	0.00081129	0.0666389	mg/L	0.00081129	1.22%
Si 251.611	93190.8	4.22121	mg/L	0.017686	4.22121	mg/L	0.017686	0.42%

Sequence No.: 62
Sample ID: ICSA V-321157
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 7
Date Collected: 2/27/2020 5:20:03 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICSA V-321157

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Sc 361.383	553405.5	86.8	%	0.11				0.13%
Y 371.029	236372.6	86.3	%	0.20				0.23%
Ag 328.068†	-399.7	-0.0029298	mg/L	0.00013081	-0.0029298	mg/L	0.00013081	4.46%
Al 308.215†	6423194.6	498.943	mg/L	0.3296	498.943	mg/L	0.3296	0.07%
QC value within limits for Al 308.215 Recovery = 99.79%								
As 188.979†	-40.0	0.0037986	mg/L	0.00511566	0.0037986	mg/L	0.00511566	134.67%
Ba 233.527†	475.9	0.0039985	mg/L	0.00001378	0.0039985	mg/L	0.00001378	0.34%
Be 313.107†	-557.5	0.0016286	mg/L	0.00001369	0.0016286	mg/L	0.00001369	0.84%
Ca 317.933†	42586001.5	404.120	mg/L	3.3411	404.120	mg/L	3.3411	0.83%
QC value within limits for Ca 317.933 Recovery = 80.82%								
Cd 228.802†	-19.9	-0.0026951	mg/L	0.00008607	-0.0026951	mg/L	0.00008607	3.19%
Co 228.616†	104.1	-0.0013970	mg/L	0.00009051	-0.0013970	mg/L	0.00009051	6.48%
Cr 267.716†	56.1	0.0008762	mg/L	0.00012491	0.0008762	mg/L	0.00012491	14.26%
Cu 327.393†	-1943.1	-0.0209621	mg/L	0.00052839	-0.0209621	mg/L	0.00052839	2.52%
Fe 273.955†	2224018.2	179.874	mg/L	0.2082	179.874	mg/L	0.2082	0.12%
QC value within limits for Fe 273.955 Recovery = 89.94%								
K 404.721†	758957.7	577.705	mg/L	1.6702	577.705	mg/L	1.6702	0.29%
Mg 279.077†	6014250.7	439.461	mg/L	0.4447	439.461	mg/L	0.4447	0.10%
QC value within limits for Mg 279.077 Recovery = 87.89%								
Mn 257.610†	-1638.4	-0.0038982	mg/L	0.00030177	-0.0038982	mg/L	0.00030177	7.74%
Mo 202.031†	9.9	0.0022130	mg/L	0.00043639	0.0022130	mg/L	0.00043639	19.72%
Na 330.237†	56.2	1.04326	mg/L	0.057090	1.04326	mg/L	0.057090	5.47%
Ni 231.604†	134.3	-0.0021678	mg/L	0.00003767	-0.0021678	mg/L	0.00003767	1.74%
Pb 220.353†	-309.8	0.0056384	mg/L	0.00135019	0.0056384	mg/L	0.00135019	23.95%
Sb 206.836†	27.0	0.0118714	mg/L	0.00286760	0.0118714	mg/L	0.00286760	24.16%
Se 196.026†	-127.1	0.0002991	mg/L	0.00510183	0.0002991	mg/L	0.00510183	>999.9%
Sn 189.927†	-88.1	-0.0090111	mg/L	0.00030928	-0.0090111	mg/L	0.00030928	3.43%
Ti 334.940†	-752.0	-0.0025016	mg/L	0.00008154	-0.0025016	mg/L	0.00008154	3.26%
Tl 190.801†	-43.7	-0.0197521	mg/L	0.00266458	-0.0197521	mg/L	0.00266458	13.49%
V 290.880†	647.0	-0.0031138	mg/L	0.00048057	-0.0031138	mg/L	0.00048057	15.43%
Zn 206.200†	-38.6	-0.0048372	mg/L	0.00013604	-0.0048372	mg/L	0.00013604	2.81%
B 249.772	-37593.8	-1.45318	mg/L	0.000145	-1.45318	mg/L	0.000145	0.01%
Si 251.611	928.4	0.0447785	mg/L	0.00180082	0.0447785	mg/L	0.00180082	4.02%

All analyte(s) passed QC.

Sequence No.: 63 **Autosampler Location:** 8
Sample ID: ICSAB V-321158 **Date Collected:** 2/27/2020 5:24:49 PM
Analyst: **Data Type:** Original
Initial Sample Wt: **Initial Sample Vol:**
Dilution: **Sample Prep Vol:**

