



August 29, 2019

Sarah Richman
Arizona Minerals Inc.
2210 E. Fort Lowell Rd
Tucson, AZ 85719

TEL (805) 617-9300
FAX

Work Order No.: 19H0256

RE: Ground Water

Dear Sarah Richman,

Turner Laboratories, Inc. received 1 sample(s) on 08/07/2019 for the analyses presented in the following report.

All results are intended to be considered in their entirety, and Turner Laboratories, Inc. is not responsible for use of less than the complete report. Results apply only to the samples analyzed. Samples will be disposed of 30 days after issue of our report unless special arrangements are made.

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Please call if you have any questions.

Respectfully submitted,

Turner Laboratories, Inc.
ADHS License AZ0066

Elizabeth Kasik
Laboratory Director

Client: Arizona Minerals Inc.
Project: Ground Water
Work Order: 19H0256
Date Received: 08/07/2019

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date/Time
19H0256-01	MW-9-080719-11:01	Ground Water	08/07/2019 1101

Client: Arizona Minerals Inc.
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Case Narrative

The Cyanide and Cyanide WAD analyses was performed by TestAmerica Laboratories, Inc. in Phoenix, AZ.

The radiochemistry analysis was performed by Radiation Safety Engineering, Inc. in Chandler, AZ.

- E4 Concentration estimated. Analyte was detected below laboratory Minimum Reporting Limit (MRL) but above MDL.
 - E8 Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
 - H5 This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
 - M1 Matrix spike recovery was high; the associated LCS/LCSD was acceptable.
 - M3 The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated LCS/LCSD recovery was acceptable.
 - Q4 Sample was received and analyzed without chemical preservation
 - Q9 Insufficient sample received to meet method QC requirements.
 - R12 RPD/RSD exceeded the method acceptance limit. Result less than 5 times the PQL.
 - R13 MS/MSD RPD exceeded method acceptance limit. Matrix spike recovery was outside acceptance criteria. Batch precision and accuracy were demonstrated.
 - R5 MS/MSD RPD exceeded the laboratory acceptance limit. Recovery met the acceptance criteria.
- All soil, sludge, and solid matrix determinations are reported on a wet weight basis unless otherwise noted.
- ND Not Detected at or above the PQL
 - PQL Practical Quantitation Limit
 - DF Dilution Factor

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Collection Date/Time: 08/07/2019 1101
Matrix: Ground Water

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Hardness, Dissolved-[CALC]									
Hardness, Calcium/Magnesium (As CaCO3) Dissolved	84		22		mg/L	1	08/14/2019 1025	08/14/2019 1616	MH
Hardness-Calculation									
Hardness, Calcium/Magnesium (As CaCO3)	85				mg/L	1	08/08/2019 1600	08/14/2019 1506	MH
Nitrate + Nitrite Sum-Calculation									
Nitrate and Nitrite Sum	ND		0.10		mg/L	1	08/08/2019 0930	08/08/2019 1052	EJ
ICP Dissolved Metals-E 200.7 (4.4)									
Boron	0.15		0.10		mg/L	1	08/14/2019 1025	08/14/2019 1616	MH
Calcium	34		4.0		mg/L	1	08/14/2019 1025	08/14/2019 1616	MH
Iron	ND		0.30		mg/L	1	08/14/2019 1025	08/14/2019 1616	MH
Magnesium	ND		3.0		mg/L	1	08/14/2019 1025	08/14/2019 1616	MH
Potassium	ND		5.0		mg/L	1	08/14/2019 1025	08/14/2019 1616	MH
Sodium	73		5.0		mg/L	1	08/14/2019 1025	08/14/2019 1616	MH
Zinc	ND		0.040		mg/L	1	08/14/2019 1025	08/14/2019 1616	MH
ICP/MS Dissolved Metals-E 200.8 (5.4)									
Aluminum	ND		0.0400		mg/L	1	08/14/2019 1025	08/15/2019 1409	MH
Antimony	ND		0.00050		mg/L	1	08/14/2019 1025	08/15/2019 1409	MH
Arsenic	0.0053		0.00050		mg/L	1	08/14/2019 1025	08/15/2019 1409	MH
Barium	0.011		0.00050		mg/L	1	08/14/2019 1025	08/15/2019 1409	MH
Beryllium	ND		0.00025		mg/L	1	08/14/2019 1025	08/15/2019 1409	MH
Cadmium	ND		0.00025		mg/L	1	08/14/2019 1025	08/15/2019 1409	MH
Chromium	ND		0.00050		mg/L	1	08/14/2019 1025	08/15/2019 1409	MH
Cobalt	ND		0.00025		mg/L	1	08/14/2019 1025	08/15/2019 1409	MH
Copper	0.00080		0.00050		mg/L	1	08/14/2019 1025	08/15/2019 1409	MH
Lead	ND		0.00050		mg/L	1	08/14/2019 1025	08/15/2019 1409	MH
Manganese	0.094		0.00025		mg/L	1	08/14/2019 1025	08/15/2019 1409	MH
Nickel	0.0010		0.00050		mg/L	1	08/14/2019 1025	08/15/2019 1409	MH
Selenium	0.00033	0.00025	0.0015	E4	mg/L	1	08/14/2019 1025	08/15/2019 1409	MH
Silver	ND		0.00050		mg/L	1	08/14/2019 1025	08/15/2019 1409	MH
Thallium	ND		0.00050		mg/L	1	08/14/2019 1025	08/15/2019 1409	MH

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Matrix: Ground Water

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
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CVAA Dissolved Mercury-E 245.1

Mercury	ND	0.000079	0.00050	E8	mg/L	1	08/19/2019 1030	08/19/2019 1651	MH
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pH-E150.1

pH (pH Units)	7.4			H5	-	1	08/08/2019 0930	08/08/2019 0933	LXM
Temperature (°C)	23			H5	-	1	08/08/2019 0930	08/08/2019 0933	LXM

Turbidity-E180.1

Turbidity	2.0		0.10		NTU	1	08/08/2019 1000	08/08/2019 1005	LXM
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ICP Total Metals-E200.7 (4.4)

Barium	ND		0.050		mg/L	1	08/08/2019 1600	08/14/2019 1507	MH
Boron	0.14		0.10		mg/L	1	08/08/2019 1600	08/14/2019 1507	MH
Calcium	34		4.0		mg/L	1	08/08/2019 1600	08/14/2019 1506	MH
Iron	ND		0.30		mg/L	1	08/08/2019 1600	08/14/2019 1506	MH
Magnesium	ND		3.0		mg/L	1	08/08/2019 1600	08/14/2019 1506	MH
Potassium	ND		5.0		mg/L	1	08/08/2019 1600	08/14/2019 1506	MH
Silica	15		0.20		mg/L	1	08/08/2019 1600	08/14/2019 1507	MH
Sodium	74		5.0		mg/L	1	08/08/2019 1600	08/14/2019 1506	MH
Zinc	ND		0.040		mg/L	1	08/08/2019 1600	08/14/2019 1507	MH

ICP/MS Total Metals-E200.8 (5.4)

Aluminum	0.0551		0.0400		mg/L	1	08/13/2019 1030	08/14/2019 1822	MH
Antimony	ND		0.00050		mg/L	1	08/13/2019 1030	08/14/2019 1523	MH
Arsenic	0.0049		0.00050		mg/L	1	08/13/2019 1030	08/14/2019 1523	MH
Beryllium	ND		0.00025		mg/L	1	08/13/2019 1030	08/14/2019 1523	MH
Cadmium	ND		0.00025		mg/L	1	08/13/2019 1030	08/14/2019 1523	MH
Chromium	0.0013		0.00050		mg/L	1	08/13/2019 1030	08/14/2019 1523	MH
Cobalt	0.000250		0.000250		mg/L	1	08/13/2019 1030	08/14/2019 1523	MH
Copper	0.0011		0.00050		mg/L	1	08/13/2019 1030	08/14/2019 1523	MH
Lead	0.0048		0.00050		mg/L	1	08/13/2019 1030	08/14/2019 1523	MH
Manganese	0.10		0.00025		mg/L	1	08/13/2019 1030	08/14/2019 1523	MH
Nickel	0.0019		0.00050		mg/L	1	08/13/2019 1030	08/14/2019 1523	MH
Selenium	ND		0.0015		mg/L	1	08/13/2019 1030	08/14/2019 1523	MH
Silver	ND		0.00050		mg/L	1	08/13/2019 1030	08/14/2019 1523	MH
Thallium	ND		0.00050		mg/L	1	08/13/2019 1030	08/14/2019 1523	MH

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Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
CVAA Total Mercury-E245.1									
Mercury	ND	0.000079	0.0010	E8	mg/L	1	08/09/2019 1105	08/09/2019 1624	MH
Anions by Ion Chromatography-E300.0 (2.1)									
Chloride	3.8		1.0		mg/L	1	08/08/2019 0930	08/08/2019 1052	EJ
Fluoride	ND		0.50		mg/L	1	08/08/2019 0930	08/08/2019 1052	EJ
Nitrogen, Nitrate (As N)	ND		0.50		mg/L	1	08/08/2019 0930	08/08/2019 1052	EJ
Nitrogen, Nitrite (As N)	ND		0.10		mg/L	1	08/08/2019 0930	08/08/2019 1052	EJ
Sulfate	180		50		mg/L	10	08/14/2019 1620	08/15/2019 0704	EJ
Alkalinity-SM2320B									
Alkalinity, Bicarbonate (As CaCO3)	58		2.0		mg/L	1	08/08/2019 1350	08/08/2019 1524	EJ
Alkalinity, Carbonate (As CaCO3)	ND		2.0		mg/L	1	08/08/2019 1350	08/08/2019 1524	EJ
Alkalinity, Hydroxide (As CaCO3)	ND		2.0		mg/L	1	08/08/2019 1350	08/08/2019 1524	EJ
Alkalinity, Total (As CaCO3)	58		2.0		mg/L	1	08/08/2019 1350	08/08/2019 1524	EJ
Total Dissolved Solids (Residue, Filterable)-SM2540 C									
Total Dissolved Solids (Residue, Filterable)	360		20		mg/L	1	08/12/2019 1025	08/14/2019 1420	CR
Total Suspended Solids (Residue, Non-Filterable)-SM2540 D									
Total Suspended Solids	ND		10	Q9	mg/L	1	08/08/2019 0850	08/08/2019 1701	CR
Ammonia as N-SM4500-NH3 B,C									
Nitrogen, Ammonia (As N)	ND		0.50	Q4	mg/L	1	08/29/2019 0900	08/29/2019 1315	EJ
Silica-SM4500-SiO2 C									
Silica	16		10		mg/L	5	08/14/2019 1045	08/14/2019 1130	CR

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Date Received: 08/07/2019

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Qual
Batch 1908077 - E200.7 (4.4)										
Blank (1908077-BLK1) Prepared & Analyzed: 08/14/2019										
Barium	ND	0.050	mg/L							
Boron	ND	0.10	mg/L							
Calcium	ND	4.0	mg/L							
Iron	ND	0.30	mg/L							
Magnesium	ND	3.0	mg/L							
Potassium	ND	5.0	mg/L							
Silica	ND	0.20	mg/L							
Sodium	ND	5.0	mg/L							
Zinc	ND	0.040	mg/L							
LCS (1908077-BS1) Prepared & Analyzed: 08/14/2019										
Barium	2.0	0.050	mg/L	2.000		101	85-115			
Boron	1.0	0.10	mg/L	1.000		102	85-115			
Calcium	10	4.0	mg/L	10.00		103	85-115			
Iron	0.99	0.30	mg/L	1.000		99	85-115			
Magnesium	10	3.0	mg/L	10.00		102	85-115			
Potassium	10	5.0	mg/L	10.00		101	85-115			
Sodium	9.5	5.0	mg/L	10.00		95	85-115			
Zinc	0.48	0.040	mg/L	0.5000		96	85-115			
LCS (1908077-BS2) Prepared & Analyzed: 08/14/2019										
Silica	9.6	0.20	mg/L	10.00		96	85-115			
LCS Dup (1908077-BSD1) Prepared & Analyzed: 08/14/2019										
Barium	2.0	0.050	mg/L	2.000		101	85-115	0.4	20	
Boron	1.0	0.10	mg/L	1.000		102	85-115	0.3	20	
Calcium	10	4.0	mg/L	10.00		102	85-115	0.7	20	
Iron	0.99	0.30	mg/L	1.000		99	85-115	0.2	20	
Magnesium	10	3.0	mg/L	10.00		102	85-115	0.2	20	
Potassium	10	5.0	mg/L	10.00		101	85-115	0.4	20	
Sodium	9.6	5.0	mg/L	10.00		96	85-115	2	20	
Zinc	0.49	0.040	mg/L	0.5000		97	85-115	2	20	
LCS Dup (1908077-BSD2) Prepared & Analyzed: 08/14/2019										
Silica	9.3	0.20	mg/L	10.00		93	85-115	4	20	
Matrix Spike (1908077-MS1) Source: 19H0152-01 Prepared & Analyzed: 08/14/2019										
Barium	2.0	0.050	mg/L	2.000	0.031	97	70-130			
Boron	1.1	0.10	mg/L	1.000	0.032	104	70-130			
Calcium	76	4.0	mg/L	10.00	68	80	70-130			
Iron	0.98	0.30	mg/L	1.000	0.0093	97	70-130			
Magnesium	25	3.0	mg/L	10.00	15	101	70-130			
Potassium	11	5.0	mg/L	10.00	0.76	99	70-130			
Sodium	18	5.0	mg/L	10.00	8.1	97	70-130			
Zinc	0.48	0.040	mg/L	0.5000	0.0030	96	70-130			
Matrix Spike (1908077-MS2) Source: 19H0256-01 Prepared & Analyzed: 08/14/2019										
Silica	26	0.20	mg/L	10.00	15	106	70-130			
Batch 1908127 - E245.1										

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QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Qual
Batch 1908127 - E245.1										
Blank (1908127-BLK1)				Prepared & Analyzed: 08/09/2019						
Mercury	ND	0.0010	mg/L							
LCS (1908127-BS1)				Prepared & Analyzed: 08/09/2019						
Mercury	0.0050	0.0010	mg/L	0.005000		101	85-115			
LCS Dup (1908127-BSD1)				Prepared & Analyzed: 08/09/2019						
Mercury	0.0050	0.0010	mg/L	0.005000		101	85-115	0.4	20	
Matrix Spike (1908127-MS1)				Source: 19H0014-01		Prepared & Analyzed: 08/09/2019				
Mercury	0.0047	0.0010	mg/L	0.005000	ND	95	70-130			
Matrix Spike (1908127-MS2)				Source: 19H0014-03		Prepared & Analyzed: 08/09/2019				
Mercury	0.0055	0.0010	mg/L	0.005000	0.00016	106	70-130			
Matrix Spike Dup (1908127-MSD1)				Source: 19H0014-01		Prepared & Analyzed: 08/09/2019				
Mercury	0.0048	0.0010	mg/L	0.005000	ND	96	70-130	2	20	
Matrix Spike Dup (1908127-MSD2)				Source: 19H0014-03		Prepared & Analyzed: 08/09/2019				
Mercury	0.0054	0.0010	mg/L	0.005000	0.00016	106	70-130	0.6	20	
Batch 1908157 - E 200.7 (4.4)										
Blank (1908157-BLK1)				Prepared & Analyzed: 08/14/2019						
Boron	ND	0.10	mg/L							
Calcium	ND	4.0	mg/L							
Iron	ND	0.30	mg/L							
Magnesium	ND	3.0	mg/L							
Potassium	ND	5.0	mg/L							
Sodium	ND	5.0	mg/L							
Zinc	ND	0.040	mg/L							
LCS (1908157-BS1)				Prepared & Analyzed: 08/14/2019						
Boron	1.1	0.10	mg/L	1.000		108	85-115			
Calcium	10	4.0	mg/L	10.00		104	85-115			
Iron	0.99	0.30	mg/L	1.000		99	85-115			
Magnesium	10	3.0	mg/L	10.00		103	85-115			
Potassium	10	5.0	mg/L	10.00		103	85-115			
Sodium	10	5.0	mg/L	10.00		101	85-115			
Zinc	0.51	0.040	mg/L	0.5000		101	85-115			
LCS Dup (1908157-BSD1)				Prepared & Analyzed: 08/14/2019						
Boron	1.1	0.10	mg/L	1.000		109	85-115	0.6	20	
Calcium	10	4.0	mg/L	10.00		104	85-115	0.6	20	
Iron	1.0	0.30	mg/L	1.000		100	85-115	1	20	
Magnesium	10	3.0	mg/L	10.00		104	85-115	0.9	20	
Potassium	10	5.0	mg/L	10.00		102	85-115	0.3	20	
Sodium	9.7	5.0	mg/L	10.00		97	85-115	4	20	
Zinc	0.51	0.040	mg/L	0.5000		102	85-115	0.4	20	

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QC Summary

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Batch 1908157 - E 200.7 (4.4)										
Matrix Spike (1908157-MS1)		Source: 19H0346-04			Prepared & Analyzed: 08/14/2019					
Boron	1.1		mg/L	1.000	0.034	107	70-130			
Calcium	41		mg/L	10.00	26	158	70-130			M3
Iron	3.1		mg/L	1.000	1.8	138	70-130			M3
Magnesium	29		mg/L	10.00	15	139	70-130			M3
Potassium	14		mg/L	10.00	1.7	123	70-130			
Sodium	29		mg/L	10.00	15	140	70-130			M3
Zinc	0.51		mg/L	0.5000	0.0048	101	70-130			

Batch 1908166 - E200.8 (5.4)

Blank (1908166-BLK1)				Prepared: 08/13/2019 Analyzed: 08/14/2019						
Aluminum	ND	0.0400	mg/L							
Antimony	ND	0.00050	mg/L							
Arsenic	ND	0.00050	mg/L							
Beryllium	ND	0.00025	mg/L							
Cadmium	ND	0.00025	mg/L							
Chromium	ND	0.00050	mg/L							
Cobalt	ND	0.000250	mg/L							
Copper	ND	0.00050	mg/L							
Lead	ND	0.00050	mg/L							
Manganese	ND	0.00025	mg/L							
Nickel	ND	0.00050	mg/L							
Selenium	ND	0.0015	mg/L							
Silver	ND	0.00050	mg/L							
Thallium	ND	0.00050	mg/L							

LCS (1908166-BS1)

				Prepared: 08/13/2019 Analyzed: 08/14/2019						
Aluminum	0.105	0.0400	mg/L	0.1000		105	85-115			
Antimony	0.047	0.00050	mg/L	0.05000		94	85-115			
Arsenic	0.046	0.00050	mg/L	0.05000		92	85-115			
Beryllium	0.050	0.00025	mg/L	0.05000		99	85-115			
Cadmium	0.048	0.00025	mg/L	0.05000		96	85-115			
Chromium	0.048	0.00050	mg/L	0.05000		95	85-115			
Cobalt	0.0469	0.000250	mg/L	0.05000		94	85-115			
Copper	0.049	0.00050	mg/L	0.05000		97	85-115			
Lead	0.048	0.00050	mg/L	0.05000		96	85-115			
Manganese	0.048	0.00025	mg/L	0.05000		95	85-115			
Nickel	0.047	0.00050	mg/L	0.05000		94	85-115			
Selenium	0.047	0.0015	mg/L	0.05000		94	85-115			
Silver	0.047	0.00050	mg/L	0.05000		93	85-115			
Thallium	0.046	0.00050	mg/L	0.05000		93	85-115			

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QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch 1908166 - E200.8 (5.4)

LCS Dup (1908166-BS1)