Mean Data: ICSAB V-321158

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	548828.0	86.1	%	0.06				0.07%
Y 371.029	234836.0	85.7	%	0.06				0.07%
Ag 328.068†	142131.9	1.09216	mg/L	0.001628	1.09216	mg/L	0.001628	0.15%
QC value within limits for Ag 328.068 Recovery = 109.22%								
Al 308.215†	6737031.7	523.321	mg/L	6.1047	523.321	mg/L	6.1047	1.17%
QC value within limits for Al 308.215 Recovery = 104.66%								
As 188.979†	2181.8	0.924697	mg/L	0.0009063	0.924697	mg/L	0.0009063	0.10%
QC value within limits for As 188.979 Recovery = 92.47%								
Ba 233.527†	58964.5	0.480266	mg/L	0.0006038	0.480266	mg/L	0.0006038	0.13%
QC value within limits for Ba 233.527 Recovery = 96.05%								
Be 313.107†	695589.5	0.461678	mg/L	0.0057167	0.461678	mg/L	0.0057167	1.24%
QC value within limits for Be 313.107 Recovery = 92.34%								
Ca 317.933†	43856287.3	416.172	mg/L	1.8458	416.172	mg/L	1.8458	0.44%
QC value within limits for Ca 317.933 Recovery = 83.23%								
Cd 228.802†	35974.8	0.965737	mg/L	0.0015445	0.965737	mg/L	0.0015445	0.16%
QC value within limits for Cd 228.802 Recovery = 96.57%								
Co 228.616†	13797.4	0.488354	mg/L	0.0058942	0.488354	mg/L	0.0058942	1.21%
QC value within limits for Co 228.616 Recovery = 97.67%								
Cr 267.716†	41740.8	0.468921	mg/L	0.0005214	0.468921	mg/L	0.0005214	0.11%
QC value within limits for Cr 267.716 Recovery = 93.78%								
Cu 327.393†	44293.6	0.517439	mg/L	0.0038030	0.517439	mg/L	0.0038030	0.73%
QC value within limits for Cu 327.393 Recovery = 103.49%								
Fe 273.955†	2332513.8	188.648	mg/L	2.4645	188.648	mg/L	2.4645	1.31%
QC value within limits for Fe 273.955 Recovery = 94.32%								
K 404.721†	796948.7	607.644	mg/L	5.2808	607.644	mg/L	5.2808	0.87%
Mg 279.077†	6310492.7	461.115	mg/L	6.4520	461.115	mg/L	6.4520	1.40%
QC value within limits for Mg 279.077 Recovery = 92.22%								
Mn 257.610†	186203.2	0.467920	mg/L	0.0005192	0.467920	mg/L	0.0005192	0.11%
QC value within limits for Mn 257.610 Recovery = 93.58%								
Mo 202.031†	10.8	0.0022721	mg/L	0.00071543	0.0022721	mg/L	0.00071543	31.49%
Na 330.237†	-288.0	0.303994	mg/L	0.0842633	0.303994	mg/L	0.0842633	27.72%
Ni 231.604†	30673.4	0.931805	mg/L	0.0071905	0.931805	mg/L	0.0071905	0.77%
QC value within limits for Ni 231.604 Recovery = 93.18%								
Pb 220.353†	7144.5	0.900931	mg/L	0.0117459	0.900931	mg/L	0.0117459	1.30%
QC value within limits for Pb 220.353 Recovery = 90.09%								
Sb 206.836†	2669.0	1.01813	mg/L	0.006686	1.01813	mg/L	0.006686	0.66%
QC value within limits for Sb 206.836 Recovery = 101.81%								
Se 196.026†	1678.4	0.915072	mg/L	0.0068118	0.915072	mg/L	0.0068118	0.74%
QC value within limits for Se 196.026 Recovery = 91.51%								
Sn 189.927†	-82.9	-0.0083285	mg/L	0.00117326	-0.0083285	mg/L	0.00117326	14.09%
Ti 334.940†	-711.7	-0.0023717	mg/L	0.00011908	-0.0023717	mg/L	0.00011908	5.02%
Tl 190.801†	2140.4	0.866711	mg/L	0.0065872	0.866711	mg/L	0.0065872	0.76%
QC value within limits for Tl 190.801 Recovery = 86.67%								
V 290.880†	35365.8	0.471099	mg/L	0.0009138	0.471099	mg/L	0.0009138	0.19%
QC value within limits for V 290.880 Recovery = 94.22%								
Zn 206.200†	38587.5	0.824048	mg/L	0.0027067	0.824048	mg/L	0.0027067	0.33%
QC value within limits for Zn 206.200 Recovery = 82.40%								
B 249.772	-38546.0	-1.50751	mg/L	0.007866	-1.50751	mg/L	0.007866	0.52%
Si 251.611	818.5	0.0656746	mg/L	0.00028009	0.0656746	mg/L	0.00028009	0.43%

All analyte(s) passed QC.

Sequence No.: 64
Sample ID: CCV V-321090
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 6
Date Collected: 2/27/2020 5:29:38 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV V-321090

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Calib. Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Sc 361.383	598091.0	93.8	%	1.20				1.28%
Y 371.029	259179.8	94.6	%	1.15				1.21%
Ag 328.068†	13189.9	0.101481	mg/L	0.0000628	0.101481	mg/L	0.0000628	0.06%
QC value within limits for Ag 328.068 Recovery = 101.48%								
Al 308.215†	63475.2	4.92844	mg/L	0.027921	4.92844	mg/L	0.027921	0.57%
QC value within limits for Al 308.215 Recovery = 98.57%								
As 188.979†	1113.3	0.458605	mg/L	0.0049937	0.458605	mg/L	0.0049937	1.09%
QC value within limits for As 188.979 Recovery = 91.72%								
Ba 233.527†	59287.2	0.482894	mg/L	0.0029304	0.482894	mg/L	0.0029304	0.61%
QC value within limits for Ba 233.527 Recovery = 96.58%								
Be 313.107†	701069.4	0.465299	mg/L	0.0048416	0.465299	mg/L	0.0048416	1.04%
QC value within limits for Be 313.107 Recovery = 93.06%								
Ca 317.933†	4662837.1	44.3179	mg/L	0.39196	44.3179	mg/L	0.39196	0.88%
QC value less than the lower limit for Ca 317.933 Recovery = 88.64%								
Cd 228.802†	18599.2	0.498248	mg/L	0.0029295	0.498248	mg/L	0.0029295	0.59%
QC value within limits for Cd 228.802 Recovery = 99.65%								
Co 228.616†	15033.1	0.532551	mg/L	0.0029552	0.532551	mg/L	0.0029552	0.55%
QC value within limits for Co 228.616 Recovery = 106.51%								
Cr 267.716†	43610.5	0.489914	mg/L	0.0026787	0.489914	mg/L	0.0026787	0.55%
QC value within limits for Cr 267.716 Recovery = 97.98%								
Cu 327.393†	45674.3	0.533516	mg/L	0.0004699	0.533516	mg/L	0.0004699	0.09%
QC value within limits for Cu 327.393 Recovery = 106.70%								
Fe 273.955†	61184.2	4.95144	mg/L	0.032939	4.95144	mg/L	0.032939	0.67%
QC value within limits for Fe 273.955 Recovery = 99.03%								
K 404.721†	22170.5	17.0526	mg/L	1.05912	17.0526	mg/L	1.05912	6.21%
QC value less than the lower limit for K 404.721 Recovery = 34.11%								
Mg 279.077†	630083.8	45.8926	mg/L	0.36627	45.8926	mg/L	0.36627	0.80%
QC value within limits for Mg 279.077 Recovery = 91.79%								
Mn 257.610†	194516.5	0.488801	mg/L	0.0025644	0.488801	mg/L	0.0025644	0.52%
QC value within limits for Mn 257.610 Recovery = 97.76%								
Mo 202.031†	7220.0	0.462501	mg/L	0.0027538	0.462501	mg/L	0.0027538	0.60%
QC value within limits for Mo 202.031 Recovery = 92.50%								
Na 330.237†	22179.2	48.5524	mg/L	0.05799	48.5524	mg/L	0.05799	0.12%
QC value within limits for Na 330.237 Recovery = 97.10%								
Ni 231.604†	16520.7	0.498976	mg/L	0.0034857	0.498976	mg/L	0.0034857	0.70%
QC value within limits for Ni 231.604 Recovery = 99.80%								
Pb 220.353†	3891.4	0.463915	mg/L	0.0036222	0.463915	mg/L	0.0036222	0.78%
QC value within limits for Pb 220.353 Recovery = 92.78%								
Sb 206.836†	1108.7	0.429781	mg/L	0.0049493	0.429781	mg/L	0.0049493	1.15%
QC value less than the lower limit for Sb 206.836 Recovery = 85.96%								
Se 196.026†	909.1	0.456113	mg/L	0.0064225	0.456113	mg/L	0.0064225	1.41%
QC value within limits for Se 196.026 Recovery = 91.22%								
Sn 189.927†	3452.6	0.453188	mg/L	0.0042298	0.453188	mg/L	0.0042298	0.93%
QC value within limits for Sn 189.927 Recovery = 90.64%								
Ti 334.940†	167922.5	0.541276	mg/L	0.0028036	0.541276	mg/L	0.0028036	0.52%
QC value within limits for Ti 334.940 Recovery = 108.26%								
Tl 190.801†	1184.8	0.487222	mg/L	0.0046854	0.487222	mg/L	0.0046854	0.96%
QC value within limits for Tl 190.801 Recovery = 97.44%								
V 290.880†	35789.9	0.495509	mg/L	0.0036866	0.495509	mg/L	0.0036866	0.74%
QC value within limits for V 290.880 Recovery = 99.10%								
Zn 206.200†	21931.8	0.466631	mg/L	0.0030249	0.466631	mg/L	0.0030249	0.65%
QC value within limits for Zn 206.200 Recovery = 93.33%								
B 249.772	24699.3	0.444585	mg/L	0.0045377	0.444585	mg/L	0.0045377	1.02%
QC value less than the lower limit for B 249.772 Recovery = 88.92%								
Si 251.611	117331.6	5.37442	mg/L	0.095229	5.37442	mg/L	0.095229	1.77%
QC value within limits for Si 251.611 Recovery = 107.49%								

QC Failed. Continue with analysis.

Sequence No.: 65
Sample ID: CCB V-317800
Analyst:
Initial Sample Wt:
Dilution:
Autosampler Location: 1
Date Collected: 2/27/2020 5:33:05 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB V-317800

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Sc 361.383	611367.9	95.9	%	0.18				0.19%
Y 371.029	267065.1	97.5	%	0.24				0.24%
Ag 328.068†	-11.5	0.0000530	mg/L	0.00004212	0.0000530	mg/L	0.00004212	79.41%
QC value within limits for Ag 328.068 Recovery = Not calculated								
Al 308.215†	38.9	0.0117047	mg/L	0.00085640	0.0117047	mg/L	0.00085640	7.32%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979†	9.3	0.0034047	mg/L	0.00008145	0.0034047	mg/L	0.00008145	2.39%
QC value within limits for As 188.979 Recovery = Not calculated								
Ba 233.527†	129.2	0.0011756	mg/L	0.00006594	0.0011756	mg/L	0.00006594	5.61%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-110.8	0.0019238	mg/L	0.00003175	0.0019238	mg/L	0.00003175	1.65%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 317.933†	774.2	0.0859202	mg/L	0.00078974	0.0859202	mg/L	0.00078974	0.92%
QC value within limits for Ca 317.933 Recovery = Not calculated								
Cd 228.802†	26.5	-0.0014452	mg/L	0.00030025	-0.0014452	mg/L	0.00030025	20.78%
QC value within limits for Cd 228.802 Recovery = Not calculated								
Co 228.616†	14.2	-0.0046124	mg/L	0.00026511	-0.0046124	mg/L	0.00026511	5.75%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	17.7	0.0004449	mg/L	0.00003552	0.0004449	mg/L	0.00003552	7.98%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	222.2	0.0042512	mg/L	0.00033591	0.0042512	mg/L	0.00033591	7.90%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	195.2	0.0188723	mg/L	0.00096229	0.0188723	mg/L	0.00096229	5.10%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 404.721†	3481.5	4.91661	mg/L	0.037509	4.91661	mg/L	0.037509	0.76%
QC value within limits for K 404.721 Recovery = Not calculated								
Mg 279.077†	22.0	-0.163216	mg/L	0.0008276	-0.163216	mg/L	0.0008276	0.51%
QC value within limits for Mg 279.077 Recovery = Not calculated								
Mn 257.610†	472.2	0.0014031	mg/L	0.00006915	0.0014031	mg/L	0.00006915	4.93%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	3.9	0.0018309	mg/L	0.00020453	0.0018309	mg/L	0.00020453	11.17%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 330.237†	14.2	0.952959	mg/L	0.1490759	0.952959	mg/L	0.1490759	15.64%
QC value within limits for Na 330.237 Recovery = Not calculated								
Ni 231.604†	10.2	-0.0059643	mg/L	0.00030854	-0.0059643	mg/L	0.00030854	5.17%
QC value within limits for Ni 231.604 Recovery = Not calculated								
Pb 220.353†	6.7	-0.0019422	mg/L	0.00230431	-0.0019422	mg/L	0.00230431	118.64%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	4.1	0.0031354	mg/L	0.00453208	0.0031354	mg/L	0.00453208	144.54%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-5.8	-0.0055850	mg/L	0.00023772	-0.0055850	mg/L	0.00023772	4.26%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	18.3	0.0049624	mg/L	0.00069077	0.0049624	mg/L	0.00069077	13.92%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Ti 334.940†	8.4	-0.0000504	mg/L	0.00005644	-0.0000504	mg/L	0.00005644	111.98%
QC value within limits for Ti 334.940 Recovery = Not calculated								
Tl 190.801†	-1.7	-0.0028859	mg/L	0.00072763	-0.0028859	mg/L	0.00072763	25.21%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 290.880†	42.4	0.0009205	mg/L	0.00006867	0.0009205	mg/L	0.00006867	7.46%
QC value within limits for V 290.880 Recovery = Not calculated								
Zn 206.200†	15.4	-0.0036782	mg/L	0.00008579	-0.0036782	mg/L	0.00008579	2.33%
QC value within limits for Zn 206.200 Recovery = Not calculated								
B 249.772	456.9	0.0086523	mg/L	0.00065639	0.0086523	mg/L	0.00065639	7.59%
QC value within limits for B 249.772 Recovery = Not calculated								
Si 251.611	173.0	-0.140253	mg/L	0.0007664	-0.140253	mg/L	0.0007664	0.55%
QC value less than the lower limit for Si 251.611 Recovery = Not calculated								