Prepared: 08/13/2019 Analyzed: 08/14/2019

Aluminum	0.104	0.0400	mg/L	0.1000		104	85-115	0.8	20	
Antimony	0.046	0.00050	mg/L	0.05000		92	85-115	2	20	
Arsenic	0.045	0.00050	mg/L	0.05000		90	85-115	2	20	
Beryllium	0.049	0.00025	mg/L	0.05000		97	85-115	2	20	
Cadmium	0.047	0.00025	mg/L	0.05000		94	85-115	2	20	
Chromium	0.047	0.00050	mg/L	0.05000		93	85-115	2	20	
Cobalt	0.0465	0.000250	mg/L	0.05000		93	85-115	0.8	20	
Copper	0.047	0.00050	mg/L	0.05000		94	85-115	3	20	
Lead	0.047	0.00050	mg/L	0.05000		93	85-115	3	20	
Manganese	0.047	0.00025	mg/L	0.05000		93	85-115	2	20	
Nickel	0.047	0.00050	mg/L	0.05000		94	85-115	0.2	20	
Selenium	0.044	0.0015	mg/L	0.05000		88	85-115	6	20	
Silver	0.046	0.00050	mg/L	0.05000		92	85-115	2	20	
Thallium	0.046	0.00050	mg/L	0.05000		92	85-115	1	20	

Matrix Spike (1908166-MS1)

Source: 19H0222-01

Prepared: 08/13/2019 Analyzed: 08/14/2019

Aluminum	0.117	0.0800	mg/L	0.1000	0.0277	89	70-130			
Antimony	0.048	0.00050	mg/L	0.05000	0.000061	97	70-130			
Arsenic	0.052	0.00050	mg/L	0.05000	0.0033	97	70-130			
Beryllium	0.048	0.00025	mg/L	0.05000	ND	96	70-130			
Cadmium	0.048	0.00025	mg/L	0.05000	ND	96	70-130			
Chromium	0.052	0.0010	mg/L	0.05000	0.0018	100	70-130			
Cobalt	0.0467	0.000250	mg/L	0.05000	0.000130	93	70-130			
Copper	0.048	0.00050	mg/L	0.05000	0.0012	93	70-130			
Lead	0.052	0.00050	mg/L	0.05000	0.00025	103	70-130			
Manganese	0.060	0.00025	mg/L	0.05000	0.013	93	70-130			
Nickel	0.048	0.00050	mg/L	0.05000	0.0022	91	70-130			
Selenium	0.049	0.0015	mg/L	0.05000	0.0019	94	70-130			
Silver	0.038	0.00050	mg/L	0.05000	ND	76	70-130			
Thallium	0.050	0.00050	mg/L	0.05000	0.000058	100	70-130			

Batch 1908183 - E 200.8 (5.4)

Blank (1908183-BLK1)

Prepared & Analyzed: 08/15/2019

Aluminum	ND	0.0400	mg/L							
Antimony	ND	0.00050	mg/L							
Arsenic	ND	0.00050	mg/L							
Barium	ND	0.00050	mg/L							
Beryllium	ND	0.00025	mg/L							
Cadmium	ND	0.00025	mg/L							
Chromium	ND	0.00050	mg/L							
Cobalt	ND	0.00025	mg/L							
Copper	ND	0.00050	mg/L							
Lead	ND	0.00050	mg/L							
Manganese	ND	0.00025	mg/L							
Nickel	ND	0.00050	mg/L							
Selenium	ND	0.0015	mg/L							
Silver	ND	0.00050	mg/L							
Thallium	ND	0.00050	mg/L							

Client: Arizona Minerals Inc.
Project: Ground Water
Work Order: 19H0256
Date Received: 08/07/2019

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch 1908183 - E 200.8 (5.4)

LCS (1908183-BS1)

Prepared & Analyzed: 08/15/2019

Aluminum	0.107	0.0400	mg/L	0.1000		107	85-115			
Antimony	0.049	0.00050	mg/L	0.05000		97	85-115			
Arsenic	0.051	0.00050	mg/L	0.05000		101	85-115			
Barium	0.046	0.00050	mg/L	0.05000		91	85-115			
Beryllium	0.051	0.00025	mg/L	0.05000		103	85-115			
Cadmium	0.050	0.00025	mg/L	0.05000		100	85-115			
Chromium	0.053	0.00050	mg/L	0.05000		107	85-115			
Cobalt	0.053	0.00025	mg/L	0.05000		106	85-115			
Copper	0.052	0.00050	mg/L	0.05000		104	85-115			
Lead	0.050	0.00050	mg/L	0.05000		100	85-115			
Manganese	0.054	0.00025	mg/L	0.05000		109	85-115			
Nickel	0.051	0.00050	mg/L	0.05000		101	85-115			
Selenium	0.049	0.0015	mg/L	0.05000		99	85-115			
Silver	0.050	0.00050	mg/L	0.05000		99	85-115			
Thallium	0.050	0.00050	mg/L	0.05000		99	85-115			

LCS Dup (1908183-BS1)

Prepared & Analyzed: 08/15/2019

Aluminum	0.107	0.0400	mg/L	0.1000		107	85-115	0.01	20	
Antimony	0.048	0.00050	mg/L	0.05000		96	85-115	1	20	
Arsenic	0.051	0.00050	mg/L	0.05000		101	85-115	0.01	20	
Barium	0.046	0.00050	mg/L	0.05000		92	85-115	0.2	20	
Beryllium	0.052	0.00025	mg/L	0.05000		104	85-115	0.9	20	
Cadmium	0.049	0.00025	mg/L	0.05000		98	85-115	2	20	
Chromium	0.053	0.00050	mg/L	0.05000		106	85-115	1	20	
Cobalt	0.051	0.00025	mg/L	0.05000		102	85-115	3	20	
Copper	0.050	0.00050	mg/L	0.05000		101	85-115	3	20	
Lead	0.049	0.00050	mg/L	0.05000		98	85-115	2	20	
Manganese	0.053	0.00025	mg/L	0.05000		105	85-115	4	20	
Nickel	0.050	0.00050	mg/L	0.05000		100	85-115	1	20	
Selenium	0.050	0.0015	mg/L	0.05000		99	85-115	0.09	20	
Silver	0.050	0.00050	mg/L	0.05000		100	85-115	0.5	20	
Thallium	0.049	0.00050	mg/L	0.05000		98	85-115	0.8	20	

Client: Arizona Minerals Inc.
 Project: Ground Water
 Work Order: 19H0256
 Date Received: 08/07/2019

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1908183 - E 200.8 (5.4)										
Matrix Spike (1908183-MS1)		Source: 19H0256-01			Prepared & Analyzed: 08/15/2019					
Aluminum	0.120	0.0400	mg/L	0.1000	0.0267	93	70-130			
Antimony	0.049	0.00050	mg/L	0.05000	0.00013	98	70-130			
Arsenic	0.059	0.00050	mg/L	0.05000	0.0053	108	70-130			
Barium	0.057	0.00050	mg/L	0.05000	0.011	92	70-130			
Beryllium	0.049	0.00025	mg/L	0.05000	ND	99	70-130			
Cadmium	0.048	0.00025	mg/L	0.05000	0.000051	97	70-130			
Chromium	0.051	0.00050	mg/L	0.05000	0.00041	100	70-130			
Cobalt	0.051	0.00025	mg/L	0.05000	0.00023	102	70-130			
Copper	0.047	0.00050	mg/L	0.05000	0.00080	93	70-130			
Lead	0.050	0.00050	mg/L	0.05000	0.00038	99	70-130			
Manganese	0.15	0.00025	mg/L	0.05000	0.094	119	70-130			
Nickel	0.050	0.00050	mg/L	0.05000	0.0010	97	70-130			
Selenium	0.053	0.0015	mg/L	0.05000	0.00033	105	70-130			
Silver	0.046	0.00050	mg/L	0.05000	ND	91	70-130			
Thallium	0.049	0.00050	mg/L	0.05000	0.000054	97	70-130			
Batch 1908231 - E 245.1										
Blank (1908231-BLK1)		Prepared & Analyzed: 08/19/2019								
Mercury	ND	0.00050	mg/L							
LCS (1908231-BS1)		Prepared & Analyzed: 08/19/2019								
Mercury	0.0054	0.00050	mg/L	0.005000		107	85-115			
LCS Dup (1908231-BSD1)		Prepared & Analyzed: 08/19/2019								
Mercury	0.0052	0.00050	mg/L	0.005000		105	85-115	3	20	
Matrix Spike (1908231-MS1)		Source: 19H0359-01			Prepared & Analyzed: 08/19/2019					
Mercury	0.0052	0.00050	mg/L	0.005000	ND	104	85-115			
Matrix Spike Dup (1908231-MSD1)		Source: 19H0359-01			Prepared & Analyzed: 08/19/2019					
Mercury	0.0052	0.00050	mg/L	0.005000	ND	104	85-115	0.06	20	

Client: Arizona Minerals Inc.
Project: Ground Water
Work Order: 19H0256
Date Received: 08/07/2019

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Qual
Batch 1908100 - SM2540 D										
Duplicate (1908100-DUP1) Source: 19H0011-01 Prepared & Analyzed: 08/08/2019										
Total Suspended Solids	1.0	10	mg/L		1.0			0	5	Q9
Duplicate (1908100-DUP2) Source: 19H0012-01 Prepared & Analyzed: 08/08/2019										
Total Suspended Solids	1.0	10	mg/L		ND			200	5	Q9, R12
Batch 1908109 - E150.1										
Duplicate (1908109-DUP1) Source: 19H0256-01 Prepared & Analyzed: 08/08/2019										
pH (pH Units)	7.4		-		7.4			0.5	200	H5
Temperature (°C)	23		-		23			0	200	H5
Batch 1908110 - E180.1										
Duplicate (1908110-DUP1) Source: 19H0256-01 Prepared & Analyzed: 08/08/2019										
Turbidity	2.0	0.10	NTU		2.0			0	10	
Batch 1908123 - SM2320B										
Blank (1908123-BLK1) Prepared & Analyzed: 08/08/2019										
Alkalinity, Bicarbonate (As CaCO3)	ND	2.0	mg/L							
Alkalinity, Total (As CaCO3)	ND	2.0	mg/L							
LCS (1908123-BS1) Prepared & Analyzed: 08/08/2019										
Alkalinity, Total (As CaCO3)	250	2.0	mg/L	250.0		102	90-110			
LCS Dup (1908123-BSD1) Prepared & Analyzed: 08/08/2019										
Alkalinity, Total (As CaCO3)	250	2.0	mg/L	250.0		100	90-110	2	10	
Matrix Spike (1908123-MS1) Source: 19H0073-01 Prepared & Analyzed: 08/08/2019										
Alkalinity, Total (As CaCO3)	300	2.0	mg/L	250.0	60	96	70-130			
Matrix Spike Dup (1908123-MSD1) Source: 19H0073-01 Prepared & Analyzed: 08/08/2019										
Alkalinity, Total (As CaCO3)	300	2.0	mg/L	250.0	60	96	70-130	0	10	
Batch 1908139 - SM2540 C										
Duplicate (1908139-DUP1) Source: 19H0219-01 Prepared: 08/12/2019 Analyzed: 08/15/2019										
Total Dissolved Solids (Residue, Filterable)	560	20	mg/L		570			2	5	
Duplicate (1908139-DUP2) Source: 19H0295-01 Prepared: 08/12/2019 Analyzed: 08/14/2019										
Total Dissolved Solids (Residue, Filterable)	2800	20	mg/L		2800			0.04	5	
Batch 1908195 - SM4500-SiO2 C										
Blank (1908195-BLK1) Prepared & Analyzed: 08/14/2019										
Silica	ND	2.0	mg/L							
LCS (1908195-BS1) Prepared & Analyzed: 08/14/2019										
Silica	7.9	2.0	mg/L	8.000		99	90-110			
LCS Dup (1908195-BSD1) Prepared & Analyzed: 08/14/2019										
Silica	8.0	2.0	mg/L	8.000		100	90-110	0.4	20	

Client: Arizona Minerals Inc.
Project: Ground Water
Work Order: 19H0256
Date Received: 08/07/2019

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1908195 - SM4500-SiO2 C										
Matrix Spike (1908195-MS1)		Source: 19H0256-01			Prepared & Analyzed: 08/14/2019					
Silica	58	10	mg/L	40.00	16	104	85-115			
Matrix Spike Dup (1908195-MSD1)		Source: 19H0256-01			Prepared & Analyzed: 08/14/2019					
Silica	57	10	mg/L	40.00	16	103	85-115	0.8	20	
Batch 1908372 - SM4500-NH3 B,C										
Blank (1908372-BLK1)					Prepared & Analyzed: 08/29/2019					
Nitrogen, Ammonia (As N)	ND	0.50	mg/L							
LCS (1908372-BS1)					Prepared & Analyzed: 08/29/2019					
Nitrogen, Ammonia (As N)	4.7	0.50	mg/L	5.000		94	90-110			
LCS Dup (1908372-BSD1)					Prepared & Analyzed: 08/29/2019					
Nitrogen, Ammonia (As N)	4.9	0.50	mg/L	5.000		99	90-110	5	10	
Matrix Spike (1908372-MS1)		Source: 19H0590-01			Prepared & Analyzed: 08/29/2019					
Nitrogen, Ammonia (As N)	5.3	0.50	mg/L	5.000	0.72	91	75-120			
Matrix Spike (1908372-MS2)		Source: 19H0623-01			Prepared & Analyzed: 08/29/2019					
Nitrogen, Ammonia (As N)	29	2.5	mg/L	25.00	5.7	95	75-120			
Matrix Spike Dup (1908372-MSD1)		Source: 19H0590-01			Prepared & Analyzed: 08/29/2019					
Nitrogen, Ammonia (As N)	5.3	0.50	mg/L	5.000	0.72	92	75-120	0.4	20	
Matrix Spike Dup (1908372-MSD2)		Source: 19H0623-01			Prepared & Analyzed: 08/29/2019					
Nitrogen, Ammonia (As N)	29	2.5	mg/L	25.00	5.7	94	75-120	0.4	20	

Client: Arizona Minerals Inc.
Project: Ground Water
Work Order: 19H0256
Date Received: 08/07/2019

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1908103 - E300.0 (2.1)										
Blank (1908103-BLK1) Prepared & Analyzed: 08/08/2019										
Chloride	ND	1.0	mg/L							
Fluoride	ND	0.50	mg/L							
Nitrogen, Nitrate (As N)	ND	0.50	mg/L							
Nitrogen, Nitrite (As N)	ND	0.10	mg/L							
Sulfate	ND	5.0	mg/L							
LCS (1908103-BS1) Prepared & Analyzed: 08/08/2019										
Chloride	12	1.0	mg/L	12.50		95	90-110			
Fluoride	2.0	0.50	mg/L	2.000		100	90-110			
Nitrogen, Nitrate (As N)	4.9	0.50	mg/L	5.000		97	90-110			
Nitrogen, Nitrite (As N)	2.5	0.10	mg/L	2.500		102	90-110			
Sulfate	12	5.0	mg/L	12.50		98	90-110			
LCS Dup (1908103-BSD1) Prepared & Analyzed: 08/08/2019										
Chloride	12	1.0	mg/L	12.50		97	90-110	1	10	
Fluoride	2.0	0.50	mg/L	2.000		101	90-110	1	10	
Nitrogen, Nitrate (As N)	4.9	0.50	mg/L	5.000		98	90-110	0.8	10	
Nitrogen, Nitrite (As N)	2.6	0.10	mg/L	2.500		103	90-110	1	10	
Sulfate	12	5.0	mg/L	12.50		98	90-110	0.1	10	
Matrix Spike (1908103-MS1) Source: 19H0246-02 Prepared & Analyzed: 08/08/2019										
Chloride	12	1.0	mg/L	12.50	ND	98	80-120			
Fluoride	2.0	0.50	mg/L	2.000	ND	102	80-120			
Nitrogen, Nitrate (As N)	5.0	0.50	mg/L	5.000	ND	99	80-120			
Nitrogen, Nitrite (As N)	2.6	0.10	mg/L	2.500	ND	104	80-120			
Sulfate	13	5.0	mg/L	12.50	ND	100	80-120			
Matrix Spike (1908103-MS2) Source: 19H0246-03 Prepared & Analyzed: 08/08/2019										
Chloride	23	1.0	mg/L	12.50	8.6	117	80-120			
Fluoride	3.4	0.50	mg/L	2.000	1.1	113	80-120			
Nitrogen, Nitrate (As N)	5.5	0.50	mg/L	5.000	ND	110	80-120			
Nitrogen, Nitrite (As N)	2.8	0.10	mg/L	2.500	ND	112	80-120			
Matrix Spike (1908103-MS3) Source: 19H0245-01 Prepared & Analyzed: 08/08/2019										
Chloride	100	5.0	mg/L	62.50	34	105	80-120			
Fluoride	11	2.5	mg/L	10.00	ND	111	80-120			
Nitrogen, Nitrate (As N)	32	2.5	mg/L	25.00	6.8	101	80-120			
Nitrogen, Nitrite (As N)	13	0.50	mg/L	12.50	ND	104	80-120			
Sulfate	130	25	mg/L	62.50	70	92	80-120			
Matrix Spike Dup (1908103-MSD1) Source: 19H0246-02 Prepared & Analyzed: 08/08/2019										
Chloride	12	1.0	mg/L	12.50	ND	98	80-120	0.6	10	
Fluoride	2.1	0.50	mg/L	2.000	ND	103	80-120	1	10	
Nitrogen, Nitrate (As N)	5.0	0.50	mg/L	5.000	ND	100	80-120	0.6	10	
Nitrogen, Nitrite (As N)	2.6	0.10	mg/L	2.500	ND	104	80-120	0.6	10	
Sulfate	13	5.0	mg/L	12.50	ND	102	80-120	1	10	

Client: Arizona Minerals Inc.
Project: Ground Water
Work Order: 19H0256
Date Received: 08/07/2019

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1908103 - E300.0 (2.1)										
Matrix Spike Dup (1908103-MSD2)		Source: 19H0246-03			Prepared & Analyzed: 08/08/2019					
Chloride	22	1.0	mg/L	12.50	8.6	108	80-120	5	10	
Fluoride	3.2	0.50	mg/L	2.000	1.1	103	80-120	6	10	
Nitrogen, Nitrate (As N)	5.0	0.50	mg/L	5.000	ND	101	80-120	8	10	
Nitrogen, Nitrite (As N)	2.6	0.10	mg/L	2.500	ND	104	80-120	8	10	
Matrix Spike Dup (1908103-MSD3)		Source: 19H0245-01			Prepared & Analyzed: 08/08/2019					
Chloride	120	5.0	mg/L	62.50	34	132	80-120	16	10	M1, R13
Fluoride	11	2.5	mg/L	10.00	ND	113	80-120	1	10	
Nitrogen, Nitrate (As N)	32	2.5	mg/L	25.00	6.8	101	80-120	0.2	10	
Nitrogen, Nitrite (As N)	13	0.50	mg/L	12.50	ND	104	80-120	0.2	10	
Sulfate	140	25	mg/L	62.50	70	118	80-120	12	10	R5



2445 N. Coyote Drive, Suite 104
 Tucson, Arizona 85745
 (520) 882-5880
 Fax: (520) 882-9788
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CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