QC Failed. Continue with analysis.

Metal Data
Digestion Logbook Data

Hampton-Clarke

ICP SAMPLE PREPARATION LOG

ANALYTICAL METHOD: 3010A 3005A 3050B (200.7/200.8) OTHER_____

Batch No.: 25419 Analyst: DL

QC Number: 82657 Prep Date: 2/26/20

Matrix: 200.7/200.8 Reviewed By: [illegible]

LAB ID#	ICP		ICP-MS (Secondary dil)		TCLP		COMMENTS
	Initial	Final	Aliquot	Final	Eff	TCLP	
Method blank	100mL	50mL	10mL	25mL		--	
LCS	↓	↓	↓	↓		--	
LCSD	↓	↓	↓	↓		--	
1. 15784-005	↓	↓	↓	↓			Samples are combined prior to analysis to provide extra sample volume for analysis
1. Analytical Duplicate -005	↓	↓	↓	↓			
MR -005	↓	↓	↓	↓			
MS -006	↓	↓	↓	↓			Balance used: N/A
MSD -007	↓	↓	↓	↓			Pipettes used: 149, 160
2. 15839-001	↓	↓	↓	↓			
3. -002	↓	↓	↓	↓			Hot Block used: 9
4. -003	↓	↓	↓	↓			
5. 15784-001	↓	↓					
6. -002	↓	↓					
7. -003	↓	↓					
8. -004	↓	↓					
9. -008	↓	↓					
10. -009	↓	↓					
11. -010	↓	↓					
12. -011	↓	↓					
13. -012	↓	↓					
14. -013	↓	↓					
15.							
16. LLMCS	100mL	50mL					
17. LLLCSD	↓	↓					
18. LLMS	↓	↓					
19. LLMSD	↓	↓					
20.							

Hot Plate Temperature: 93.1 C (90-95° C) Start Time: 7:00am End Time: 11:30pm

	Volume mL	Lot #
LCS, LCSD	0.25mL	V-12919 12537 320448
LLLCS, LLLCSD	0.7mL 1.5mL	V-12642 314985
MS, MSD	0.25mL	V-12919 12537 320448
LLMS, LLLMSD	0.7mL 1.5mL	V-12642 314985

Acid	Vol mL	Lot#
HNO_3		V-
HCl		V-
H_2O_2		V-

Acid	Vol mL	Lot#
1:1 HNO_3	2mL	V-320611
1:1 HCl	1mL	V-320875

Relinquished By DL Date 2/26/20

Received By [illegible] Date 2/27/20

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Wet Chemistry Data

Wet Chemistry Data
Sample Data

VERITECH Wet Chem Form1 Analysis Summary

Lab#: AD15784-001 | Project Number: 0021905
Matrix: Aqueous | Received Date: 2/19/2020
Client SampleID: 401037-MW-CMT-1 | Collect Date: 2/18/2020

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cr (Hexavalent)	CR6-WATER	1	ND	mg/l	0.02	02/19/20	02/19/20

Lab#: AD15784-002 | Project Number: 0021905
Matrix: Aqueous | Received Date: 2/19/2020
Client SampleID: 401037-MW-CMT-3 | Collect Date: 2/18/2020

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cr (Hexavalent)	CR6-WATER	1	ND	mg/l	0.02	02/19/20	02/19/20

Lab#: AD15784-003 | Project Number: 0021905
Matrix: Aqueous | Received Date: 2/19/2020
Client SampleID: 401037-MW-EE-4S | Collect Date: 2/18/2020

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cr (Hexavalent)	CR6-WATER	**1**	**0.031**	**mg/l**	**0.02**	02/19/20	02/19/20

Lab#: AD15784-004 | Project Number: 0021905
Matrix: Aqueous | Received Date: 2/19/2020
Client SampleID: 401037-MW-EE-5S | Collect Date: 2/18/2020

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cr (Hexavalent)	CR6-WATER	**50**	**9.3**	**mg/l**	**1**	02/19/20	02/19/20

Lab#: AD15784-005 | Project Number: 0021905
Matrix: Aqueous | Received Date: 2/19/2020
Client SampleID: 401037-MW-EA-13S | Collect Date: 2/18/2020

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cr (Hexavalent)	CR6-WATER	1	ND	mg/l	0.02	02/19/20	02/19/20

Lab#: AD15784-006 | Project Number: 0021905
Matrix: Aqueous | Received Date: 2/19/2020
Client SampleID: 401037-MW-EA-13S MS | Collect Date: 2/18/2020

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cr (Hexavalent)	CR6-WATER	**1**	**0.51**	**mg/l**	**0.02**	02/19/20	02/19/20

Lab#: AD15784-007 | Project Number: 0021905
Matrix: Aqueous | Received Date: 2/19/2020
Client SampleID: 401037-MW-EA-13S MSD | Collect Date: 2/18/2020

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cr (Hexavalent)	CR6-WATER	**1**	**0.52**	**mg/l**	**0.02**	02/19/20	02/19/20

Lab#: AD15784-008 | Project Number: 0021905
Matrix: Aqueous | Received Date: 2/19/2020
Client SampleID: 401037-MW-EA-11S | Collect Date: 2/18/2020

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cr (Hexavalent)	CR6-WATER	1	ND	mg/l	0.02	02/19/20	02/19/20

Lab#: AD15784-009 | Project Number: 0021905
Matrix: Aqueous | Received Date: 2/19/2020
Client SampleID: 401037-MW-EA-12S | Collect Date: 2/18/2020

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cr (Hexavalent)	CR6-WATER	1	ND	mg/l	0.02	02/19/20	02/19/20

VERITECH Wet Chem Form1 Analysis Summary

Lab#: AD15784-010 | Project Number: 0021905
Matrix: Aqueous | Received Date: 2/19/2020
Client SampleID: 401037-MW-EA-10S | Collect Date: 2/18/2020

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cr (Hexavalent)	CR6-WATER	1	ND	mg/l	0.02	02/19/20	02/19/20

Lab#: AD15784-011 | Project Number: 0021905
Matrix: Aqueous | Received Date: 2/19/2020
Client SampleID: 401037-MW-ESE-9-R | Collect Date: 2/18/2020

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cr (Hexavalent)	CR6-WATER	1	ND	mg/l	0.02	02/19/20	02/19/20

Lab#: AD15784-012 | Project Number: 0021905
Matrix: Aqueous | Received Date: 2/19/2020
Client SampleID: 401037-MW-EA-7R | Collect Date: 2/18/2020

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cr (Hexavalent)	CR6-WATER	**1**	**0.92**	**mg/l**	**0.02**	02/19/20	02/19/20

Lab#: AD15784-013 | Project Number: 0021905
Matrix: Aqueous | Received Date: 2/19/2020
Client SampleID: 401037-DUP- | Collect Date: 2/18/2020

Analysis	TestGroup	Dilution:	Result	Units:	RL	Prep Date:	Analysis Date:
Cr (Hexavalent)	CR6-WATER	**50**	**9.4**	**mg/l**	**1**	02/19/20	02/19/20

Wet Chemistry Data
QC Data

Analysis Type: HEX-CR-W

Batch Number: HEX-CR-W-884

Units: mg/l

Calibration Curve Information

Cal Curve Date: 12/27/19

Concentration:	Abs/Area
0	0
0.02	0.019
0.05	0.049
0.25	0.274
0.5	0.54
0.75	0.804
1	1.08

Slope: 1.079703
Intercept: -0.00126247
Rsquared: 0.9999678
Date Performed: 12/27/19

Qc Summary Results

Qc Type	Qc Name	SpkAmt	Rec Lim	Rpd Lim	Raw Result	Recov	Rpd	Flags
CAL-01	CAL-01-02/19/20	0.5	90-110	NA	0.5133472	103	NA	
CAL-02	CAL-02-02/19/20	1	90-110	NA	1.0208941	102	NA	
CCV	CCV-4	0.5	90-110	NA	0.481857	96	NA	
CCV	CCV-3	0.5	90-110	NA	0.4809308	96	NA	
CCV	CCV-2	0.5	90-110	NA	0.5244613	105	NA	
CCV	CCV-1	0.5	90-110	NA	0.4790785	96	NA	
DUP	AD15784-005	0	NA	20	0.0011693	NA	NA	Nc
ICV	ICV-12/27/19	0.5	90-110	NA	0.5003806	100	NA	
LCS	LCS	0.5	75-125	NA	0.5198304	104	NA	
MSD-SAMP	AD15784-007	0.5	75-125	20	0.5198304	104	1.8	
MS-SAMPL	AD15784-006	0.5	75-125	NA	0.5105686	102	NA	

Analytical Method(s)