TURNER WORK ORDER # 19H0256 DATE _____ PAGE _____ OF _____

PROJECT NAME _____ # _____ CONTACT NAME <u>Sarah Richman, Sheena Leon</u> COMPANY NAME <u>South 32</u> ADDRESS <u>2210 East Fort Lowell Road</u> CITY <u>Tucson</u> STATE <u>AZ</u> ZIP CODE <u>85719</u> PHONE _____ FAX _____ SAMPLER'S SIGNATURE <u>[Signature]</u>	NUMBER OF CONTAINERS	CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX																																																															
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;">SAMPLE I.D.</th> <th style="width:10%;">DATE</th> <th style="width:10%;">TIME</th> <th style="width:15%;">LAB I.D.</th> <th style="width:10%;">SAMPLE MATRIX*</th> <th style="width:10%;">NUMBER OF CONTAINERS</th> <th style="width:30%;"></th> </tr> </thead> <tbody> <tr> <td><u>MW-9-080719-11:01</u></td> <td><u>8-7-19</u></td> <td><u>11:01</u></td> <td><u>GW</u></td> <td></td> <td style="text-align: center;"><u>4</u></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX*	NUMBER OF CONTAINERS		<u>MW-9-080719-11:01</u>	<u>8-7-19</u>	<u>11:01</u>	<u>GW</u>		<u>4</u>	<input checked="" type="checkbox"/>																																																		<u>See Attached</u>	
SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX*	NUMBER OF CONTAINERS																																																												
<u>MW-9-080719-11:01</u>	<u>8-7-19</u>	<u>11:01</u>	<u>GW</u>		<u>4</u>	<input checked="" type="checkbox"/>																																																											
1. RELINQUISHED BY: Signature <u>[Signature]</u> Printed Name <u>South 32</u> Firm <u>8/7/19</u> Date/Time <u>12:34</u>	2. RECEIVED BY: Signature <u>[Signature]</u> Printed Name <u>Wild West Courier</u> Firm <u>8/7/19</u> Date/Time <u>1:29</u>	TURNAROUND REQUIREMENTS: Standard (approx. 10 days)* Next day ___ 2 Day ___ 5 Day* Email Preliminary Results To: _____ * Working Days	REPORT REQUIREMENTS: ___ I. Routine Report ___ II. Report (includes DUP, MS, MSD, as required, may be charged as samples) ___ III. Date Validation Report (Includes All Raw Data) Add 10% to invoice	INVOICE INFORMATION: Account ___ Y ___ N P.O. # _____ Bill to: _____	SAMPLE RECEIPT: Total Containers <u>4</u> Temperature <u>4.5</u> <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Blue Ice																																																												
3. RELINQUISHED BY: Signature <u>[Signature]</u> Printed Name <u>Wild West Courier</u> Firm <u>8/7/19</u> Date/Time <u>16:20</u>	4. RECEIVED BY: Signature <u>[Signature]</u> Printed Name _____ Firm <u>TURNER LABORATORIES, INC.</u> Date/Time <u>8/7/19 16:20</u>	*LEGEND DW = DRINKING WATER GW = GROUNDWATER SD = SOLID SG = SLUDGE SL = SOIL ST = STORMWATER WW = WASTEWATER	SPECIAL INSTRUCTIONS/COMMENTS: <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:33%;">Compliance Analysis: <input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td style="width:33%;">Custody Seals <input type="checkbox"/></td> <td style="width:33%;">Preservation Confirmation <input checked="" type="checkbox"/></td> </tr> <tr> <td>ADEQ Forms: <input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td>Container Intact <input checked="" type="checkbox"/></td> <td>Appropriate Head Space <input type="checkbox"/></td> </tr> <tr> <td>Mail ADEQ Forms: <input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td>COC/Labels Agree <input checked="" type="checkbox"/></td> <td>Received Within Hold Time <input type="checkbox"/></td> </tr> </table>			Compliance Analysis: <input type="checkbox"/> Yes <input type="checkbox"/> No	Custody Seals <input type="checkbox"/>	Preservation Confirmation <input checked="" type="checkbox"/>	ADEQ Forms: <input type="checkbox"/> Yes <input type="checkbox"/> No	Container Intact <input checked="" type="checkbox"/>	Appropriate Head Space <input type="checkbox"/>	Mail ADEQ Forms: <input type="checkbox"/> Yes <input type="checkbox"/> No	COC/Labels Agree <input checked="" type="checkbox"/>	Received Within Hold Time <input type="checkbox"/>																																																			
Compliance Analysis: <input type="checkbox"/> Yes <input type="checkbox"/> No	Custody Seals <input type="checkbox"/>	Preservation Confirmation <input checked="" type="checkbox"/>																																																															
ADEQ Forms: <input type="checkbox"/> Yes <input type="checkbox"/> No	Container Intact <input checked="" type="checkbox"/>	Appropriate Head Space <input type="checkbox"/>																																																															
Mail ADEQ Forms: <input type="checkbox"/> Yes <input type="checkbox"/> No	COC/Labels Agree <input checked="" type="checkbox"/>	Received Within Hold Time <input type="checkbox"/>																																																															

Groundwater Suite

Analyte	LABORATORY		
	Total	Dissolved	Other
Metals			
Aluminum	X	X	
Antimony	X	X	
Arsenic	X	X	
Barium	X	X	
Beryllium	X	X	
Boron	X	X	
Cadmium	X	X	
Chromium	X	X	
Cobalt	X	X	
Copper	X	X	
Iron	X	X	
Lead	X	X	
Manganese	X	X	
Mercury	X	X	
Nickel	X	X	
Selenium	X	X	
Silver	X	X	
Thallium	X	X	
Zinc	X	X	
Major Cations			
Ammonium	X		
Calcium	X	X	
Magnesium	X	X	
Potassium	X	X	
Sodium	X	X	
Iron	X	X	
Hardness	X	X	
Major Anions			
Total Alkalinity	X		
Acidity	X		
Chloride	X	X	
Fluoride	X	X	
Nitrate – Nitrite as N	X	X	
Nitrite - N	X	X	
Silica	X	X	
Sulfate	X	X	
Sulfide			
Parameters			
Total Dissolved Solids		X	
Total Suspended Solids	X		

ANALYTICAL REPORT

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-127647-1
Client Project/Site: 19H0256

For:
Turner Laboratories, Inc.
2445 North Coyote Drive
Suite 104
Tucson, Arizona 85745

Attn: Elizabeth Kasik



Authorized for release by:
8/15/2019 4:14:09 PM

Ken Baker, Project Manager II
(602)659-7624
ken.baker@testamericainc.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: Turner Laboratories, Inc.
Project/Site: 19H0256

Job ID: 550-127647-1

Qualifiers

General Chemistry

Qualifier	Qualifier Description
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

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: Turner Laboratories, Inc.
Project/Site: 19H0256

Job ID: 550-127647-1

Job ID: 550-127647-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

**Job Narrative
550-127647-1**

Comments

No additional comments.

Receipt

The sample was received on 8/9/2019 11:45 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.0° C.

General Chemistry

Method(s) SM 4500 CN I: Total cyanide analysis was performed for sample 19H0256-01 (550-127647-1), and the result obtained was a non-detect. As such, the weak acid dissociable cyanide analysis was not performed, and the result for this analyte was reported as non-detect.

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

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Sample Summary

Client: Turner Laboratories, Inc.
Project/Site: 19H0256

Job ID: 550-127647-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
550-127647-1	19H0256-01	Water	08/07/19 11:01	08/09/19 11:45	

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Detection Summary

Client: Turner Laboratories, Inc.
Project/Site: 19H0256

Job ID: 550-127647-1

Client Sample ID: 19H0256-01

Lab Sample ID: 550-127647-1

No Detections.

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This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Phoenix

Client Sample Results

Client: Turner Laboratories, Inc.
Project/Site: 19H0256

Job ID: 550-127647-1

Client Sample ID: 19H0256-01

Lab Sample ID: 550-127647-1

Date Collected: 08/07/19 11:01

Matrix: Water

Date Received: 08/09/19 11:45

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND	E8	0.0050	0.0025	mg/L		08/12/19 14:24	08/13/19 12:16	1
Cyanide, Weak Acid Dissociable	ND	E8	0.025	0.013	mg/L		08/12/19 12:25	08/13/19 12:28	1

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QC Sample Results

Client: Turner Laboratories, Inc.
Project/Site: 19H0256

Job ID: 550-127647-1

Method: SM 4500 CN E - Cyanide, Total (Low Level)

Lab Sample ID: MB 440-562649/1-A
Matrix: Water
Analysis Batch: 562863

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 562649

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND	E8	0.0050	0.0025	mg/L		08/12/19 14:23	08/13/19 12:15	1

Lab Sample ID: LCS 440-562649/2-A
Matrix: Water
Analysis Batch: 562863

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 562649

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Cyanide, Total	0.100	0.0978		mg/L		98	80 - 120

Lab Sample ID: LCSD 440-562649/3-A
Matrix: Water
Analysis Batch: 562863

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 562649

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Cyanide, Total	0.100	0.0952		mg/L		95	80 - 120	3	20

Lab Sample ID: 550-127419-C-2-B MS
Matrix: Water
Analysis Batch: 562863

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 562649

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Cyanide, Total	0.0040	E4	0.100	0.0982		mg/L		94	75 - 125

Lab Sample ID: 550-127419-C-2-C MSD
Matrix: Water
Analysis Batch: 562863

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 562649

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Cyanide, Total	0.0040	E4	0.100	0.106		mg/L		102	75 - 125	8	20

QC Association Summary

Client: Turner Laboratories, Inc.
Project/Site: 19H0256

Job ID: 550-127647-1

General Chemistry

Prep Batch: 562649

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-127647-1	19H0256-01	Total/NA	Water	Distill/CN	
MB 440-562649/1-A	Method Blank	Total/NA	Water	Distill/CN	
LCS 440-562649/2-A	Lab Control Sample	Total/NA	Water	Distill/CN	
LCSD 440-562649/3-A	Lab Control Sample Dup	Total/NA	Water	Distill/CN	
550-127419-C-2-B MS	Matrix Spike	Total/NA	Water	Distill/CN	
550-127419-C-2-C MSD	Matrix Spike Duplicate	Total/NA	Water	Distill/CN	

Analysis Batch: 562863

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-127647-1	19H0256-01	Total/NA	Water	SM 4500 CN E	562649
MB 440-562649/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	562649
LCS 440-562649/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	562649
LCSD 440-562649/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN E	562649
550-127419-C-2-B MS	Matrix Spike	Total/NA	Water	SM 4500 CN E	562649
550-127419-C-2-C MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 CN E	562649

Prep Batch: 562867

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-127647-1	19H0256-01	Total/NA	Water	SM 4500 CN I	

Analysis Batch: 562869

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-127647-1	19H0256-01	Total/NA	Water	SM 4500 CN I	562867

Lab Chronicle

Client: Turner Laboratories, Inc.
Project/Site: 19H0256

Job ID: 550-127647-1

Client Sample ID: 19H0256-01

Lab Sample ID: 550-127647-1

Date Collected: 08/07/19 11:01

Matrix: Water

Date Received: 08/09/19 11:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Distill/CN			562649	08/12/19 14:24	KMY	TAL IRV
Total/NA	Analysis	SM 4500 CN E		1	562863	08/13/19 12:16	KMY	TAL IRV
Total/NA	Prep	SM 4500 CN I			562867	08/12/19 12:25	KMY	TAL IRV
Total/NA	Analysis	SM 4500 CN I		1	562869	08/13/19 12:28	KMY	TAL IRV

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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Accreditation/Certification Summary

Client: Turner Laboratories, Inc.
 Project/Site: 19H0256

Job ID: 550-127647-1

Laboratory: Eurofins TestAmerica, Phoenix

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Arizona	State Program	9	AZ0728	06-09-20

Laboratory: Eurofins TestAmerica, Irvine

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Arizona	State Program	9	AZ0671	10-14-19

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 I	SM 4500 CN I	Water	Cyanide, Weak Acid Dissociable



Method Summary

Client: Turner Laboratories, Inc.
Project/Site: 19H0256

Job ID: 550-127647-1

Method	Method Description	Protocol	Laboratory
SM 4500 CN E	Cyanide, Total (Low Level)	SM	TAL IRV
SM 4500 CN I	Cyanide, Weak Acid Dissociable	SM	TAL IRV
Distill/CN	Distillation, Cyanide	None	TAL IRV
SM 4500 CN I	Cyanide, Distillation for Weak Acid Dissociable	SM	TAL IRV

Protocol References:

None = None

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

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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127647

SUBCONTRACT ORDER

Turner Laboratories, Inc.

19H0256

SENDING LABORATORY:

Turner Laboratories, Inc.
2445 N. Coyote Drive, Ste #104
Tucson, AZ 85745
Phone: 520.882.5880
Fax: 520.882.9788
Project Manager: Elizabeth Kasik

RECEIVING LABORATORY:

TestAmerica Phoenix
4625 East Cotton Center Boulevard Suite 189
Phoenix, AZ 85540
Phone : (602) 437-3340
Fax:
Please CC Kevin Brim Kbrim@turnerlabs.com

Analysis	Expires	Laboratory ID	Comments
-01			
Sample ID: 19H0256-01 Drinking Water	Sampled: 08/07/2019 11:01		
Cyanide WAD	08/21/2019 11:01		
Cyanide	08/21/2019 11:01		
Containers Supplied:			



TA-PHX

~~Released By~~ 8/8/19 16:00 UPS 8/8/19 16:00
 Date Received By Date
 Released By UPS 8/8/19 11:45
 Date Received By 8/8/19 11:45
 Date

TEMP 2.00





Chain of Custody Record

Client Information (Sub Contract Lab)		Sampler	Lab PM	Carrier Tracking No(s)	COC No
Company: TestAmerica Laboratories, Inc Address: 17461 Denan Ave, Suite 100, Irvine, CA, 92614-5817 Phone: 949-261-1022(Tel) 949-260-3297(Fax) Email: Project Name: 19H0256 Site:		Baker, Ken E-Mail: ken.baker@testamericainc.com	ken.baker@testamericainc.com	State of Origin: Arizona Page: Page 1 of 1 Job #: 550-127647-1	550-25398.1
Due Date Requested: 8/16/2019 TAT Requested (days): PO #: WO #: Project #: 55003219 SSOW#:					
Accreditations Required (See note) State Program - Arizona					
Analysis Requested M - Hexane N - None O - Ash/NaO2 P - Na2OAS Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)					
Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:					
Total Number of Containers: 1 AZ Sample					
Special Instructions/Note:					
Sample Identification - Client ID (Lab ID) 19H0256-01 (550-127647-1)					
Sample Date	8/7/19	Sample Time	11:01 Arizona	Sample Type (C=Comp, G=grab)	Water
Field Filtered Sample (Yes or No)	X	4500_CN_E_LL/Distill_CN_LL Cyanide	X	4500_CN_U4500_CN_L_Prep Cyanide/Weak Acid	X
Dismissible					

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately if all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.

Possible Hazard Identification
 Unconfirmed
 Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

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

Relinquished by *[Signature]* Date/Time 8/7/19 14:45 Company _____
 Relinquished by *[Signature]* Date/Time _____ Company _____
 Relinquished by _____ Date/Time _____ Company _____

Custody Seals Intact: Yes A No
 Custody Seal No.: _____
 Cooler Temperature(s) and Other Remarks: 1843 0.5/1.6

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



Login Sample Receipt Checklist

Client: Turner Laboratories, Inc.

Job Number: 550-127647-1

Login Number: 127647

List Source: Eurofins TestAmerica, Phoenix

List Number: 1

Creator: Gravlin, Andrea

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are 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 containers received 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	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

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Login Sample Receipt Checklist

Client: Turner Laboratories, Inc.

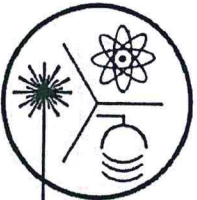
Job Number: 550-127647-1

Login Number: 127647
List Number: 2
Creator: Ornelas, Olga

List Source: Eurofins TestAmerica, Irvine
List Creation: 08/10/19 12:25 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	Not Present
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?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received 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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)


Turner Laboratories
2445 N. Coyote Drive, Ste. 104
Tucson, AZ 85745

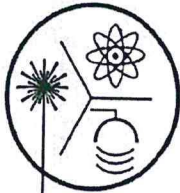
Sampling Date: August 07, 2019

Sample Received: August 13, 2019

Analysis Completed: August 29, 2019

Sample ID	Gross Alpha Activity Method 600/00-02 (pCi/L)	Uranium Activity Method ASTM D6239 (pCi/L)	Adjusted Gross Alpha (pCi/L)	Gross Beta Activity Method 900.0 (pCi/L)	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
19H0256-01	2.2 ± 0.6	2.9 ± 0.6	< 1.0	< 2.1	< 0.4	< 0.7	< 0.7
Date of Analysis	8/19/2019	8/24/2019	8/24/2019	8/14/2019	8/16/2019	8/16/2019	8/16/2019


Robert L. Metzger, Ph.D., C.H.P. Date 8/29/2019
Laboratory License Number AZ0462



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

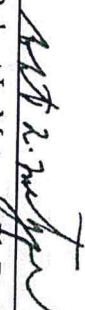
(480) 897-9459
FAX (480) 892-5446

Isotopic Uranium Analysis

Turner Laboratories
2445 N. Coyote Drive, Ste. 104
Tucson, AZ 85745

Sampling Date: August 07, 2019
Sample Received: August 13, 2019
Uranium Analysis Date: August 24, 2019

Sample No.	²³⁸ U	²³⁵ U	²³⁴ U	Total	Activity (pCi/L)
	19H0256-01	1.4 ± 0.3	0.064 ± 0.002		
	4.1 ± 0.8	0.030 ± 0.001	0.00023 ± 0.00005	4.1 ± 0.8	Content (µg/L)
Comments:					


Robert L. Metzger, Ph.D., C.H.P.

Date

8/29/2019

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

August 7, 2019 11:01 (24 hour clock)
 Sample Date Sample Time

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point
 EPDS # _____

Compliance Sample Type:

- Reduced Monitoring
- Quarterly
- Composite of four quarterly samples

Date Q1 collected: _____
 Date Q2 collected: _____
 Date Q3 collected: _____
 Date Q4 collected: _____

RADIOCHEMICAL ANALYSIS

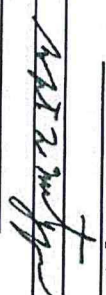
>>>To be filled out by laboratory personnel<<<

Combined Uranium must be reported in micrograms per liter

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
600/00-02	15 pCi/L	3 pCi/L	Adjusted Gross Alpha	4000	8/24/2019	< 1.0	
7500 - Rn			Gross Alpha	4002	8/19/2019	2.2 ± 0.6	
ASTM D6239	30 µg/L	1 µg/L	Radon	4004			
			Combined Uranium	4006	8/24/2019	4.1 ± 0.8	µg/L
			Uranium 234	4007	8/24/2019	0.00023 ± 0.00005	
			Uranium 235	4008	8/24/2019	0.030 ± 0.001	
			Uranium 238	4009	8/24/2019	4.1 ± 0.8	
			Combined Radium (226,228)	4010	8/16/2019	< 0.7	
GammaRay HRGE	5 pCi/L	1 pCi/L	Radium 226	4020	8/16/2019	< 0.4	
GammaRay HRGE		1 pCi/L	Radium 228	4030	8/16/2019	< 0.7	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE62689
 Lab ID Number: AZ0462
 Lab Name: Radiation Safety Engineering, Inc.
 Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459
 Comments: 19H0256-01
 Authorized Signature: 
 Date Public Water System Notified: _____
 DWA/R 6: 11/2007

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

August 7, 2019 11:01 (24 hour clock) _____

Sample Date Sample Time _____ Owner/Contact Person _____

Owner/Contact Fax Number _____ Owner/Contact Phone Number _____

Sample Collection Point _____
 EPDS # _____

Compliance Sample Type:

- Reduced Monitoring _____ Date Q1 collected: _____
- Quarterly _____ Date Q2 collected: _____
- Composite of four quarterly samples _____ Date Q3 collected: _____
 _____ Date Q4 collected: _____

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<<

Combined Uranium must be reported in micrograms per liter

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
900	4 mrem	4 pCi/L	Gross Beta	4100	8/14/2019	< 4 mrem	
906	20,000 pCi/L	1,000 pCi/L	Tritium	4102			
		10 pCi/L	Strontium-89	4172			
	8 pCi/L	2 pCi/L	Strontium-90	4174			
		1 pCi/L	Iodine-131	4264			
		10 pCi/L	Cesium-134	4270			

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE62689
 Lab ID Number: AZ0462
 Lab Name: Radiation Safety Engineering, Inc.
 Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459
 Comments: 19H0256-01
 Authorized Signature: Robert L. Metzger
 Date Public Water System Notified: _____
 DWAAR 6A: 11/2007

SUBCONTRACT ORDER
Turner Laboratories, Inc.
19H0256

SENDING LABORATORY:

Turner Laboratories, Inc.
2445 N. Coyote Drive, Ste #104
Tucson, AZ 85745
Phone: 520.882.5880
Fax: 520.882.9788
Project Manager: Elizabeth Kasik

RECEIVING LABORATORY:

Radiation Safety Engineering, Inc.
3245 N. Washington St.
Chandler, AZ 85225-1121
Phone: (480) 897-9459
Fax: (480) 892-5446
Please CC Kevin Brim Kbrim@turnerlabs.com

Analysis

Expires

Laboratory ID

Comments

Sample ID: 19H0256-01 Drinking Water Sampled: 08/07/2019 11:01



Radiochemistry, Uranium

02/03/2020 11:01

Radiochemistry, Radium 226/228

09/06/2019 11:01

Radiochemistry, Gross Alpha Beta

02/03/2020 11:01

Containers Supplied:

62689

~~Released By:~~

8/12/19

Date

16:00

Received By

WBS

8/12/19

Date

16:00

Released By

Date

Received By

Gal Flannery

8-13-19

Date

10:00



September 21, 2020

Sheena Leon
Arizona Minerals Inc.
2210 E. Fort Lowell Rd
Tucson, AZ 85719

TEL (802) 235-5563
FAX

Work Order No.: 20H0734
Order Name: Groundwater

RE: Groundwater

Dear Sheena Leon,

Turner Laboratories, Inc. received 1 sample(s) on 08/28/2020 for the analyses presented in the following report.