SM3500-CrB11

Sam #	Type	MB	Result	RL	Per Sol	Full Result	ABS	Turb Abs	DF	Sam Vol	Fin Vol	Prep Date	Prep By	Anal Date	Anal By
CAL-01-02/19/20	CAL-01		0.51		100	0.51335	0.553	0	1	1	1			02/19/20	BCT
CAL-02-02/19/20	CAL-02		1.0		100	1.0209	1.101	0	1	1	1			02/19/20	BCT
MB-1-02/19/20	MB	MB-1-02/19/20	ND	0.02	100	0.0011693	0.0	0	1	10	10	02/19/20	BCT	02/19/20	BCT
LCS	LCS	MB-1-02/19/20	0.52	0.02	100	0.51983	0.560	0	1	10	10	02/19/20	BCT	02/19/20	BCT
AD15784-005	NS-SAMP	MB-1-02/19/20	ND	0.02	100	-0.002535	0.0	0.004	1	10	10	02/19/20	BCT	02/19/20	BCT
AD15784-005	DUP	MB-1-02/19/20	ND	0.02	100	0.0011693	0.004	0.004	1	10	10	02/19/20	BCT	02/19/20	BCT
AD15784-006	MS-SAMP	MB-1-02/19/20	0.51	0.02	100	0.51057	0.550	0.0	1	10	10	02/19/20	BCT	02/19/20	BCT
AD15784-007	MSD-SA	MB-1-02/19/20	0.52	0.02	100	0.51983	0.560	0.0	1	10	10	02/19/20	BCT	02/19/20	BCT
CCV-1	CCV	MB-1-02/19/20	0.48		100	0.47908	0.516	0	1	1	1	02/19/20	BCT	02/19/20	BCT
CCB-1	CCB	MB-1-02/19/20	ND	0.02	100	0.0011693	0.0	0	1	1	1	02/19/20	BCT	02/19/20	BCT
AD15784-001	Sample	MB-1-02/19/20	ND	0.02	100	0.0020955	0.002	0.001	1	10	10	02/19/20	BCT	02/19/20	BCT
AD15784-002	Sample	MB-1-02/19/20	ND	0.02	100	0.0011693	0.005	0.005	1	10	10	02/19/20	BCT	02/19/20	BCT
AD15784-003	Sample	MB-1-02/19/20	0.031	0.02	100	0.030807	0.032	0.0	1	10	10	02/19/20	BCT	02/19/20	BCT
AD15784-004	Sample	MB-1-02/19/20	9.3	1	100	9.274	0.199	0.0	50	10	10	02/19/20	BCT	02/19/20	BCT
CCV-2	CCV	MB-1-02/19/20	0.52		100	0.52446	0.565	0	1	1	1	02/19/20	BCT	02/19/20	BCT
CCB-2	CCB	MB-1-02/19/20	ND	0.02	100	0.0011693	0.0	0	1	1	1	02/19/20	BCT	02/19/20	BCT
AD15784-008	Sample	MB-1-02/19/20	ND	0.02	100	0.0020955	0.002	0.001	1	10	10	02/19/20	BCT	02/19/20	BCT
AD15784-009	Sample	MB-1-02/19/20	ND	0.02	100	0.0011693	0.0	0.0	1	10	10	02/19/20	BCT	02/19/20	BCT
AD15784-010	Sample	MB-1-02/19/20	ND	0.02	100	0.0011693	0.0	0.0	1	10	10	02/19/20	BCT	02/19/20	BCT
AD15784-011	Sample	MB-1-02/19/20	ND	0.02	100	0.0002431	0.001	0.002	1	10	10	02/19/20	BCT	02/19/20	BCT
CCV-3	CCV	MB-1-02/19/20	0.48		100	0.48093	0.518	0	1	1	1	02/19/20	BCT	02/19/20	BCT
CCB-3	CCB	MB-1-02/19/20	ND	0.02	100	0.0039478	0.003	0	1	1	1	02/19/20	BCT	02/19/20	BCT
AD15784-012	Sample	MB-1-02/19/20	0.92	0.02	100	0.92457	1.000	0.003	1	10	10	02/19/20	BCT	02/19/20	BCT
AD15784-013	Sample	MB-1-02/19/20	9.4	1	100	9.3666	0.204	0.003	50	10	10	02/19/20	BCT	02/19/20	BCT
CCV-4	CCV	MB-1-02/19/20	0.48		100	0.48186	0.519	0	1	1	1	02/19/20	BCT	02/19/20	BCT
CCB-4	CCB	MB-1-02/19/20	ND	0.02	100	0.0039478	0.003	0	1	1	1	02/19/20	BCT	02/19/20	BCT

2/19/20

2/19/20

Flag Codes: Ra - Recovery failed specified criteria (PVS/LCS/MS/MSD/ICV/CAL)
Na - Not Applicable
Rp - RPD failed specified criteria.
Nc - Not Checked ..either one or both values =ND

Wet Chemistry Data
Raw Data

Veritech Internally Prepared Standard Log

Veritech Lot Number: V-319825

Prepared By: Trivedi, Beena
Description: 100 ppm cr6 std
Prep Date: 1/14/2020
Expiration Date: 7/13/2020
Department: WetChem
BatchNumber:
Concentration: 100 mg/l
Final Volume: 100 ml
ApprovedBy: jessica
ApproveDate: 01/14/20
Checked: Yes

Veritech Lot# /Rec#	Lot Description	Amount Used	Conc of Std	Final Conc
12831	1000 ppm cr6 std	10 ml	1000 ppm	100 mg/l
	DI WATER FILL TO THE VOLUME			

Veritech Lot Number: V-319826

Prepared By: Trivedi, Beena
Description: 100 ppm cr6 CCV
Prep Date: 1/14/2020
Expiration Date: 7/13/2020
Department: WetChem
BatchNumber:
Concentration: 100 mg/l
Final Volume: 100 ml
ApprovedBy: jessica
ApproveDate: 01/14/20
Checked: Yes

Veritech Lot# /Rec#	Lot Description	Amount Used	Conc of Std	Final Conc
12101	1000 ppm Cr6 Std	10 ml	1000 ppm	100 mg/l
	DI WATER FILL TO THE VOLUME			

Veritech Lot Number: V-321321

Prepared By: Patel, Jessica
Description: Cr6 Color Reagent
Prep Date: 2/7/2020
Expiration Date: 5/6/2020
Department: WetChem
BatchNumber:
Concentration: Reagent reag
Final Volume: 250 ml
ApprovedBy: jessica
ApproveDate: 02/07/20
Checked: Yes

Veritech Lot# /Rec#	Lot Description	Amount Used	Conc of Std	Final Conc
11768	1,5-Diphenylcarbazide	1.25 g	neat neat	
12943	acetone	250 ml	neat neat	

Veritech Lot Number: V-321662

Prepared By: Patel, Jessica
Description: 10 % H2SO4
Prep Date: 2/13/2020
Expiration Date: 7/7/2020
Department: WetChem
BatchNumber:
Concentration: 10 %
Final Volume: 2000 ml
ApprovedBy: jessica
ApproveDate: 02/14/20
Checked: Yes

Veritech Lot# /Rec#	Lot Description	Amount Used	Conc of Std	Final Conc
12457	sulfuric acid	200 ml	neat neat	
12651	DI H2O			

Veritech Lot Number: V-321980

Prepared By: Trivedi, Beena
Description: 0.5 ppm
Prep Date: 2/19/2020
Expiration Date: 2/19/2020
Department: Wet Lab
BatchNumber: B-28551
Concentration: 0.5 ppm
Final Volume: 10 ml
ApprovedBy: [illegible]
ApproveDate: 2/19/20
Checked: No

Veritech Lot# /Rec#	Lot Description	Amount Used	Conc of Std	Final Conc
V-319825	100 ppm cr6 std	.05 ml	100 mg/l	
12651	DI H2O			