All results are intended to be considered in their entirety, and Turner Laboratories, Inc. is not responsible for use of less than the complete report. Results apply only to the samples analyzed. Samples will be disposed of 30 days after issue of our report unless special arrangements are made.

The pages that follow may contain sensitive, privileged or confidential information intended solely for the addressee named above. If you receive this message and are not the agent or employee of the addressee, this communication has been sent in error. Please do not disseminate or copy any of the attached and notify the sender immediately by telephone. Please also return the attached sheet(s) to the sender by mail.

Please call if you have any questions.

Respectfully submitted,

Turner Laboratories, Inc.
ADHS License AZ0066

Elizabeth Kasik
Laboratory Director

Client: Arizona Minerals Inc.
Project: Groundwater
Work Order: 20H0734
Date Received: 08/28/2020

Order: Groundwater

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date/Time
20H0734-01	MW9-08282020	Ground Water	08/28/2020 1112

Client: Arizona Minerals Inc.
Project: Groundwater
Work Order: 20H0734
Date Received: 08/28/2020

Case Narrative

The Cyanide and Cyanide WAD analyses were performed by TestAmerica Laboratories, Inc. in Phoenix, AZ.

The radiochemistry analysis was performed by Radiation Safety Engineering, Inc. in Chandler, AZ.

- E4 Concentration estimated. Analyte was detected below laboratory Minimum Reporting Limit (MRL) but above MDL.
- E8 Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
- H1 Sample analysis was performed past holding time.
- H2 Initial analysis was performed within holding time. Reanalysis for the required dilution was past holding time.
- M1 Matrix spike recovery was high; the associated LCS/LCSD was acceptable.
- M2 Matrix spike recovery was low; the associated LCS/LCSD was acceptable.
- M3 The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated LCS/LCSD recovery was acceptable.
- Q9 Insufficient sample received to meet method QC requirements.
- R12 RPD/RSD exceeded the method acceptance limit. Result less than 5 times the PQL.

All soil, sludge, and solid matrix determinations are reported on a wet weight basis unless otherwise noted.

- ND Not Detected at or above the PQL
- PQL Practical Quantitation Limit
- DF Dilution Factor

Client: Arizona Minerals Inc.
Project: Groundwater
Work Order: 20H0734
Lab Sample ID: 20H0734-01

Client Sample ID: MW9-08282020
Collection Date/Time: 08/28/2020 1112
Matrix: Ground Water
Order Name: Groundwater

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
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Hardness-Calculation

Hardness, Calcium/Magnesium (As CaCO3)	77				mg/L	1	08/28/2020 1645	09/02/2020 1530	MH
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Nitrate + Nitrite Sum-Calculation

Nitrate and Nitrite Sum	ND		0.10		mg/L	1	08/28/2020 1640	09/01/2020 1350	JG
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ICP Dissolved Metals-E 200.7 (4.4)

Boron	0.15		0.10		mg/L	1	08/31/2020 0920	09/01/2020 1110	MH
Calcium	33		4.0		mg/L	1	08/31/2020 0920	09/01/2020 1110	MH
Iron	ND		0.30		mg/L	1	08/31/2020 0920	09/01/2020 1110	MH
Magnesium	ND		3.0		mg/L	1	08/31/2020 0920	09/01/2020 1110	MH
Potassium	ND		5.0		mg/L	1	08/31/2020 0920	09/01/2020 1110	MH
Silica	19		1.0		mg/L	5	08/31/2020 0920	09/04/2020 1052	MH
Sodium	75		25		mg/L	5	08/31/2020 0920	09/02/2020 1051	MH
Zinc	ND		0.040		mg/L	1	08/31/2020 0920	09/01/2020 1111	MH

ICP/MS Dissolved Metals-E 200.8 (5.4)

Aluminum	ND		0.0400		mg/L	1	08/31/2020 0920	08/31/2020 1639	CR
Antimony	0.000048	0.000039	0.00050	E4	mg/L	1	08/31/2020 0920	08/31/2020 1335	CR
Arsenic	0.0068		0.00050		mg/L	1	08/31/2020 0920	08/31/2020 1335	CR
Barium	0.016		0.00050		mg/L	1	08/31/2020 0920	08/31/2020 1335	CR
Beryllium	ND	0.000013	0.00025	E8	mg/L	1	08/31/2020 0920	08/31/2020 1335	CR
Cadmium	ND	0.000050	0.00025	E8	mg/L	1	08/31/2020 0920	08/31/2020 1335	CR
Chromium	0.0011		0.00050		mg/L	1	08/31/2020 0920	08/31/2020 1335	CR
Cobalt	0.00013	0.000010	0.00025	E4	mg/L	1	08/31/2020 0920	08/31/2020 1335	CR
Copper	0.0012		0.00050		mg/L	1	08/31/2020 0920	08/31/2020 1335	CR
Lead	0.00068		0.00050		mg/L	1	08/31/2020 0920	08/31/2020 1335	CR
Manganese	0.081		0.00025		mg/L	1	08/31/2020 0920	08/31/2020 1335	CR
Nickel	0.0017		0.00050		mg/L	1	08/31/2020 0920	08/31/2020 1335	CR
Selenium	0.00035	0.00025	0.0025	E4	mg/L	1	08/31/2020 0920	08/31/2020 1335	CR
Silver	ND	0.000021	0.00050	E8	mg/L	1	08/31/2020 0920	08/31/2020 1335	CR
Thallium	ND	0.000023	0.00050	E8	mg/L	1	08/31/2020 0920	08/31/2020 1335	CR
Zinc	0.0030	0.0023	0.040	E4	mg/L	1	08/31/2020 0920	08/31/2020 1335	CR

CVAA Dissolved Mercury-E 245.1

Client: Arizona Minerals Inc.
Project: Groundwater
Work Order: 20H0734
Lab Sample ID: 20H0734-01

Client Sample ID: MW9-08282020
Collection Date/Time: 08/28/2020 1112
Matrix: Ground Water
Order Name: Groundwater

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Mercury	ND		0.0010		mg/L	1	09/02/2020 1010	09/02/2020 1455	CR
Turbidity-E180.1									
Turbidity	0.90		0.10	H1	NTU	1	08/31/2020 1250	08/31/2020 1305	EJ
ICP Total Metals-E200.7 (4.4)									
Boron	0.13		0.10		mg/L	1	08/28/2020 1645	09/02/2020 1530	MH
Calcium	31		4.0		mg/L	1	08/28/2020 1645	09/02/2020 1530	MH
Iron	ND		0.30		mg/L	1	08/28/2020 1645	09/02/2020 1530	MH
Magnesium	ND		3.0		mg/L	1	08/28/2020 1645	09/02/2020 1530	MH
Potassium	ND		5.0		mg/L	1	08/28/2020 1645	09/02/2020 1530	MH
Silica	19		1.0		mg/L	5	08/28/2020 1645	09/04/2020 1142	MH
Sodium	74		5.0		mg/L	1	08/28/2020 1645	09/02/2020 1530	MH
Zinc	ND		0.040		mg/L	1	08/28/2020 1645	09/02/2020 1530	MH
ICP/MS Total Metals-E200.8 (5.4)									
Aluminum	ND		0.0400		mg/L	1	08/28/2020 1645	08/31/2020 1557	CR
Antimony	0.000050	0.000039	0.00050	E4	mg/L	1	08/28/2020 1645	08/31/2020 1142	CR
Arsenic	0.0070		0.00050		mg/L	1	08/28/2020 1645	08/31/2020 1142	CR
Barium	0.015		0.00050		mg/L	1	08/28/2020 1645	08/31/2020 1142	CR
Beryllium	ND	0.000013	0.00025	E8	mg/L	1	08/28/2020 1645	08/31/2020 1142	CR
Cadmium	ND	0.000050	0.00025	E8	mg/L	1	08/28/2020 1645	08/31/2020 1142	CR
Chromium	0.0016		0.00050		mg/L	1	08/28/2020 1645	08/31/2020 1142	CR
Cobalt	0.000137	0.0000104	0.000250	E4	mg/L	1	08/28/2020 1645	08/31/2020 1142	CR
Copper	0.00062		0.00050		mg/L	1	08/28/2020 1645	08/31/2020 1142	CR
Lead	0.0019		0.00050		mg/L	1	08/28/2020 1645	08/31/2020 1142	CR
Manganese	0.086		0.00025		mg/L	1	08/28/2020 1645	08/31/2020 1142	CR
Nickel	0.0013		0.00050		mg/L	1	08/28/2020 1645	08/31/2020 1142	CR
Selenium	0.00026	0.00025	0.0025	E4	mg/L	1	08/28/2020 1645	08/31/2020 1142	CR
Silver	0.000049	0.000021	0.00050	E4	mg/L	1	09/01/2020 1017	09/02/2020 1156	CR
Thallium	ND	0.000023	0.00050	E8	mg/L	1	08/28/2020 1645	08/31/2020 1142	CR
Zinc	0.0068	0.0023	0.040	E4	mg/L	1	08/28/2020 1645	08/31/2020 1142	CR

CVAA Total Mercury-E245.1

Mercury	ND		0.0010		mg/L	1	09/08/2020 1200	09/08/2020 1620	MH
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Anions by Ion Chromatography-E300.0 (2.1)

Client: Arizona Minerals Inc.
Project: Groundwater
Work Order: 20H0734
Lab Sample ID: 20H0734-01

Client Sample ID: MW9-08282020
Collection Date/Time: 08/28/2020 1112
Matrix: Ground Water
Order Name: Groundwater

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Chloride	4.4		1.0		mg/L	1	08/28/2020 1640	08/28/2020 2339	JG
Fluoride	ND		0.50		mg/L	1	08/28/2020 1640	08/28/2020 2339	JG
Nitrogen, Nitrate (As N)	ND		0.50	H2	mg/L	1	08/28/2020 1640	09/01/2020 1350	JG
Nitrogen, Nitrite (As N)	ND		0.10	H2	mg/L	1	08/28/2020 1640	09/01/2020 1350	JG
Sulfate	180		50		mg/L	10	08/28/2020 1640	08/31/2020 1917	JG

Alkalinity-SM2320B

Alkalinity, Bicarbonate (As CaCO3)	62		2.0		mg/L	1	09/04/2020 0800	09/04/2020 1640	CWB
Alkalinity, Carbonate (As CaCO3)	ND		2.0		mg/L	1	09/04/2020 0800	09/04/2020 1640	CWB
Alkalinity, Hydroxide (As CaCO3)	ND		2.0		mg/L	1	09/04/2020 0800	09/04/2020 1640	CWB
Alkalinity, Total (As CaCO3)	62		2.0		mg/L	1	09/04/2020 0800	09/04/2020 1640	CWB

Total Dissolved Solids (Residue, Filterable)-SM2540 C

Total Dissolved Solids (Residue, Filterable)	320		20		mg/L	1	08/31/2020 1515	09/02/2020 0910	CWB
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Total Suspended Solids (Residue, Non-Filterable)-SM2540 D

Total Suspended Solids	ND		10	Q9	mg/L	1	09/03/2020 1110	09/04/2020 0855	CWB
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Ammonia as N-SM4500-NH3 B,C

Nitrogen, Ammonia (As N)	ND		0.50		mg/L	1	09/03/2020 0800	09/03/2020 1204	JG
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Client: Arizona Minerals Inc.
Project: Groundwater
Work Order: 20H0734
Date Received: 08/28/2020

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2008302 - E200.8 (5.4)										
Blank (2008302-BLK1)				Prepared & Analyzed: 08/31/2020						
Aluminum	ND	0.0400	mg/L							
Antimony	ND	0.00050	mg/L							
Arsenic	ND	0.00050	mg/L							
Barium	ND	0.00050	mg/L							
Beryllium	ND	0.00025	mg/L							
Cadmium	ND	0.00025	mg/L							
Chromium	ND	0.00050	mg/L							
Cobalt	ND	0.000250	mg/L							
Copper	ND	0.00050	mg/L							
Lead	ND	0.00050	mg/L							
Manganese	ND	0.00025	mg/L							
Nickel	ND	0.00050	mg/L							
Selenium	ND	0.0025	mg/L							
Silver	ND	0.00050	mg/L							
Thallium	ND	0.00050	mg/L							
Zinc	ND	0.040	mg/L							
LCS (2008302-BS1)										
				Prepared & Analyzed: 08/31/2020						
Aluminum	0.0955	0.0400	mg/L	0.1000		95	85-115			
Antimony	0.049	0.00050	mg/L	0.05000		97	85-115			
Arsenic	0.049	0.00050	mg/L	0.05000		98	85-115			
Barium	0.047	0.00050	mg/L	0.05000		95	85-115			
Beryllium	0.049	0.00025	mg/L	0.05000		99	85-115			
Cadmium	0.049	0.00025	mg/L	0.05000		98	85-115			
Chromium	0.051	0.00050	mg/L	0.05000		101	85-115			
Cobalt	0.0514	0.000250	mg/L	0.05000		103	85-115			
Copper	0.049	0.00050	mg/L	0.05000		99	85-115			
Lead	0.048	0.00050	mg/L	0.05000		97	85-115			
Manganese	0.050	0.00025	mg/L	0.05000		100	85-115			
Nickel	0.052	0.00050	mg/L	0.05000		103	85-115			
Selenium	0.049	0.0025	mg/L	0.05000		99	85-115			
Silver	0.049	0.00050	mg/L	0.05000		97	85-115			
Thallium	0.045	0.00050	mg/L	0.05000		90	85-115			
Zinc	0.10	0.040	mg/L	0.1000		101	85-115			

Client: Arizona Minerals Inc.
Project: Groundwater
Work Order: 20H0734
Date Received: 08/28/2020

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch 2008302 - E200.8 (5.4)

LCS Dup (2008302-BSD1)

Prepared & Analyzed: 08/31/2020

Aluminum	0.0942	0.0400	mg/L	0.1000		94	85-115	1	20	
Antimony	0.048	0.00050	mg/L	0.05000		97	85-115	0.4	20	
Arsenic	0.049	0.00050	mg/L	0.05000		98	85-115	0.07	20	
Barium	0.047	0.00050	mg/L	0.05000		95	85-115	0.1	20	
Beryllium	0.049	0.00025	mg/L	0.05000		98	85-115	0.6	20	
Cadmium	0.049	0.00025	mg/L	0.05000		98	85-115	0.06	20	
Chromium	0.051	0.00050	mg/L	0.05000		101	85-115	0.03	20	
Cobalt	0.0507	0.000250	mg/L	0.05000		101	85-115	1	20	
Copper	0.049	0.00050	mg/L	0.05000		98	85-115	0.5	20	
Lead	0.049	0.00050	mg/L	0.05000		97	85-115	0.3	20	
Manganese	0.050	0.00025	mg/L	0.05000		100	85-115	0.2	20	
Nickel	0.052	0.00050	mg/L	0.05000		103	85-115	0.08	20	
Selenium	0.050	0.0025	mg/L	0.05000		100	85-115	1	20	
Silver	0.049	0.00050	mg/L	0.05000		98	85-115	0.09	20	
Thallium	0.046	0.00050	mg/L	0.05000		91	85-115	1	20	
Zinc	0.10	0.040	mg/L	0.1000		100	85-115	0.9	20	

Matrix Spike (2008302-MS1)

Source: 20H0721-01

Prepared & Analyzed: 08/31/2020

Aluminum	0.0950	0.0400	mg/L	0.1000	0.0145	80	70-130			
Antimony	0.053	0.00050	mg/L	0.05000	0.000067	105	70-130			
Arsenic	0.065	0.00050	mg/L	0.05000	0.0073	116	70-130			
Barium	0.073	0.00050	mg/L	0.05000	0.024	99	70-130			
Beryllium	0.049	0.00025	mg/L	0.05000	0.000017	98	70-130			
Cadmium	0.051	0.00025	mg/L	0.05000	ND	103	70-130			
Chromium	0.081	0.00050	mg/L	0.05000	0.017	130	70-130			
Cobalt	0.0662	0.000250	mg/L	0.05000	0.0000910	132	70-130			M1
Copper	0.050	0.00050	mg/L	0.05000	0.0016	98	70-130			
Lead	0.052	0.00050	mg/L	0.05000	0.00018	105	70-130			
Manganese	0.065	0.00025	mg/L	0.05000	0.00048	130	70-130			
Nickel	0.066	0.00050	mg/L	0.05000	0.0011	130	70-130			M1
Selenium	0.069	0.0025	mg/L	0.05000	0.0076	122	70-130			
Silver	0.046	0.00050	mg/L	0.05000	0.000059	93	70-130			
Thallium	0.051	0.00050	mg/L	0.05000	0.00015	103	70-130			
Zinc	0.17	0.040	mg/L	0.1000	0.067	100	70-130			

Batch 2008341 - E200.7 (4.4)

Blank (2008341-BLK1)

Prepared & Analyzed: 09/02/2020

Boron	ND	0.10	mg/L							
Calcium	ND	4.0	mg/L							
Iron	ND	0.30	mg/L							
Magnesium	ND	3.0	mg/L							
Potassium	ND	5.0	mg/L							
Sodium	ND	5.0	mg/L							
Zinc	ND	0.040	mg/L							