Veritech Lot Number: V-321981

Prepared By: Trivedi, Beena
Description: 1.0 ppm
Prep Date: 2/19/2020
Expiration Date: 2/19/2020
Department: Wet Lab
BatchNumber: B-28551
Concentration: 1.0 ppm
Final Volume: 10 ml
ApprovedBy:
ApproveDate:
Checked: No

Veritech Lot# /Rec#	Lot Description	Amount Used	Conc of Std	Final Conc
V-319825	100 ppm cr6 std	.1 ml	100 mg/l	
12651	DI H2O			

Veritech Internally Prepared Standard Log

Veritech Lot Number: V-321982

Prepared By: Trivedi, Beena
Description: 0.5 ppm CCV
Prep Date: 2/19/2020
Expiration Date: 2/19/2020

Department: Wet Lab
BatchNumber: B-28551
Concentration: 0.5 ppm
Final Volume: 10 ml

ApprovedBy: RMP
ApproveDate: 2/19/20
Checked: No

Veritech Lot# /Rec#	Lot Description	Amount Used	Conc of Std	Final Conc
V-319826	100 ppm cr6 CCV	.05 ml	100 mg/l	
12651	DI H2O			

Veritech Lot Number: V-321983

Prepared By: Trivedi, Beena
Description: 0.5 ppm LCS
Prep Date: 2/19/2020
Expiration Date: 2/19/2020

Department: Wet Lab
BatchNumber: B-28551
Concentration: 0.5 ppm
Final Volume: 10 ml

ApprovedBy:
ApproveDate:
Checked: No

Veritech Lot# /Rec#	Lot Description	Amount Used	Conc of Std	Final Conc
V-319825	100 ppm cr6 std	.05 ml	100 mg/l	
12651	DI H2O			

Veritech Standard Receipt Log

Veritech Control/Receipt Number: 11768

Description
1,5-Diphenylcarbazide

ApprovedBy: janee
ApproveDate: 09/08/18
Checked: Yes

Manufacturer	Catalog Num:	Lot Num:	Date Rec:	Exp Date:	Rec By:	Num of Cont	Volume /Cont	Conc:	Units:
LabChem	LC136558	H134-17	06/12/18	05/15/23	Wonge, Janee	1	25 g	neat	neat

Veritech Control/Receipt Number: 12101

Description
1000 ppm Cr6 Std

ApprovedBy: janee
ApproveDate: 11/29/18
Checked: Yes

Manufacturer	Catalog Num:	Lot Num:	Date Rec:	Exp Date:	Rec By:	Num of Cont	Volume /Cont	Conc:	Units:
Sigma-Aldrich	19036-100mL	BCBV2169	11/05/18	04/30/21	Wonge, Janee	1	100 m	1000	ppm

Veritech Control/Receipt Number: 12457

Description
sulfuric acid

ApprovedBy: shiamala
ApproveDate: 07/01/19
Checked: Yes

Manufacturer	Catalog Num:	Lot Num:	Date Rec:	Exp Date:	Rec By:	Num of Cont	Volume /Cont	Conc:	Units:
Fisher	A510-P212	3118041	04/23/19	09/14/21	Lopez, Jose	8	2.5L	neat	neat

Veritech Control/Receipt Number: 12651

Description
DI H2O

ApprovedBy: janee
ApproveDate: 10/10/19
Checked: Yes

Manufacturer	Catalog Num:	Lot Num:	Date Rec:	Exp Date:	Rec By:	Num of Cont	Volume /Cont	Conc:	Units:
EVOQUA	1	1	07/08/19	07/07/20	Cousineau, Paul	1			

Veritech Control/Receipt Number: 12831

Description
1000 ppm cr6 std

ApprovedBy: janee
ApproveDate: 12/26/19
Checked: Yes

Manufacturer	Catalog Num:	Lot Num:	Date Rec:	Exp Date:	Rec By:	Num of Cont	Volume /Cont	Conc:	Units:
Hach	1466442	A9240	10/14/19	08/31/24	Wonge, Janee	1	100 m	1000	ppm

Veritech Control/Receipt Number: 12943

Description
acetone

ApprovedBy: akmal
ApproveDate: 12/18/19
Checked: Yes

Manufacturer	Catalog Num:	Lot Num:	Date Rec:	Exp Date:	Rec By:	Num of Cont	Volume /Cont	Conc:	Units:
J.T.Baker	9254-03	236884	12/17/19	05/13/22	Lopez, Jose	32	4L	neat	neat