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QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2008341 - E200.7 (4.4)										
LCS (2008341-BS1)				Prepared & Analyzed: 09/02/2020						
Boron	0.97	0.10	mg/L	1.000		97	85-115			
Calcium	11	4.0	mg/L	10.00		105	85-115			
Iron	1.1	0.30	mg/L	1.000		111	85-115			
Magnesium	11	3.0	mg/L	10.00		106	85-115			
Potassium	11	5.0	mg/L	10.00		105	85-115			
Sodium	11	5.0	mg/L	10.00		107	85-115			
Zinc	0.49	0.040	mg/L	0.5000		97	85-115			
LCS Dup (2008341-BS1)				Prepared & Analyzed: 09/02/2020						
Boron	0.97	0.10	mg/L	1.000		97	85-115	0.4	20	
Calcium	11	4.0	mg/L	10.00		107	85-115	1	20	
Iron	1.1	0.30	mg/L	1.000		111	85-115	0.3	20	
Magnesium	11	3.0	mg/L	10.00		106	85-115	0.3	20	
Potassium	11	5.0	mg/L	10.00		107	85-115	1	20	
Sodium	11	5.0	mg/L	10.00		115	85-115	7	20	
Zinc	0.49	0.040	mg/L	0.5000		98	85-115	0.3	20	
Matrix Spike (2008341-MS1)				Source: 20H0692-01		Prepared & Analyzed: 09/02/2020				
Boron	1.2	0.10	mg/L	1.000	0.21	99	70-130			
Calcium	85	4.0	mg/L	10.00	73	118	70-130			
Iron	1.1	0.30	mg/L	1.000	0.0079	109	70-130			
Magnesium	23	3.0	mg/L	10.00	13	105	70-130			
Potassium	13	5.0	mg/L	10.00	2.6	103	70-130			
Sodium	97	5.0	mg/L	10.00	85	116	70-130			
Zinc	0.51	0.040	mg/L	0.5000	0.0073	101	70-130			
Batch 2008366 - E 200.7 (4.4)										
Blank (2008366-BLK1)				Prepared & Analyzed: 09/01/2020						
Boron	ND	0.10	mg/L							
Calcium	ND	4.0	mg/L							
Iron	ND	0.30	mg/L							
Magnesium	ND	3.0	mg/L							
Potassium	ND	5.0	mg/L							
Sodium	ND	5.0	mg/L							
Zinc	ND	0.040	mg/L							
LCS (2008366-BS1)				Prepared & Analyzed: 09/01/2020						
Boron	1.0	0.10	mg/L	1.000		103	85-115			
Calcium	10	4.0	mg/L	10.00		100	85-115			
Iron	0.99	0.30	mg/L	1.000		99	85-115			
Magnesium	10	3.0	mg/L	10.00		101	85-115			
Potassium	9.9	5.0	mg/L	10.00		99	85-115			
Sodium	10	5.0	mg/L	10.00		101	85-115			
Zinc	0.50	0.040	mg/L	0.5000		100	85-115			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2008366 - E 200.7 (4.4)										
LCS Dup (2008366-BSD1)				Prepared & Analyzed: 09/01/2020						
Boron	1.0	0.10	mg/L	1.000		103	85-115	0.03	20	
Calcium	10	4.0	mg/L	10.00		102	85-115	2	20	
Iron	1.0	0.30	mg/L	1.000		100	85-115	1	20	
Magnesium	10	3.0	mg/L	10.00		102	85-115	0.9	20	
Potassium	10	5.0	mg/L	10.00		101	85-115	2	20	
Sodium	9.9	5.0	mg/L	10.00		99	85-115	2	20	
Zinc	0.50	0.040	mg/L	0.5000		99	85-115	0.1	20	
Matrix Spike (2008366-MS1)				Source: 20H0734-01		Prepared & Analyzed: 09/01/2020				
Boron	1.2	0.10	mg/L	1.000	0.15	106	70-130			
Calcium	41	4.0	mg/L	10.00	33	83	70-130			
Iron	0.99	0.30	mg/L	1.000	0.019	97	70-130			
Magnesium	11	3.0	mg/L	10.00	1.4	99	70-130			
Potassium	11	5.0	mg/L	10.00	0.88	96	70-130			
Sodium	84	25	mg/L	10.00	75	82	70-130			
Zinc	0.55	0.040	mg/L	0.5000	ND	110	70-130			
Blank (2008368-BLK1)				Prepared & Analyzed: 08/31/2020						
Aluminum	ND	0.0400	mg/L							
Antimony	ND	0.00050	mg/L							
Arsenic	ND	0.00050	mg/L							
Barium	ND	0.00050	mg/L							
Beryllium	ND	0.00025	mg/L							
Cadmium	ND	0.00025	mg/L							
Chromium	ND	0.00050	mg/L							
Cobalt	ND	0.00025	mg/L							
Copper	ND	0.00050	mg/L							
Lead	ND	0.00050	mg/L							
Manganese	ND	0.00025	mg/L							
Nickel	ND	0.00050	mg/L							
Selenium	ND	0.0025	mg/L							
Silver	ND	0.00050	mg/L							
Thallium	ND	0.00050	mg/L							
Zinc	ND	0.040	mg/L							

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2008368 - E 200.8 (5.4)										
LCS (2008368-BS1)				Prepared & Analyzed: 08/31/2020						
Aluminum	0.0994	0.0400	mg/L	0.1000		99	85-115			
Antimony	0.048	0.00050	mg/L	0.05000		95	85-115			
Arsenic	0.048	0.00050	mg/L	0.05000		96	85-115			
Barium	0.048	0.00050	mg/L	0.05000		95	85-115			
Beryllium	0.048	0.00025	mg/L	0.05000		95	85-115			
Cadmium	0.049	0.00025	mg/L	0.05000		97	85-115			
Chromium	0.050	0.00050	mg/L	0.05000		101	85-115			
Cobalt	0.051	0.00025	mg/L	0.05000		101	85-115			
Copper	0.049	0.00050	mg/L	0.05000		97	85-115			
Lead	0.048	0.00050	mg/L	0.05000		96	85-115			
Manganese	0.051	0.00025	mg/L	0.05000		102	85-115			
Nickel	0.051	0.00050	mg/L	0.05000		101	85-115			
Selenium	0.050	0.0025	mg/L	0.05000		100	85-115			
Silver	0.048	0.00050	mg/L	0.05000		97	85-115			
Thallium	0.045	0.00050	mg/L	0.05000		90	85-115			
Zinc	0.097	0.040	mg/L	0.1000		97	85-115			
LCS Dup (2008368-BSD1)				Prepared & Analyzed: 08/31/2020						
Aluminum	0.0995	0.0400	mg/L	0.1000		99	85-115	0.01	20	
Antimony	0.048	0.00050	mg/L	0.05000		95	85-115	0.02	20	
Arsenic	0.048	0.00050	mg/L	0.05000		97	85-115	0.2	20	
Barium	0.047	0.00050	mg/L	0.05000		94	85-115	1	20	
Beryllium	0.048	0.00025	mg/L	0.05000		95	85-115	0.4	20	
Cadmium	0.049	0.00025	mg/L	0.05000		98	85-115	1	20	
Chromium	0.050	0.00050	mg/L	0.05000		100	85-115	1	20	
Cobalt	0.050	0.00025	mg/L	0.05000		100	85-115	1	20	
Copper	0.049	0.00050	mg/L	0.05000		97	85-115	0.1	20	
Lead	0.049	0.00050	mg/L	0.05000		98	85-115	2	20	
Manganese	0.049	0.00025	mg/L	0.05000		99	85-115	3	20	
Nickel	0.050	0.00050	mg/L	0.05000		99	85-115	2	20	
Selenium	0.050	0.0025	mg/L	0.05000		99	85-115	0.9	20	
Silver	0.048	0.00050	mg/L	0.05000		96	85-115	0.3	20	
Thallium	0.046	0.00050	mg/L	0.05000		92	85-115	2	20	
Zinc	0.095	0.040	mg/L	0.1000		95	85-115	2	20	

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2008368 - E 200.8 (5.4)										
Matrix Spike (2008368-MS1)		Source: 20H0678-02			Prepared & Analyzed: 08/31/2020					
Aluminum	0.118	0.200	mg/L	0.1000	ND	118	70-130			
Antimony	0.053	0.0025	mg/L	0.05000	0.00047	105	70-130			
Arsenic	0.054	0.0025	mg/L	0.05000	0.00071	106	70-130			
Barium	0.069	0.0025	mg/L	0.05000	0.016	106	70-130			
Beryllium	0.049	0.0013	mg/L	0.05000	ND	97	70-130			
Cadmium	0.074	0.0013	mg/L	0.05000	0.020	108	70-130			
Chromium	0.056	0.0025	mg/L	0.05000	0.0011	110	70-130			
Cobalt	0.058	0.0013	mg/L	0.05000	0.0042	108	70-130			
Copper	0.056	0.0025	mg/L	0.05000	0.0068	98	70-130			
Lead	0.051	0.0025	mg/L	0.05000	ND	101	70-130			
Manganese	22	0.13	mg/L	0.05000	23	NR	70-130			M3
Nickel	0.079	0.0025	mg/L	0.05000	0.021	115	70-130			
Selenium	0.057	0.013	mg/L	0.05000	0.0029	109	70-130			
Silver	0.047	0.0025	mg/L	0.05000	ND	95	70-130			
Thallium	0.049	0.0025	mg/L	0.05000	ND	98	70-130			
Zinc	3.4	0.20	mg/L	0.1000	3.0	411	70-130			M3
Batch 2009003 - E 200.7 (4.4)										
Blank (2009003-BLK1)		Prepared & Analyzed: 09/04/2020								
Silica	ND	0.20	mg/L							
LCS (2009003-BS2)		Prepared & Analyzed: 09/04/2020								
Silica	11	0.20	mg/L	10.00		109	85-115			
LCS Dup (2009003-BSD2)		Prepared & Analyzed: 09/04/2020								
Silica	10	0.20	mg/L	10.00		104	85-115	4	20	
Matrix Spike (2009003-MS2)		Source: 20H0758-01			Prepared & Analyzed: 09/04/2020					
Silica	21	0.20	mg/L	10.00	9.5	115	70-130			
Batch 2009012 - E200.8 (5.4)										
Blank (2009012-BLK1)		Prepared: 09/01/2020 Analyzed: 09/02/2020								
Silver	ND	0.00050	mg/L							
LCS (2009012-BS1)		Prepared: 09/01/2020 Analyzed: 09/02/2020								
Silver	0.047	0.00050	mg/L	0.05000		94	85-115			
LCS Dup (2009012-BSD1)		Prepared: 09/01/2020 Analyzed: 09/02/2020								
Silver	0.047	0.00050	mg/L	0.05000		95	85-115	0.4	20	
Matrix Spike (2009012-MS1)		Source: 20H0678-02			Prepared: 09/01/2020 Analyzed: 09/02/2020					
Silver	0.046	0.0025	mg/L	0.05000	0.00012	91	70-130			
Batch 2009025 - E 245.1										
Blank (2009025-BLK1)		Prepared & Analyzed: 09/02/2020								
Mercury	ND	0.0010	mg/L							
LCS (2009025-BS1)		Prepared & Analyzed: 09/02/2020								
Mercury	0.0049	0.0010	mg/L	0.005000		97	85-115			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2009025 - E 245.1										
LCS Dup (2009025-BSD1)				Prepared & Analyzed: 09/02/2020						
Mercury	0.0045	0.0010	mg/L	0.005000		90	85-115	8	20	
Matrix Spike (2009025-MS1)				Source: 20H0758-01		Prepared & Analyzed: 09/02/2020				
Mercury	0.0051	0.0010	mg/L	0.005000	0.00010	100	70-130			
Matrix Spike Dup (2009025-MSD1)				Source: 20H0758-01		Prepared & Analyzed: 09/02/2020				
Mercury	0.0052	0.0010	mg/L	0.005000	0.00010	102	70-130	2	20	
Batch 2009054 - E200.7 (4.4)										
Blank (2009054-BLK1)				Prepared & Analyzed: 09/04/2020						
Silica	ND	0.20	mg/L							
LCS (2009054-BS1)				Prepared & Analyzed: 09/04/2020						
Silica	11	0.20	mg/L	10.00		105	85-115			
LCS Dup (2009054-BSD1)				Prepared & Analyzed: 09/04/2020						
Silica	11	0.20	mg/L	10.00		106	85-115	1	20	
Matrix Spike (2009054-MS1)				Source: 20H0734-01		Prepared & Analyzed: 09/04/2020				
Silica	14		mg/L	10.00	3.8	102	70-130			
Batch 2009077 - E245.1										
Blank (2009077-BLK1)				Prepared & Analyzed: 09/08/2020						
Mercury	ND	0.0010	mg/L							
LCS (2009077-BS1)				Prepared & Analyzed: 09/08/2020						
Mercury	0.0053	0.0010	mg/L	0.005000		105	85-115			
LCS Dup (2009077-BSD1)				Prepared & Analyzed: 09/08/2020						
Mercury	0.0053	0.0010	mg/L	0.005000		106	85-115	1	20	
Matrix Spike (2009077-MS1)				Source: 20I0003-01		Prepared & Analyzed: 09/08/2020				
Mercury	0.0051	0.0010	mg/L	0.005000	0.00017	98	70-130			
Matrix Spike (2009077-MS2)				Source: 20I0041-01		Prepared & Analyzed: 09/08/2020				
Mercury	0.0051	0.0010	mg/L	0.005000	0.00012	100	70-130			
Matrix Spike Dup (2009077-MSD1)				Source: 20I0003-01		Prepared & Analyzed: 09/08/2020				
Mercury	0.0051	0.0010	mg/L	0.005000	0.00017	99	70-130	1	20	
Matrix Spike Dup (2009077-MSD2)				Source: 20I0041-01		Prepared & Analyzed: 09/08/2020				
Mercury	0.0049	0.0010	mg/L	0.005000	0.00012	95	70-130	5	20	

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Qual
Batch 2008369 - SM2540 C										
Duplicate (2008369-DUP1) Source: 20H0720-01 Prepared: 08/31/2020 Analyzed: 09/02/2020										
Total Dissolved Solids (Residue, Filterable)	1900	20	mg/L		1900			2	5	
Duplicate (2008369-DUP2) Source: 20H0720-02 Prepared: 08/31/2020 Analyzed: 09/02/2020										
Total Dissolved Solids (Residue, Filterable)	1900	20	mg/L		1800			2	5	
Batch 2008376 - E180.1										
Duplicate (2008376-DUP1) Source: 20H0734-01 Prepared & Analyzed: 08/31/2020										
Turbidity	0.95	0.10	NTU		0.90			5	10	
Batch 2009036 - SM2540 D										
Duplicate (2009036-DUP1) Source: 20I0005-01 Prepared: 09/03/2020 Analyzed: 09/04/2020										
Total Suspended Solids	2.0	10	mg/L		2.0			0	5	Q9
Duplicate (2009036-DUP2) Source: 20I0066-02 Prepared: 09/03/2020 Analyzed: 09/04/2020										
Total Suspended Solids	7.0	10	mg/L		2.0			111	5	Q9, R12
Batch 2009049 - SM4500-NH3 B,C										
Blank (2009049-BLK1) Prepared & Analyzed: 09/03/2020										
Nitrogen, Ammonia (As N)	ND	0.50	mg/L							
LCS (2009049-BS1) Prepared & Analyzed: 09/03/2020										
Nitrogen, Ammonia (As N)	5.1	0.50	mg/L	5.000		101	90-110			
LCS Dup (2009049-BSD1) Prepared & Analyzed: 09/03/2020										
Nitrogen, Ammonia (As N)	5.0	0.50	mg/L	5.000		100	90-110	1	10	
Matrix Spike (2009049-MS1) Source: 20H0497-01 Prepared & Analyzed: 09/03/2020										
Nitrogen, Ammonia (As N)	5.4	0.50	mg/L	5.000	0.47	98	75-120			
Matrix Spike (2009049-MS2) Source: 20I0002-03 Prepared & Analyzed: 09/03/2020										
Nitrogen, Ammonia (As N)	5.0	0.50	mg/L	5.000	0.11	97	75-120			
Matrix Spike Dup (2009049-MSD1) Source: 20H0497-01 Prepared & Analyzed: 09/03/2020										
Nitrogen, Ammonia (As N)	5.3	0.50	mg/L	5.000	0.47	97	75-120	0.8	20	
Matrix Spike Dup (2009049-MSD2) Source: 20I0002-03 Prepared & Analyzed: 09/03/2020										
Nitrogen, Ammonia (As N)	5.0	0.50	mg/L	5.000	0.11	99	75-120	1	20	
Batch 2009073 - SM2320B										
Blank (2009073-BLK1) Prepared & Analyzed: 09/04/2020										
Alkalinity, Bicarbonate (As CaCO3)	ND	2.0	mg/L							
Alkalinity, Carbonate (As CaCO3)	ND	2.0	mg/L							
Alkalinity, Hydroxide (As CaCO3)	ND	2.0	mg/L							
Alkalinity, Total (As CaCO3)	ND	2.0	mg/L							
LCS (2009073-BS1) Prepared & Analyzed: 09/04/2020										
Alkalinity, Total (As CaCO3)	250	2.0	mg/L	250.0		98	90-110			

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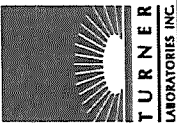
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2009073 - SM2320B										
LCS Dup (2009073-BSD1)				Prepared & Analyzed: 09/04/2020						
Alkalinity, Total (As CaCO3)	240	2.0	mg/L	250.0		97	90-110	2	10	
Matrix Spike (2009073-MS1)				Source: 20H0734-01		Prepared & Analyzed: 09/04/2020				
Alkalinity, Total (As CaCO3)	300	2.0	mg/L	250.0	62	94	70-130			
Matrix Spike Dup (2009073-MSD1)				Source: 20H0734-01		Prepared & Analyzed: 09/04/2020				
Alkalinity, Total (As CaCO3)	300	2.0	mg/L	250.0	62	94	70-130	0	10	

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Qual
Batch 2008364 - E300.0 (2.1)										
Blank (2008364-BLK1) Prepared & Analyzed: 08/28/2020										
Chloride	ND	1.0	mg/L							
Fluoride	ND	0.50	mg/L							
Nitrogen, Nitrate (As N)	ND	0.50	mg/L							
Nitrogen, Nitrite (As N)	ND	0.10	mg/L							
Sulfate	ND	5.0	mg/L							
LCS (2008364-BS1) Prepared & Analyzed: 08/28/2020										
Chloride	12	1.0	mg/L	12.50		96	90-110			
Fluoride	2.0	0.50	mg/L	2.000		102	90-110			
Nitrogen, Nitrate (As N)	4.6	0.50	mg/L	5.000		93	90-110			
Nitrogen, Nitrite (As N)	2.3	0.10	mg/L	2.500		91	90-110			
Sulfate	13	5.0	mg/L	12.50		104	90-110			
LCS Dup (2008364-BSD1) Prepared & Analyzed: 08/28/2020										
Chloride	12	1.0	mg/L	12.50		96	90-110	0.4	10	
Fluoride	2.0	0.50	mg/L	2.000		101	90-110	0.6	10	
Nitrogen, Nitrate (As N)	4.6	0.50	mg/L	5.000		92	90-110	0.6	10	
Nitrogen, Nitrite (As N)	2.3	0.10	mg/L	2.500		91	90-110	0.3	10	
Sulfate	13	5.0	mg/L	12.50		104	90-110	0.2	10	
Matrix Spike (2008364-MS1) Source: 20H0699-11 Prepared: 08/28/2020 Analyzed: 08/29/2020										
Chloride	23000	2000	mg/L	25000	ND	91	80-120			
Fluoride	5600	1000	mg/L	4000	1200	111	80-120			
Sulfate	34000	10000	mg/L	25000	26000	32	80-120			M2
Matrix Spike (2008364-MS2) Source: 20H0713-01 Prepared: 08/28/2020 Analyzed: 09/01/2020										
Nitrogen, Nitrate (As N)	9.4	0.50	mg/L	5.000	3.8	113	80-120			
Nitrogen, Nitrite (As N)	2.3	0.10	mg/L	2.500	ND	92	80-120			
Sulfate	18	5.0	mg/L	12.50	6.3	95	80-120			
Matrix Spike Dup (2008364-MSD1) Source: 20H0699-11 Prepared: 08/28/2020 Analyzed: 08/29/2020										
Chloride	23000	2000	mg/L	25000	ND	90	80-120	0.8	10	
Fluoride	5600	1000	mg/L	4000	1200	110	80-120	0.4	10	
Sulfate	34000	10000	mg/L	25000	26000	32	80-120	0.2	10	M2
Matrix Spike Dup (2008364-MSD2) Source: 20H0713-01 Prepared: 08/28/2020 Analyzed: 09/02/2020										
Nitrogen, Nitrate (As N)	9.4	0.50	mg/L	5.000	3.8	113	80-120	0.009	10	
Nitrogen, Nitrite (As N)	2.3	0.10	mg/L	2.500	ND	92	80-120	0.2	10	
Sulfate	18	5.0	mg/L	12.50	6.3	95	80-120	0.05	10	

2445 N. Coyote Drive, Suite 104
 Tucson, Arizona 85745
 (520) 882-5880
 Fax: (520) 882-9788
 www.turnerlabs.com



CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

TURNER WORK ORDER # 20H0734 DATE 08/28/2020 PAGE 1 OF 2

PROJECT NAME _____ # _____		CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX	
CONTACT NAME <u>Sheena Leon & Kara Haas</u>			
COMPANY NAME <u>South32</u>			
ADDRESS <u>2210 E Ft Lowell Rd</u>			
CITY <u>Tucson</u> STATE <u>AZ</u> ZIP CODE <u>85719</u>			
PHONE _____ FAX _____			
SAMPLER'S SIGNATURE _____			
NUMBER OF CONTAINERS			
*See attachment			
SAMPLE I.D.		SAMPLE MATRIX*	
<u>MW 9 - 08282020</u>		<u>GW</u>	
DATE <u>8.28.20</u>		TIME <u>11-12</u>	
1. RELINQUISHED BY:		2. RECEIVED BY:	
Signature <u>Jaine Lopez</u>		Signature _____	
Printed Name <u>South 32</u>		Printed Name _____	
Firm <u>8.28.20 2:00 pm</u>		Firm <u>Courier</u>	
Date/Time _____		Date/Time _____	
3. RELINQUISHED BY:		4. RECEIVED BY:	
Signature <u>Jaine Lopez</u>		Signature _____	
Printed Name _____		Printed Name _____	
Firm _____		Firm <u>TURNER LABORATORIES, INC.</u>	
Date/Time _____		Date/Time <u>8/28/20 15:40</u>	
Page 17 of 39		1547 8/28	

REPORT REQUIREMENTS: I. Routine Report II. Report (includes DUP, MS, MSD, as required, may be charged as samples) III. Date Validation Report (Includes All Raw Data) Add 10% to invoice	INVOICE INFORMATION: Account <u>Y</u> <u>N</u> P.O. # _____ Bill to: _____	SAMPLE RECEIPT: Total Containers _____ Temperature <u>4.8</u> <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Blue Ice
SPECIAL INSTRUCTIONS/COMMENTS: Compliance Analysis: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seals <input type="checkbox"/> Preservation Confirmation <input type="checkbox"/> ADEQ Forms: <input type="checkbox"/> Yes <input type="checkbox"/> No Container Intact <input type="checkbox"/> Appropriate Head Space <input type="checkbox"/> Mail ADEQ Forms: <input type="checkbox"/> Yes <input type="checkbox"/> No COC/Labels Agree <input type="checkbox"/> Received Within Hold Time <input type="checkbox"/>		

TURNAROUND REQUIREMENTS:
 Standard (approx. 10 days)
 Next day 2 Day
 5 Day*
 Email Preliminary Results to Sheena Leon
Kara Haas
***LEGEND**
 DW = DRINKING WATER
 GW = GROUNDWATER
 SD = SOLID
 SG = SLUDGE
 SL = SOIL

Groundwater Suite

LABORATORY			
Analyte	Total	Dissolved	Other
Metals			
Aluminum ✓	X	X	
Antimony ✓	X	X	
Arsenic ✓	X	X	
Barium ✓	X	X	
Beryllium ✓	X	X	
Boron ✓	X	X	
Cadmium ✓	X	X	
Chromium ✓	X	X	
Cobalt ✓	X	X	
Copper ✓	X	X	
Iron ✓	X	X	
Lead ✓	X	X	
Manganese ✓	X	X	
Mercury ✓	X	X	
Nickel ✓	X	X	
Selenium ✓	X	X	
Silver ✓	X	X	
Thallium ✓	X	X	
Zinc ✓	X	X	
Major Cations			
Ammonium ✓	X		
Calcium ✓	X	X	
Magnesium ✓	X	X	
Potassium ✓	X	X	
Sodium ✓	X	X	
Iron ✓	X	X	
Hardness ✓	X		
Major Anions			
Total Alkalinity ✓	X		
Acidity			
Chloride ✓	X	X	
Fluoride ✓	X	X	
Nitrate – Nitrite as N	X	X	
Nitrite - N ✓	X	X	
Silica ✓	X	X	
Sulfate ✓	X	X	
Sulfide			
Parameters			
Total Dissolved Solids ✓		X	
Total Suspended Solids ✓	X		

ANALYTICAL REPORT

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-148224-1
Client Project/Site: 20H0734

For:
Turner Laboratories, Inc.
2445 North Coyote Drive
Suite 104
Tucson, Arizona 85745

Attn: Elizabeth Kasik



Authorized for release by:
9/10/2020 3:57:38 PM

Ken Baker, Project Manager II
(602)659-7624
Ken.Baker@Eurofinset.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:

www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.





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Definitions/Glossary

Client: Turner Laboratories, Inc.
Project/Site: 20H0734

Job ID: 550-148224-1

Qualifiers

General Chemistry

Qualifier	Qualifier Description
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

Case Narrative

Client: Turner Laboratories, Inc.
Project/Site: 20H0734

Job ID: 550-148224-1

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Job ID: 550-148224-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

Job Narrative
550-148224-1

Comments

No additional comments.

Receipt

The sample was received on 9/1/2020 9:25 AM; the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.4° C.

General Chemistry

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

Sample Summary

Client: Turner Laboratories, Inc.
Project/Site: 20H0734

Job ID: 550-148224-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
550-148224-1	20H0734-01	Drinking Water	08/28/20 11:12	09/01/20 09:25	

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Detection Summary

Client: Turner Laboratories, Inc.
Project/Site: 20H0734

Job ID: 550-148224-1

Client Sample ID: 20H0734-01

Lab Sample ID: 550-148224-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyanide, Total	0.0025	E4	0.0050	0.0025	mg/L	1		SM 4500 CN E	Total/NA

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This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Phoenix

Client Sample Results

Client: Turner Laboratories, Inc.
Project/Site: 20H0734

Job ID: 550-148224-1

Client Sample ID: 20H0734-01

Lab Sample ID: 550-148224-1

Date Collected: 08/28/20 11:12

Matrix: Drinking Water

Date Received: 09/01/20 09:25

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.0025	E4	0.0050	0.0025	mg/L		09/10/20 10:49	09/10/20 13:22	1
Cyanide, Weak Acid Dissociable	ND	E8	0.025	0.013	mg/L		09/09/20 09:39	09/10/20 11:41	1

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QC Sample Results

Client: Turner Laboratories, Inc.
Project/Site: 20H0734

Job ID: 550-148224-1

Method: SM 4500 CN E - Cyanide, Total (Low Level)

Lab Sample ID: MB 440-623937/1-A
Matrix: Water
Analysis Batch: 623965

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 623937

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND	E8	0.0050	0.0025	mg/L		09/10/20 10:49	09/10/20 13:22	1

Lab Sample ID: LCS 440-623937/2-A
Matrix: Water
Analysis Batch: 623965

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 623937

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.100	0.0950		mg/L		95	80 - 120

Lab Sample ID: LCSD 440-623937/3-A
Matrix: Water
Analysis Batch: 623965

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 623937

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.100	0.0956		mg/L		96	80 - 120	1	20

Lab Sample ID: 550-148224-1 MS
Matrix: Drinking Water
Analysis Batch: 623965

Client Sample ID: 20H0734-01
Prep Type: Total/NA
Prep Batch: 623937

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0025	E4	0.100	0.103		mg/L		100	75 - 125

Lab Sample ID: 550-148224-1 MSD
Matrix: Drinking Water
Analysis Batch: 623965

Client Sample ID: 20H0734-01
Prep Type: Total/NA
Prep Batch: 623937

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.0025	E4	0.100	0.101		mg/L		98	75 - 125	2	20

Method: SM 4500 CN I - Cyanide, Weak Acid Dissociable

Lab Sample ID: MB 440-623754/1-A
Matrix: Water
Analysis Batch: 623946

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 623754

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Weak Acid Dissociable	ND	E8	0.025	0.013	mg/L		09/09/20 09:39	09/10/20 11:41	1

Lab Sample ID: LCS 440-623754/2-A
Matrix: Water
Analysis Batch: 623946

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 623754

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Weak Acid Dissociable	0.200	0.195		mg/L		97	80 - 120

QC Sample Results

Client: Turner Laboratories, Inc.
Project/Site: 20H0734

Job ID: 550-148224-1

Method: SM 4500 CN I - Cyanide, Weak Acid Dissociable (Continued)

Lab Sample ID: LCSD 440-623754/3-A
Matrix: Water
Analysis Batch: 623946

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 623754

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Cyanide, Weak Acid Dissociable	0.200	0.194		mg/L		97	80 - 120	1	20

Lab Sample ID: 550-148224-1 MS
Matrix: Drinking Water
Analysis Batch: 623946

Client Sample ID: 20H0734-01
Prep Type: Total/NA
Prep Batch: 623754

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Cyanide, Weak Acid Dissociable	ND	E8	0.200	0.197		mg/L		99	75 - 125		

Lab Sample ID: 550-148224-1 MSD
Matrix: Drinking Water
Analysis Batch: 623946

Client Sample ID: 20H0734-01
Prep Type: Total/NA
Prep Batch: 623754

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Cyanide, Weak Acid Dissociable	ND	E8	0.200	0.195		mg/L		97	75 - 125	1	20

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QC Association Summary

Client: Turner Laboratories, Inc.
Project/Site: 20H0734

Job ID: 550-148224-1

General Chemistry

Prep Batch: 623754

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-148224-1	20H0734-01	Total/NA	Drinking Water	SM 4500 CN I	
MB 440-623754/1-A	Method Blank	Total/NA	Water	Distill/CN	
LCS 440-623754/2-A	Lab Control Sample	Total/NA	Water	Distill/CN	
LCSD 440-623754/3-A	Lab Control Sample Dup	Total/NA	Water	Distill/CN	
550-148224-1 MS	20H0734-01	Total/NA	Drinking Water	SM 4500 CN I	
550-148224-1 MSD	20H0734-01	Total/NA	Drinking Water	SM 4500 CN I	

Prep Batch: 623937

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-148224-1	20H0734-01	Total/NA	Drinking Water	Distill/CN	
MB 440-623937/1-A	Method Blank	Total/NA	Water	Distill/CN	
LCS 440-623937/2-A	Lab Control Sample	Total/NA	Water	Distill/CN	
LCSD 440-623937/3-A	Lab Control Sample Dup	Total/NA	Water	Distill/CN	
550-148224-1 MS	20H0734-01	Total/NA	Drinking Water	Distill/CN	
550-148224-1 MSD	20H0734-01	Total/NA	Drinking Water	Distill/CN	

Analysis Batch: 623946

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-148224-1	20H0734-01	Total/NA	Drinking Water	SM 4500 CN I	623754
MB 440-623754/1-A	Method Blank	Total/NA	Water	SM 4500 CN I	623754
LCS 440-623754/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN I	623754
LCSD 440-623754/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN I	623754
550-148224-1 MS	20H0734-01	Total/NA	Drinking Water	SM 4500 CN I	623754
550-148224-1 MSD	20H0734-01	Total/NA	Drinking Water	SM 4500 CN I	623754

Analysis Batch: 623965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-148224-1	20H0734-01	Total/NA	Drinking Water	SM 4500 CN E	623937
MB 440-623937/1-A	Method Blank	Total/NA	Water	SM 4500 CN E	623937
LCS 440-623937/2-A	Lab Control Sample	Total/NA	Water	SM 4500 CN E	623937
LCSD 440-623937/3-A	Lab Control Sample Dup	Total/NA	Water	SM 4500 CN E	623937
550-148224-1 MS	20H0734-01	Total/NA	Drinking Water	SM 4500 CN E	623937
550-148224-1 MSD	20H0734-01	Total/NA	Drinking Water	SM 4500 CN E	623937

Lab Chronicle

Client: Turner Laboratories, Inc.
Project/Site: 20H0734

Job ID: 550-148224-1

Client Sample ID: 20H0734-01

Lab Sample ID: 550-148224-1

Date Collected: 08/28/20 11:12

Matrix: Drinking Water

Date Received: 09/01/20 09:25

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Prepared or Analyzed</u>	<u>Analyst</u>	<u>Lab</u>
Total/NA	Prep	Distill/CN			623937	09/10/20 10:49	CKL	TAL IRV
Total/NA	Analysis	SM 4500 CN E		1	623965	09/10/20 13:22	CKL	TAL IRV
Total/NA	Prep	SM 4500 CN I			623754	09/09/20 09:39	CKL	TAL IRV
Total/NA	Analysis	SM 4500 CN I		1	623946	09/10/20 11:41	CKL	TAL IRV

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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Accreditation/Certification Summary

Client: Turner Laboratories, Inc.
Project/Site: 20H0734

Job ID: 550-148224-1

Laboratory: Eurofins Calscience Irvine

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

<u>Authority</u>	<u>Program</u>	<u>Identification Number</u>	<u>Expiration Date</u>
Arizona	State	AZ0671	10-13-20

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.

<u>Analysis Method</u>	<u>Prep Method</u>	<u>Matrix</u>	<u>Analyte</u>
SM 4500 CN I	SM 4500 CN I	Drinking Water	Cyanide, Weak Acid Dissociable

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Method Summary

Client: Turner Laboratories, Inc.
Project/Site: 20H0734

Job ID: 550-148224-1

Method	Method Description	Protocol	Laboratory
SM 4500 CN E	Cyanide, Total (Low Level)	SM	TAL IRV
SM 4500 CN I	Cyanide, Weak Acid Dissociable	SM	TAL IRV
Distill/CN	Distillation, Cyanide	None	TAL IRV
SM 4500 CN I	Cyanide, Distillation for Weak Acid Dissociable	SM	TAL IRV

Protocol References:

None = None

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

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022



SUBCONTRACT ORDER

Turner Laboratories, Inc.
20H0734

148224

SENDING LABORATORY:

Turner Laboratories, Inc.
2445 N. Coyote Drive, Ste #104
Tucson, AZ 85745
Phone: 520.882.5880
Fax: 520.882.9788
Project Manager: Elizabeth Kasik

RECEIVING LABORATORY:

TestAmerica Phoenix
4625 East Cotton Center Boulevard Suite 189
Phoenix, AZ 85540
Phone : (602) 437-3340
Fax:
Please CC Kevin Brim Kbrim@turnerlabs.com

Analysis	Expires	Laboratory ID	Comments
----------	---------	---------------	----------

-01			
Sample ID: 20H0734-01 Drinking Water	Sampled: 08/28/2020 11:12		

Cyanide WAD	09/11/2020 11:12		
Cyanide	09/11/2020 11:12		

Containers Supplied:

Cyanide
Cyanide

550-148224 Chain of Custody



14°C
UPS
NO AIR

<i>[Signature]</i>	8/31/20	1600	UPS	08/31/20	1600
Released By	Date			Date	
<i>[Signature]</i>			<i>[Signature]</i>	9-1-20	09125
Released By	Date		Received By	Date	

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Chain of Custody Record



Client Information (Sub Contract Lab)		Lab PM Baker, Ken	Carrier Tracking No(s)	COC No 550-28539-1
Client Contact Shipping/Receiving		E-Mail Ken.Baker@Eurofinsnet.com	State of Origin Arizona	Page Page 1 of 1
Company Eurofins Calscience LLC		Accreditations Required (See note) State Program - Arizona	Job # 550-148224-1	Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:
Address 17461 Denian Ave, Suite 100, Irvine State, Zip CA, 92614-5817		Due Date Requested: 8/16/2020	Analysis Requested	
Phone 949-261-1022(Tel) 949-260-3297(Fax)		TAT Requested (days):	M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Email		PO #	Total Number of Containers	
WO #		Project # 55003219	1	
SSON#		SSON#	AZ Sample	
Sample Identification - Client ID (Lab ID)		Sample Date 8/28/20	Special Instructions/Note:	
20H0734-01 (550-148224-1)		Sample Time 11:12	AZ Sample	
Sample Type (C=Comp, G=grab)		Sample Time Arizona		
Matrix (Water, Spiked, Comparison)		Preservation Code		
Water				
Field Filtered Sample (Yes or No)				
Perform MS/MSD (Yes or No)				
4500_CN_E_LLDistill_CN_LL_Cyanide				
4500_CN_U4500_CN_L_Prep_Cyanide_Weak Acid				
Disasiable				

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analysis & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.

Possible Hazard Identification
 Unconfirmed
 Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank 2
 Special Instructions/QC Requirements.

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

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment
Relinquished by <i>Sue 09-23-20</i>	14:10	7A	Fedex
Relinquished by	Date/Time	Company	Company
Relinquished by	Date/Time	Company	Company
Relinquished by	Date/Time	Company	Company
Custody Seal Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Custody Seal No.: 189 1.8/18		



Login Sample Receipt Checklist

Client: Turner Laboratories, Inc.

Job Number: 550-148224-1

Login Number: 148224

List Source: Eurofins TestAmerica, Phoenix

List Number: 1

Creator: Gravlin, Andrea

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are 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 containers received 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	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Turner Laboratories, Inc.

Job Number: 550-148224-1

Login Number: 148224

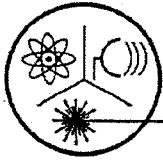
List Number: 2

Creator: Dolidze, Lado

List Source: Eurofins Irvine

List Creation: 09/04/20 12:54 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	Not Present
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?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received 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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Turner Laboratories
2445 N. Coyote Drive, Ste. 104
Tucson, AZ 85745

Sampling Date: August 28, 2020
Sample Received: September 01, 2020
Analysis Completed: September 21, 2020

Sample ID	Gross Alpha Activity Method 600/00-02 (pCi/L)	Gross Beta Activity Method 900.0 (pCi/L)
20H0734-01	< 1.0	< 2.3

Date of Analysis	9/2/2020	9/15/2020
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9/21/2020

Jeremy Russell, BSE
Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

August 28, 2020 11:12 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002	9/2/2020	< 1.0	
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010			
GammaRay HPGE		1 pCi/L	Radium 226	4020			
GammaRay HPGE		1 pCi/L	Radium 228	4030			

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE65037

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: 20H0734-01

Authorized Signature: _____

Date Public Water System Notified: _____

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

August 28, 2020 11:12 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point

EPDS # _____

Compliance Sample Type:

- Reduced Monitoring
- Quarterly
- Composite of four quarterly samples

Date Q1 collected: _____

Date Q2 collected: _____

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
900	4 mrem	4 pCi/L	Gross Beta	4100	9/15/2020	< 4 mrem	_____
906	20,000 pCi/L	1,000 pCi/L	Tritium	4102	_____	_____	_____
_____	_____	10 pCi/L	Strontium-89	4172	_____	_____	_____
_____	8 pCi/L	2 pCi/L	Strontium-90	4174	_____	_____	_____
_____	_____	1 pCi/L	Iodine-131	4264	_____	_____	_____
_____	_____	10 pCi/L	Cesium-134	4270	_____	_____	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE65037 _____

Lab ID Number: AZ0462 _____

Lab Name: Radiation Safety Engineering, Inc. _____

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____

Comments: 20H0734-01 _____

Authorized Signature:  _____

Date Public Water System Notified: _____

DWAR 6A: 11/2007

SUBCONTRACT ORDER

Turner Laboratories, Inc.