Parameter:	Date:	Operator ID	Sample ID:	Comment:	Wavelength1	Value1	Unit1
CR6 W	2/19/2020 12:48	BCT	CR6 W 884	LOW	540	0.553	Abs
CR6 W	2/19/2020 12:48	BCT	CR6 W 884	HIGH	540	1.101	Abs
CR6 W	2/19/2020 12:48	BCT	CR6 W 884	MB	540	0	Abs
CR6 W	2/19/2020 12:48	BCT	CR6 W 884	LCS	540	0.56	Abs
CR6 W	2/19/2020 12:49	BCT	CR6 W 884	AD15784-005	540	0	Abs
CR6 W	2/19/2020 12:49	BCT	CR6 W 884	AD15784-005 DUP	540	0.004	Abs
CR6 W	2/19/2020 12:50	BCT	CR6 W 884	AD15784-006 MS	540	0.55	Abs
CR6 W	2/19/2020 12:50	BCT	CR6 W 884	AD15784-007 MSD	540	0.56	Abs
CR6 W	2/19/2020 12:50	BCT	CR6 W 884	AD15784-005 T	540	0.004	Abs
CR6 W	2/19/2020 12:51	BCT	CR6 W 884	AD15784-006 T	540	0	Abs
CR6 W	2/19/2020 12:51	BCT	CR6 W 884	AD15784-007 T	540	0	Abs
CR6 W	2/19/2020 12:51	BCT	CR6 W 884	CCV	540	0.516	Abs
CR6 W	2/19/2020 12:51	BCT	CR6 W 884	CCB	540	0	Abs
CR6 W	2/19/2020 12:52	BCT	CR6 W 884	AD15784-001	540	0.002	Abs
CR6 W	2/19/2020 12:52	BCT	CR6 W 884	AD15784-001 T	540	0.001	Abs
CR6 W	2/19/2020 12:53	BCT	CR6 W 884	AD15784-002	540	0.005	Abs
CR6 W	2/19/2020 12:53	BCT	CR6 W 884	AD15784-002 T	540	0.005	Abs
CR6 W	2/19/2020 12:53	BCT	CR6 W 884	AD15784-003	540	0.032	Abs
CR6 W	2/19/2020 12:53	BCT	CR6 W 884	AD15784-003 T	540	0	Abs
CR6 W	2/19/2020 12:53	BCT	CR6 W 884	AD15784-004	540	******	Abs
CR6 W	2/19/2020 12:54	BCT	CR6 W 884	AD15784-004 50X	540	0.199	Abs
CR6 W	2/19/2020 12:54	BCT	CR6 W 884	AD15784-004 50X T	540	0	Abs
CR6 W	2/19/2020 12:54	BCT	CR6 W 884	CCV	540	0.565	Abs
CR6 W	2/19/2020 12:54	BCT	CR6 W 884	CCB	540	0	Abs
CR6 W	2/19/2020 12:55	BCT	CR6 W 884	AD15784-008	540	0.002	Abs
CR6 W	2/19/2020 12:55	BCT	CR6 W 884	AD15784-008 T	540	0.001	Abs
CR6 W	2/19/2020 12:55	BCT	CR6 W 884	AD15784-009	540	0	Abs
CR6 W	2/19/2020 12:56	BCT	CR6 W 884	AD15784-009 T	540	0	Abs
CR6 W	2/19/2020 12:57	BCT	CR6 W 884	AD15784-010	540	0	Abs
CR6 W	2/19/2020 12:57	BCT	CR6 W 884	AD15784-010 T	540	0	Abs
CR6 W	2/19/2020 12:57	BCT	CR6 W 884	AD15784-011	540	0.001	Abs
CR6 W	2/19/2020 12:57	BCT	CR6 W 884	AD15784-011 T	540	0.002	Abs
CR6 W	2/19/2020 12:58	BCT	CR6 W 884	CCV	540	0.518	Abs
CR6 W	2/19/2020 12:58	BCT	CR6 W 884	CCB	540	0.003	Abs
CR6 W	2/19/2020 12:58	BCT	CR6 W 884	AD15784-012	540	1	Abs
CR6 W	2/19/2020 12:58	BCT	CR6 W 884	AD15784-012 T	540	0.003	Abs
CR6 W	2/19/2020 12:59	BCT	CR6 W 884	AD15784-013	540	3.455	Abs
CR6 W	2/19/2020 12:59	BCT	CR6 W 884	AD15784-013 50X	540	0.204	Abs
CR6 W	2/19/2020 12:59	BCT	CR6 W 884	AD15784-013 50X T	540	0.003	Abs
CR6 W	2/19/2020 12:59	BCT	CR6 W 884	CCV	540	0.519	Abs
CR6 W	2/19/2020 12:59	BCT	CR6 W 884	CCB	540	0.003	Abs

BT
2/19/20

Hampton-Clarke

HEXAVALENT CHROMIUM AQUEOUS CALIBRATION DATA SHEET

SM3500-Cr B

Initial Calibration Date: 8/20/19 Analyst: Beem

Std Conc. (mg/L)	Absorbance (540 nm)	Source HCl #	Dilution Factor	Calc. Conc. (mg/L)	Confidence Limits (± 10%)
0.0	0.000	–			
~~0.02~~ 0.025	0.023	V.310443			
0.05	0.055	V.310444			
0.25	0.285	V.310445			
~~0.50~~ 0.75	~~0.523~~ 0.785	~~V.310439~~ V.310446			
1.0	1.086	V.310440			
ICV (0.5 ppm)	0.522	V.310447	1x	0.46705	0.45 - 0.55

Verification Limits

Concentration	Limit	Range
0.5 ppm	10%	0.460-0.588
1.0 ppm	10%	0.926-1.180
LCS	25%	0.400-0.670

Initial Calibration Date: 12/27/19 Analyst: Beem

Std Conc. (mg/L)	Absorbance (540 nm)	Source HCl #	Dilution Factor	Calc. Conc. (mg/L)	Confidence Limits (± 10%)
0.0	0.000	–			
~~0.025~~ 0.02	0.019	V.318762			
~~0.25~~ 0.05	0.049	V.318763			
~~0.50~~ 0.25	0.274	V.318764			
0.5	0.540	V.318758			
~~1.0~~ 0.75	0.804	V.318765			
1.0	1.080	V.318759			
ICV (0.5 ppm)	0.539	V.318766	1x	0.5004	0.45 - 0.55

Verification Limits

Concentration	Limit	Range
0.5 ppm	10%	0.482 - 0.590
1.0 ppm	10%	0.970 - 1.190
LCS	25%	0.406 - 0.676

Wet Chemistry Data
Preparation and Distillation Logbook Data

Hampton-Clarke, Inc.

HEXAVALENT CHROMIUM PREPARATION DATA SHEET (AQUEOUS SAMPLES ONLY)

SM3500-Cr B

BATCH No. 884

	Sample Volume (ml)
Method Blank	10

	Sample Volume (ml)	Date	Prepared By
LCS	10	2/19/20	BY

Laboratory Sample No.	Sample Volume (ml)	Date	Analysis Time	Prep By
Matrix Spike AD15784.006	10	2/19/20	12:48	BY
Matrix Spike Dup 007				
Sample Dup 008				
AD15784.005				
2. 001				
3. 002				
4. 003				
5. 004				
6. 006				
7. 009				
8. 010				
9. 011				
10. 012				
013				

Laboratory Sample No.	Sample Volume (ml)	Date	Analysis Time	Prep By
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				

Spike Volume 1 ml & Lot #
V-321980
V-321980
V-321982
V-321983

Diphenylcarbazide
V-321321

105

~~0.2 N~~ H_2SO_4
V-321662

Hampton-Clarke
Analytical & Field Services

Last Page of Report