20H0734

SENDING LABORATORY:

Turner Laboratories, Inc.
2445 N. Coyote Drive, Ste #104
Tucson, AZ 85745
Phone: 520.882.5880
Fax: 520.882.9788
Project Manager: Elizabeth Kasik

RECEIVING LABORATORY:

Radiation Safety Engineering, Inc.
3245 N. Washington St.
Chandler, AZ 85225-1121
Phone : (480) 897-9459
Fax: (480) 892-5446
Please CC Kevin Brim Kbrim@turnerlabs.com

Analysis	Expires	Laboratory ID	Comments
Sample ID: 20H0734-01 Drinking Water Sampled:08/28/2020 11:12			
Radiochemistry, Gross Alpha	02/24/2021 11:12		
Radiochemistry Gross Beta	02/24/2021 11:12		
Containers Supplied:			65037

Released By *[Signature]* Date *8/31/20 1600* Received By *UPS* Date *8/31/20 1600*
Released By *Pat Flannery* Date *9-1-20 11:00* Received By *[Signature]* Date *9-1-20 11:00*



December 15, 2021

Jared Bean
Arizona Minerals Inc.
2210 E. Fort Lowell Rd
Tucson, AZ 85719

TEL (802) 235-5563
FAX

RE: AMI-310

Work Order No.: 21D0200
Order Name: Hermosa Project

Dear Jared Bean,

Turner Laboratories, Inc. received 1 sample(s) on 04/07/2021 for the analyses presented in the following report.

All results are intended to be considered in their entirety, and Turner Laboratories, Inc. is not responsible for use of less than the complete report. Results apply only to the samples analyzed. Samples will be disposed of 30 days after issue of our report unless special arrangements are made.

The pages that follow may contain sensitive, privileged or confidential information intended solely for the addressee named above. If you receive this message and are not the agent or employee of the addressee, this communication has been sent in error. Please do not disseminate or copy any of the attached and notify the sender immediately by telephone. Please also return the attached sheet(s) to the sender by mail.

Please call if you have any questions.

Respectfully submitted,

Turner Laboratories, Inc.
ADHS License AZ0066

Kevin Brim
Project Manager

Client: Arizona Minerals Inc.
Project: AMI-310
Work Order: 21D0200
Date Received: 04/07/2021

Order: Hermosa Project

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date/Time
21D0200-01	MW-9-20210407	Ground Water	04/07/2021 0855

Client: Arizona Minerals Inc.
Project: AMI-310
Work Order: 21D0200
Date Received: 04/07/2021

Case Narrative

- E4 Concentration estimated. Analyte was detected below laboratory Minimum Reporting Limit (MRL) but above MDL.
 - E8 Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
 - M2 Matrix spike recovery was low; the associated LCS/LCSD was acceptable.
 - M3 The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated LCS/LCSD recovery was acceptable.
 - Q9 Insufficient sample received to meet method QC requirements.
- All soil, sludge, and solid matrix determinations are reported on a wet weight basis unless otherwise noted.
- ND Not Detected at or above the PQL
 - PQL Practical Quantitation Limit
 - DF Dilution Factor
-

Turner Laboratories, Inc.**Date: 12/15/2021**

Client: Arizona Minerals Inc.
Project: AMI-310
Work Order: 21D0200
Lab Sample ID: 21D0200-01

Client Sample ID: MW-9-20210407
Collection Date/Time: 04/07/2021 0855
Matrix: Ground Water
Order Name: Hermosa Project

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
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Hardness-Calculation

Hardness, Calcium/Magnesium (As 110 CaCO3)					mg/L	1	04/08/2021	113	04/13/2021	132	MH
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ICP Dissolved Metals-E 200.7 (4.4)

Boron	0.17		0.10		mg/L	1	04/07/2021	170	04/15/2021	112	MH
Calcium	30		4.0		mg/L	1	04/07/2021	170	04/15/2021	112	MH
Iron	0.088	0.0031	0.30	E4	mg/L	1	04/07/2021	170	04/15/2021	112	MH
Magnesium	1.0	0.10	3.0	E4	mg/L	1	04/07/2021	170	04/15/2021	112	MH
Potassium	0.97	0.14	5.0	E4	mg/L	1	04/07/2021	170	04/15/2021	112	MH
Silica	19		0.20		mg/L	1	04/07/2021	170	04/15/2021	112	MH
Sodium	70		5.0		mg/L	1	04/07/2021	170	04/15/2021	112	MH

ICP/MS Dissolved Metals-E 200.8 (5.4)

Aluminum	ND	0.066	0.20	E8	mg/L	5	04/09/2021	123	04/15/2021	114	CR
Antimony	ND	0.00020	0.0025	E8	mg/L	5	04/09/2021	123	04/15/2021	114	CR
Arsenic	0.0076		0.00050		mg/L	1	04/09/2021	123	04/15/2021	113	CR
Barium	0.017		0.0025		mg/L	5	04/09/2021	123	04/15/2021	114	CR
Beryllium	ND	0.000066	0.0013	E8	mg/L	5	04/09/2021	123	04/15/2021	114	CR
Cadmium	ND	0.000050	0.00025	E8	mg/L	1	04/09/2021	123	04/15/2021	113	CR
Chromium	0.00017	0.000023	0.00050	E4	mg/L	1	04/09/2021	123	04/15/2021	113	CR
Cobalt	ND		0.00025		mg/L	1	04/09/2021	123	04/15/2021	113	CR
Copper	0.00022	0.00015	0.00050	E4	mg/L	1	04/09/2021	123	04/15/2021	113	CR
Lead	ND	0.00029	0.0025	E8	mg/L	5	04/09/2021	123	04/15/2021	114	CR
Manganese	0.12		0.00025		mg/L	1	04/09/2021	123	04/15/2021	113	CR
Nickel	0.00017	0.000015	0.00050	E4	mg/L	1	04/09/2021	123	04/15/2021	113	CR
Selenium	ND	0.00025	0.0025	E8	mg/L	1	04/09/2021	123	04/15/2021	113	CR
Silver	0.00007	0.000021	0.00050	E4	mg/L	1	04/09/2021	123	04/15/2021	113	CR
Thallium	ND	0.00012	0.0025	E8	mg/L	5	04/09/2021	123	04/15/2021	114	CR
Uranium	0.0018	0.000074	0.0025	E4	mg/L	5	04/09/2021	123	04/15/2021	114	CR
Zinc	ND	0.0023	0.040	E8	mg/L	1	04/09/2021	123	04/15/2021	113	CR

CVAA Dissolved Mercury-E 245.1

Mercury	0.00010		0.0010		mg/L	1	04/14/2021	100	04/14/2021	163	LB
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ICP Total Metals-E200.7 (4.4)

Turner Laboratories, Inc.

Date: 12/15/2021

Client: Arizona Minerals Inc.
 Project: AMI-310
 Work Order: 21D0200
 Lab Sample ID: 21D0200-01

Client Sample ID: MW-9-20210407
 Collection Date/Time: 04/07/2021 0855
 Matrix: Ground Water
 Order Name: Hermosa Project

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Boron	0.16		0.10		mg/L	1	04/08/2021	1130 04/13/2021	132 MH
Calcium	37		4.0		mg/L	1	04/08/2021	1130 04/13/2021	132 MH
Iron	4.4		0.30		mg/L	1	04/08/2021	1130 04/13/2021	132 MH
Magnesium	3.9		3.0		mg/L	1	04/08/2021	1130 04/13/2021	132 MH
Potassium	3.3	0.14	5.0	E4	mg/L	1	04/08/2021	1130 04/13/2021	132 MH
Silica	41		0.20		mg/L	1	04/08/2021	1130 04/13/2021	132 MH
Sodium	78		5.0		mg/L	1	04/08/2021	1130 04/13/2021	132 MH

ICP/MS Total Metals-E200.8 (5.4)

Aluminum	6.1		0.80		mg/L	20	04/12/2021	1250 04/14/2021	124 CR
Antimony	0.00046	0.000039	0.00050	E4	mg/L	1	04/12/2021	1250 04/13/2021	134 CR
Arsenic	0.014		0.00050		mg/L	1	04/12/2021	1250 04/13/2021	134 CR
Barium	0.098		0.00050		mg/L	1	04/12/2021	1250 04/13/2021	134 CR
Beryllium	0.00043	0.00026	0.0050	E4	mg/L	20	04/12/2021	1250 04/14/2021	124 CR
Cadmium	0.00025	0.000050	0.00025	E4	mg/L	1	04/12/2021	1250 04/13/2021	134 CR
Chromium	0.0068		0.00050		mg/L	1	04/12/2021	1250 04/13/2021	134 CR
Cobalt	0.00195		0.000250		mg/L	1	04/12/2021	1250 04/13/2021	134 CR
Copper	0.016		0.00050		mg/L	1	04/12/2021	1250 04/13/2021	134 CR
Lead	0.098		0.00050		mg/L	1	04/12/2021	1250 04/13/2021	134 CR
Manganese	0.17		0.00025		mg/L	1	04/12/2021	1250 04/13/2021	134 CR
Nickel	0.0049		0.00050		mg/L	1	04/12/2021	1250 04/13/2021	134 CR
Selenium	0.00085	0.00025	0.0025	E4	mg/L	1	04/12/2021	1250 04/13/2021	134 CR
Silver	0.00011	0.000021	0.00050	E4	mg/L	1	04/12/2021	1250 04/13/2021	134 CR
Thallium	0.00034	0.000023	0.00050	E4	mg/L	1	04/12/2021	1250 04/13/2021	134 CR
Uranium	0.0044		0.00050		mg/L	1	04/12/2021	1250 04/13/2021	134 CR
Zinc	0.091		0.040		mg/L	1	04/12/2021	1250 04/13/2021	134 CR

CVAA Total Mercury-E245.1

Mercury	0.00054		0.0010		mg/L	1	04/14/2021	1000 04/14/2021	155 LB
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Anions by Ion Chromatography-E300.0 (2.1)

Chloride	4.3		1.0		mg/L	1	04/07/2021	1200 04/07/2021	213 JG
Fluoride	ND	0.29	0.50	E8	mg/L	1	04/07/2021	1200 04/07/2021	213 JG
Nitrogen, Nitrate (As N)	ND	0.20	0.50	E8	mg/L	1	04/07/2021	1200 04/07/2021	213 JG
Nitrogen, Nitrite (As N)	ND	0.027	0.10	E8	mg/L	1	04/07/2021	1200 04/07/2021	213 JG
Sulfate	170		50		mg/L	10	04/07/2021	1200 04/07/2021	215 JG

Calculation-Ion Balance

Turner Laboratories, Inc.**Date: 12/15/2021**

Client: Arizona Minerals Inc.
Project: AMI-310
Work Order: 21D0200
Lab Sample ID: 21D0200-01

Client Sample ID: MW-9-20210407
Collection Date/Time: 04/07/2021 0855
Matrix: Ground Water
Order Name: Hermosa Project

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anion	5.51				meq/L	1	04/16/2021 151	04/16/2021 151	KB
Cation	4.66				meq/L	1	04/16/2021 151	04/16/2021 151	KB
Cation/Anion, % Difference	8.36				meq/L	1	04/16/2021 151	04/16/2021 151	KB
Alkalinity-SM2320B									
Alkalinity, Bicarbonate (As CaCO ₃)	66		2.0		mg/L	1	04/09/2021 080	04/09/2021 165	CWB
Alkalinity, Carbonate (As CaCO ₃)	ND		2.0		mg/L	1	04/09/2021 080	04/09/2021 165	CWB
Alkalinity, Hydroxide (As CaCO ₃)	ND		2.0		mg/L	1	04/09/2021 080	04/09/2021 165	CWB
Alkalinity, Total (As CaCO ₃)	66		2.0		mg/L	1	04/09/2021 080	04/09/2021 165	CWB
Total Dissolved Solids (Residue, Filterable)-SM2540 C									
Total Dissolved Solids (Residue, Filterable)	360		20		mg/L	1	04/08/2021 170	04/11/2021 160	CWB
Total Suspended Solids (Residue, Non-Filterable)-SM2540 D									
Total Suspended Solids	100		10		mg/L	1	04/12/2021 105	04/12/2021 161	CWB
Cyanide-SM4500-CN BE									
Cyanide	ND	0.067	0.10	E8	mg/L	1	04/08/2021 083	04/09/2021 115	JG
Ammonia as N-SM4500-NH3 B,C									
Nitrogen, Ammonia (As N)	ND	0.045	0.50	E8	mg/L	1	04/09/2021 103	04/09/2021 165	JG
Silica-SM4500-SiO2 C									
Silica	20		10		mg/L	5	04/16/2021 132	04/16/2021 141	CWB

Client: Arizona Minerals Inc.
Project: AMI-310
Work Order: 21D0200
Date Received: 04/07/2021

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Qual
Batch 2104096 - E 200.7 (4.4)										
Blank (2104096-BLK1)				Prepared & Analyzed: 04/15/2021						
Boron	ND	0.10	mg/L							
Calcium	ND	4.0	mg/L							
Iron	ND	0.30	mg/L							
Magnesium	ND	3.0	mg/L							
Potassium	ND	5.0	mg/L							
Silica	ND	0.20	mg/L							
Sodium	ND	5.0	mg/L							
LCS (2104096-BS1)				Prepared & Analyzed: 04/15/2021						
Boron	0.95	0.10	mg/L	1.000		95	85-115			
Calcium	10	4.0	mg/L	10.00		100	85-115			
Iron	1.1	0.30	mg/L	1.000		107	85-115			
Magnesium	9.8	3.0	mg/L	10.00		98	85-115			
Potassium	10	5.0	mg/L	10.00		101	85-115			
Sodium	11	5.0	mg/L	10.00		106	85-115			
LCS (2104096-BS2)				Prepared & Analyzed: 04/15/2021						
Silica	9.5	0.20	mg/L	10.00		95	85-115			
LCS Dup (2104096-BSD1)				Prepared & Analyzed: 04/15/2021						
Boron	0.94	0.10	mg/L	1.000		94	85-115	1	20	
Calcium	9.6	4.0	mg/L	10.00		96	85-115	4	20	
Iron	1.0	0.30	mg/L	1.000		104	85-115	3	20	
Magnesium	9.5	3.0	mg/L	10.00		95	85-115	3	20	
Potassium	9.7	5.0	mg/L	10.00		97	85-115	4	20	
Sodium	11	5.0	mg/L	10.00		110	85-115	4	20	
LCS Dup (2104096-BSD2)				Prepared & Analyzed: 04/15/2021						
Silica	9.6	0.20	mg/L	10.00		96	85-115	1	20	
Matrix Spike (2104096-MS1)				Source: 21D0046-27		Prepared & Analyzed: 04/15/2021				
Boron	1.0		mg/L	1.000	0.032	98	70-130			
Calcium	94		mg/L	10.00	94	5	70-130			M3
Iron	8.8		mg/L	1.000	8.7	17	70-130			M3
Magnesium	84		mg/L	10.00	83	15	70-130			M3
Potassium	15		mg/L	10.00	4.9	99	70-130			
Sodium	26		mg/L	10.00	17	90	70-130			
Matrix Spike (2104096-MS2)				Source: 21D0046-31		Prepared & Analyzed: 04/15/2021				
Boron	1.0		mg/L	1.000	0.021	100	70-130			
Calcium	98		mg/L	10.00	91	68	70-130			M3
Iron	3.7		mg/L	1.000	2.8	92	70-130			
Magnesium	65		mg/L	10.00	57	79	70-130			
Potassium	13		mg/L	10.00	2.8	106	70-130			
Sodium	25		mg/L	10.00	14	107	70-130			
Matrix Spike (2104096-MS3)				Source: 21D0046-27		Prepared & Analyzed: 04/15/2021				
Silica	41		mg/L	10.00	32	86	70-130			
Batch 2104129 - E 200.8 (5.4)										

Client: Arizona Minerals Inc.
 Project: AMI-310
 Work Order: 21D0200
 Date Received: 04/07/2021

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2104129 - E 200.8 (5.4)										
Blank (2104129-BLK1)										
Prepared & Analyzed: 04/15/2021										
Aluminum	ND	0.040	mg/L							
Antimony	ND	0.00050	mg/L							
Arsenic	ND	0.00050	mg/L							
Barium	ND	0.00050	mg/L							
Beryllium	ND	0.00025	mg/L							
Cadmium	ND	0.00025	mg/L							
Chromium	ND	0.00050	mg/L							
Cobalt	ND	0.00025	mg/L							
Copper	ND	0.00050	mg/L							
Lead	ND	0.00050	mg/L							
Manganese	ND	0.00025	mg/L							
Nickel	ND	0.00050	mg/L							
Selenium	ND	0.0025	mg/L							
Silver	ND	0.00050	mg/L							
Thallium	ND	0.00050	mg/L							
Uranium	ND	0.00050	mg/L							
Zinc	ND	0.040	mg/L							
LCS (2104129-BS1)										
Prepared & Analyzed: 04/15/2021										
Aluminum	0.093	0.040	mg/L	0.1000		93	85-115			
Antimony	0.044	0.00050	mg/L	0.05000		88	85-115			
Arsenic	0.046	0.00050	mg/L	0.05000		92	85-115			
Barium	0.046	0.00050	mg/L	0.05000		91	85-115			
Beryllium	0.046	0.00025	mg/L	0.05000		92	85-115			
Cadmium	0.046	0.00025	mg/L	0.05000		93	85-115			
Chromium	0.045	0.00050	mg/L	0.05000		90	85-115			
Cobalt	0.045	0.00025	mg/L	0.05000		91	85-115			
Copper	0.045	0.00050	mg/L	0.05000		91	85-115			
Lead	0.045	0.00050	mg/L	0.05000		91	85-115			
Manganese	0.045	0.00025	mg/L	0.05000		90	85-115			
Nickel	0.046	0.00050	mg/L	0.05000		91	85-115			
Selenium	0.046	0.0025	mg/L	0.05000		92	85-115			
Silver	0.045	0.00050	mg/L	0.05000		90	85-115			
Thallium	0.045	0.00050	mg/L	0.05000		90	85-115			
Uranium	0.045	0.00050	mg/L	0.05000		91	85-115			
Zinc	0.094	0.040	mg/L	0.1000		94	85-115			

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QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Qual
Batch 2104129 - E 200.8 (5.4)										
LCS Dup (2104129-BSD1)				Prepared & Analyzed: 04/15/2021						
Aluminum	0.090	0.040	mg/L	0.1000		90	85-115	3	20	
Antimony	0.043	0.00050	mg/L	0.05000		85	85-115	3	20	
Arsenic	0.045	0.00050	mg/L	0.05000		90	85-115	2	20	
Barium	0.045	0.00050	mg/L	0.05000		89	85-115	2	20	
Beryllium	0.045	0.00025	mg/L	0.05000		89	85-115	4	20	
Cadmium	0.045	0.00025	mg/L	0.05000		91	85-115	2	20	
Chromium	0.045	0.00050	mg/L	0.05000		89	85-115	0.8	20	
Cobalt	0.045	0.00025	mg/L	0.05000		90	85-115	1	20	
Copper	0.045	0.00050	mg/L	0.05000		89	85-115	1	20	
Lead	0.044	0.00050	mg/L	0.05000		88	85-115	3	20	
Manganese	0.044	0.00025	mg/L	0.05000		89	85-115	2	20	
Nickel	0.045	0.00050	mg/L	0.05000		91	85-115	0.7	20	
Selenium	0.045	0.0025	mg/L	0.05000		91	85-115	1	20	
Silver	0.044	0.00050	mg/L	0.05000		87	85-115	3	20	
Thallium	0.045	0.00050	mg/L	0.05000		89	85-115	1	20	
Uranium	0.045	0.00050	mg/L	0.05000		90	85-115	1	20	
Zinc	0.093	0.040	mg/L	0.1000		93	85-115	1	20	
Matrix Spike (2104129-MS1)				Source: 21D0200-01		Prepared & Analyzed: 04/15/2021				
Aluminum	0.095	0.20	mg/L	0.1000	ND	95	70-130			
Antimony	0.047	0.0025	mg/L	0.05000	ND	93	70-130			
Arsenic	0.060	0.00050	mg/L	0.05000	0.0076	105	70-130			
Barium	0.064	0.0025	mg/L	0.05000	0.017	95	70-130			
Beryllium	0.044	0.0013	mg/L	0.05000	ND	89	70-130			
Cadmium	0.050	0.00025	mg/L	0.05000	ND	101	70-130			
Chromium	0.047	0.00050	mg/L	0.05000	0.00017	95	70-130			
Cobalt	0.047	0.00025	mg/L	0.05000	0.00011	94	70-130			
Copper	0.042	0.00050	mg/L	0.05000	0.00022	84	70-130			
Lead	0.057	0.0025	mg/L	0.05000	ND	113	70-130			
Manganese	0.16	0.00025	mg/L	0.05000	0.12	90	70-130			
Nickel	0.047	0.00050	mg/L	0.05000	0.00017	93	70-130			
Selenium	0.051	0.0025	mg/L	0.05000	ND	102	70-130			
Silver	0.040	0.00050	mg/L	0.05000	0.000071	80	70-130			
Thallium	0.056	0.0025	mg/L	0.05000	ND	112	70-130			
Uranium	0.057	0.0025	mg/L	0.05000	0.0018	110	70-130			
Zinc	0.099	0.040	mg/L	0.1000	ND	99	70-130			
Batch 2104132 - E200.7 (4.4)										
Blank (2104132-BLK1)				Prepared: 04/08/2021 Analyzed: 04/13/2021						
Boron	ND	0.10	mg/L							
Calcium	ND	4.0	mg/L							
Iron	ND	0.30	mg/L							
Magnesium	ND	3.0	mg/L							
Potassium	ND	5.0	mg/L							
Silica	ND	0.20	mg/L							
Sodium	ND	5.0	mg/L							

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QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2104132 - E200.7 (4.4)										
LCS (2104132-BS1)				Prepared: 04/08/2021 Analyzed: 04/13/2021						
Boron	0.96	0.10	mg/L	1.000		96	85-115			
Calcium	9.1	4.0	mg/L	10.00		91	85-115			
Iron	0.94	0.30	mg/L	1.000		94	85-115			
Magnesium	9.2	3.0	mg/L	10.00		92	85-115			
Potassium	9.0	5.0	mg/L	10.00		90	85-115			
Sodium	10	5.0	mg/L	10.00		101	85-115			
LCS (2104132-BS2)				Prepared: 04/08/2021 Analyzed: 04/13/2021						
Silica	8.7	0.20	mg/L	10.00		87	85-115			
LCS Dup (2104132-BSD1)				Prepared: 04/08/2021 Analyzed: 04/13/2021						
Boron	0.96	0.10	mg/L	1.000		96	85-115	0.7	20	
Calcium	9.4	4.0	mg/L	10.00		94	85-115	3	20	
Iron	0.94	0.30	mg/L	1.000		94	85-115	0.6	20	
Magnesium	9.3	3.0	mg/L	10.00		93	85-115	1	20	
Potassium	9.2	5.0	mg/L	10.00		92	85-115	2	20	
Sodium	9.1	5.0	mg/L	10.00		91	85-115	11	20	
LCS Dup (2104132-BSD2)				Prepared: 04/08/2021 Analyzed: 04/13/2021						
Silica	8.6	0.20	mg/L	10.00		86	85-115	1	20	
Matrix Spike (2104132-MS1)				Source: 21D0009-02		Prepared: 04/08/2021 Analyzed: 04/13/2021				
Boron	1.2	0.10	mg/L	1.000	0.27	91	70-130			
Calcium	210	4.0	mg/L	10.00	210	58	70-130			M3
Iron	1.5	0.30	mg/L	1.000	0.59	94	70-130			
Magnesium	51	3.0	mg/L	10.00	41	99	70-130			
Potassium	36	5.0	mg/L	10.00	26	104	70-130			
Sodium	180	5.0	mg/L	10.00	170	102	70-130			
Matrix Spike (2104132-MS2)				Source: 21D0010-01		Prepared: 04/08/2021 Analyzed: 04/16/2021				
Boron	0.94	0.10	mg/L	1.000	0.033	91	70-130			
Calcium	14	4.0	mg/L	10.00	3.8	98	70-130			
Iron	1.0	0.30	mg/L	1.000	0.019	98	70-130			
Potassium	9.7	5.0	mg/L	10.00	ND	97	70-130			
Matrix Spike (2104132-MS3)				Source: 21D0009-02		Prepared: 04/08/2021 Analyzed: 04/13/2021				
Silica	86	0.20	mg/L	10.00	76	108	70-130			
Batch 2104161 - E200.8 (5.4)										

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QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2104161 - E200.8 (5.4)										
Blank (2104161-BLK1)										
				Prepared: 04/12/2021 Analyzed: 04/13/2021						
Aluminum	ND	0.040	mg/L							
Antimony	ND	0.00050	mg/L							
Arsenic	ND	0.00050	mg/L							
Barium	0.000046	0.00050	mg/L							
Beryllium	ND	0.00025	mg/L							
Cadmium	ND	0.00025	mg/L							
Chromium	0.000046	0.00050	mg/L							
Cobalt	ND	0.000250	mg/L							
Copper	ND	0.00050	mg/L							
Lead	ND	0.00050	mg/L							
Manganese	0.000087	0.00025	mg/L							
Nickel	0.00039	0.00050	mg/L							
Selenium	ND	0.0025	mg/L							
Silver	ND	0.00050	mg/L							
Thallium	ND	0.00050	mg/L							
Uranium	ND	0.00050	mg/L							
Zinc	ND	0.040	mg/L							
LCS (2104161-BS1)										
				Prepared: 04/12/2021 Analyzed: 04/13/2021						
Aluminum	0.10	0.040	mg/L	0.1000		104	85-115			
Antimony	0.050	0.00050	mg/L	0.05000		99	85-115			
Arsenic	0.051	0.00050	mg/L	0.05000		102	85-115			
Barium	0.049	0.00050	mg/L	0.05000		98	85-115			
Beryllium	0.051	0.00025	mg/L	0.05000		101	85-115			
Cadmium	0.050	0.00025	mg/L	0.05000		101	85-115			
Chromium	0.050	0.00050	mg/L	0.05000		99	85-115			
Cobalt	0.0500	0.000250	mg/L	0.05000		100	85-115			
Copper	0.049	0.00050	mg/L	0.05000		99	85-115			
Lead	0.049	0.00050	mg/L	0.05000		97	85-115			
Manganese	0.050	0.00025	mg/L	0.05000		100	85-115			
Nickel	0.050	0.00050	mg/L	0.05000		101	85-115			
Selenium	0.054	0.0025	mg/L	0.05000		109	85-115			
Silver	0.049	0.00050	mg/L	0.05000		98	85-115			
Thallium	0.048	0.00050	mg/L	0.05000		96	85-115			
Uranium	0.048	0.00050	mg/L	0.05000		96	85-115			
Zinc	0.11	0.040	mg/L	0.1000		108	85-115			

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QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2104161 - E200.8 (5.4)										
LCS Dup (2104161-BSD1)				Prepared: 04/12/2021 Analyzed: 04/13/2021						
Aluminum	0.11	0.040	mg/L	0.1000		107	85-115	3	20	
Antimony	0.050	0.00050	mg/L	0.05000		101	85-115	1	20	
Arsenic	0.052	0.00050	mg/L	0.05000		103	85-115	0.8	20	
Barium	0.050	0.00050	mg/L	0.05000		99	85-115	0.9	20	
Beryllium	0.051	0.00025	mg/L	0.05000		102	85-115	0.5	20	
Cadmium	0.051	0.00025	mg/L	0.05000		102	85-115	1	20	
Chromium	0.051	0.00050	mg/L	0.05000		102	85-115	3	20	
Cobalt	0.0500	0.000250	mg/L	0.05000		100	85-115	0.00008	20	
Copper	0.049	0.00050	mg/L	0.05000		98	85-115	0.1	20	
Lead	0.049	0.00050	mg/L	0.05000		98	85-115	0.5	20	
Manganese	0.051	0.00025	mg/L	0.05000		102	85-115	2	20	
Nickel	0.050	0.00050	mg/L	0.05000		100	85-115	0.1	20	
Selenium	0.054	0.0025	mg/L	0.05000		108	85-115	1	20	
Silver	0.050	0.00050	mg/L	0.05000		100	85-115	1	20	
Thallium	0.049	0.00050	mg/L	0.05000		98	85-115	2	20	
Uranium	0.048	0.00050	mg/L	0.05000		97	85-115	1	20	
Zinc	0.11	0.040	mg/L	0.1000		111	85-115	3	20	
Matrix Spike (2104161-MS1)				Source: 21D0184-01		Prepared: 04/12/2021 Analyzed: 04/13/2021				
Aluminum	11	0.80	mg/L	0.1000	11	211	70-130			M3
Antimony	0.052	0.00050	mg/L	0.05000	0.00021	104	70-130			
Arsenic	0.058	0.00050	mg/L	0.05000	0.0090	97	70-130			
Barium	0.073	0.00050	mg/L	0.05000	0.022	101	70-130			
Beryllium	0.045	0.0050	mg/L	0.05000	ND	89	70-130			
Cadmium	0.047	0.00025	mg/L	0.05000	ND	94	70-130			
Chromium	0.074	0.00050	mg/L	0.05000	0.028	91	70-130			
Cobalt	0.0464	0.000250	mg/L	0.05000	0.000303	92	70-130			
Copper	0.063	0.00050	mg/L	0.05000	0.022	83	70-130			
Lead	0.049	0.00050	mg/L	0.05000	0.00072	96	70-130			
Manganese	0.059	0.00025	mg/L	0.05000	0.013	92	70-130			
Nickel	0.046	0.00050	mg/L	0.05000	0.0020	88	70-130			
Selenium	0.048	0.0025	mg/L	0.05000	0.0045	87	70-130			
Silver	0.042	0.00050	mg/L	0.05000	ND	83	70-130			
Thallium	0.048	0.00050	mg/L	0.05000	0.00087	94	70-130			
Uranium	0.058	0.00050	mg/L	0.05000	0.0053	106	70-130			
Zinc	0.10	0.040	mg/L	0.1000	0.019	85	70-130			

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QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2104161 - E200.8 (5.4)										
Matrix Spike (2104161-MS2)		Source: 21D0256-01			Prepared: 04/12/2021		Analyzed: 04/13/2021			
Aluminum	ND	0.80	mg/L	0.1000	ND		70-130			M2
Antimony	0.050	0.00050	mg/L	0.05000	0.00085	99	70-130			
Arsenic	0.055	0.00050	mg/L	0.05000	0.0043	101	70-130			
Barium	0.067	0.00050	mg/L	0.05000	0.016	102	70-130			
Beryllium	0.046	0.0050	mg/L	0.05000	ND	93	70-130			
Cadmium	0.047	0.00025	mg/L	0.05000	ND	94	70-130			
Chromium	0.048	0.00050	mg/L	0.05000	0.00025	95	70-130			
Cobalt	0.0466	0.000250	mg/L	0.05000	0.000306	93	70-130			
Copper	0.046	0.00050	mg/L	0.05000	0.0030	86	70-130			
Lead	0.048	0.00050	mg/L	0.05000	0.00043	96	70-130			
Manganese	0.075	0.00025	mg/L	0.05000	0.027	96	70-130			
Nickel	0.045	0.00050	mg/L	0.05000	0.0012	88	70-130			
Selenium	0.051	0.0025	mg/L	0.05000	0.00084	100	70-130			
Silver	0.043	0.00050	mg/L	0.05000	0.000047	85	70-130			
Thallium	0.048	0.00050	mg/L	0.05000	0.00073	94	70-130			
Uranium	0.061	0.00050	mg/L	0.05000	0.0072	107	70-130			
Zinc	0.11	0.040	mg/L	0.1000	0.025	88	70-130			
Batch 2104174 - E 245.1										
Blank (2104174-BLK1)					Prepared & Analyzed: 04/14/2021					
Mercury	0.00013	0.0010	mg/L							
LCS (2104174-BS1)					Prepared & Analyzed: 04/14/2021					
Mercury	0.0055	0.0010	mg/L	0.005000		109	85-115			
LCS Dup (2104174-BSD1)					Prepared & Analyzed: 04/14/2021					
Mercury	0.0055	0.0010	mg/L	0.005000		110	85-115	0.9	20	
Matrix Spike (2104174-MS1)		Source: 21D0342-01			Prepared & Analyzed: 04/14/2021					
Mercury	0.0054	0.0010	mg/L	0.005000	0.00012	105	70-130			
Matrix Spike Dup (2104174-MSD1)		Source: 21D0342-01			Prepared & Analyzed: 04/14/2021					
Mercury	0.0054	0.0010	mg/L	0.005000	0.00012	105	70-130	0.2	20	
Batch 2104175 - E245.1										
Blank (2104175-BLK1)					Prepared & Analyzed: 04/14/2021					
Mercury	ND	0.0010	mg/L							
LCS (2104175-BS1)					Prepared & Analyzed: 04/14/2021					
Mercury	0.0055	0.0010	mg/L	0.005000		109	85-115			
LCS Dup (2104175-BSD1)					Prepared & Analyzed: 04/14/2021					
Mercury	0.0055	0.0010	mg/L	0.005000		110	85-115	0.4	20	
Matrix Spike (2104175-MS1)		Source: 21D0307-01			Prepared & Analyzed: 04/14/2021					
Mercury	0.0053	0.0010	mg/L	0.005000	ND	107	70-130			
Matrix Spike Dup (2104175-MSD1)		Source: 21D0307-01			Prepared & Analyzed: 04/14/2021					
Mercury	0.0054	0.0010	mg/L	0.005000	ND	108	70-130	1	20	

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QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2104100 - SM2540 C										
Duplicate (2104100-DUP1) Source: 21D0106-01 Prepared: 04/08/2021 Analyzed: 04/12/2021										
Total Dissolved Solids (Residue, Filterable)	8100	20	mg/L		8200			2	5	
Duplicate (2104100-DUP2) Source: 21D0106-03 Prepared: 04/08/2021 Analyzed: 04/11/2021										
Total Dissolved Solids (Residue, Filterable)	18000	20	mg/L		18000			0.09	5	
Duplicate (2104100-DUP3) Source: 21D0215-01 Prepared: 04/08/2021 Analyzed: 04/12/2021										
Total Dissolved Solids (Residue, Filterable)	8100	20	mg/L		8100			0.2	5	
Batch 2104117 - SM4500-CN BE										
Blank (2104117-BLK1) Prepared: 04/08/2021 Analyzed: 04/09/2021										
Cyanide	ND	0.10	mg/L							
LCS (2104117-BS1) Prepared: 04/08/2021 Analyzed: 04/09/2021										
Cyanide	1.9	0.10	mg/L	2.000		96	85-115			
LCS Dup (2104117-BSD1) Prepared: 04/08/2021 Analyzed: 04/09/2021										
Cyanide	1.9	0.10	mg/L	2.000		93	85-115	3	15	
Matrix Spike (2104117-MS1) Source: 21D0035-07 Prepared: 04/08/2021 Analyzed: 04/09/2021										
Cyanide	1.9	0.10	mg/L	2.000	ND	95	80-120			
Matrix Spike Dup (2104117-MSD1) Source: 21D0035-07 Prepared: 04/08/2021 Analyzed: 04/09/2021										
Cyanide	1.9	0.10	mg/L	2.000	ND	94	80-120	1	15	
Batch 2104142 - SM2320B										
Blank (2104142-BLK1) Prepared & Analyzed: 04/09/2021										
Alkalinity, Bicarbonate (As CaCO ₃)	ND	2.0	mg/L							
Alkalinity, Carbonate (As CaCO ₃)	ND	2.0	mg/L							
Alkalinity, Hydroxide (As CaCO ₃)	ND	2.0	mg/L							
Alkalinity, Total (As CaCO ₃)	ND	2.0	mg/L							
LCS (2104142-BS1) Prepared & Analyzed: 04/09/2021										
Alkalinity, Total (As CaCO ₃)	240	2.0	mg/L	250.0		97	90-110			
LCS Dup (2104142-BSD1) Prepared & Analyzed: 04/09/2021										
Alkalinity, Total (As CaCO ₃)	240	2.0	mg/L	250.0		98	90-110	0.8	10	
Matrix Spike (2104142-MS1) Source: 21D0115-01 Prepared & Analyzed: 04/09/2021										
Alkalinity, Total (As CaCO ₃)	370	2.0	mg/L	250.0	130	96	70-130			
Matrix Spike Dup (2104142-MSD1) Source: 21D0115-01 Prepared & Analyzed: 04/09/2021										
Alkalinity, Total (As CaCO ₃)	370	2.0	mg/L	250.0	130	96	70-130	0	10	
Batch 2104144 - SM2540 D										
Duplicate (2104144-DUP1) Source: 21D0149-02 Prepared & Analyzed: 04/12/2021										
Total Suspended Solids	ND	10	mg/L		ND			5	Q9	

Client: Arizona Minerals Inc.
 Project: AMI-310
 Work Order: 21D0200
 Date Received: 04/07/2021

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2104144 - SM2540 D										
Duplicate (2104144-DUP2)		Source: 21D0175-02			Prepared & Analyzed: 04/12/2021					
Total Suspended Solids	ND	10	mg/L		ND			5		Q9
Batch 2104145 - SM4500-NH3 B,C										
Blank (2104145-BLK1)					Prepared & Analyzed: 04/09/2021					
Nitrogen, Ammonia (As N)	ND	0.50	mg/L							
LCS (2104145-BS1)					Prepared & Analyzed: 04/09/2021					
Nitrogen, Ammonia (As N)	4.8	0.50	mg/L	5.000		96	90-110			
LCS Dup (2104145-BSD1)					Prepared & Analyzed: 04/09/2021					
Nitrogen, Ammonia (As N)	4.8	0.50	mg/L	5.000		97	90-110	0.5		10
Matrix Spike (2104145-MS1)		Source: 21D0005-01			Prepared & Analyzed: 04/09/2021					
Nitrogen, Ammonia (As N)	5.6	0.50	mg/L	5.000	0.76	96	75-120			
Matrix Spike (2104145-MS2)		Source: 21D0008-01			Prepared & Analyzed: 04/09/2021					
Nitrogen, Ammonia (As N)	5.6	0.50	mg/L	5.000	0.99	92	75-120			
Matrix Spike Dup (2104145-MSD1)		Source: 21D0005-01			Prepared & Analyzed: 04/09/2021					
Nitrogen, Ammonia (As N)	5.6	0.50	mg/L	5.000	0.76	96	75-120	0.4		20
Matrix Spike Dup (2104145-MSD2)		Source: 21D0008-01			Prepared & Analyzed: 04/09/2021					
Nitrogen, Ammonia (As N)	5.6	0.50	mg/L	5.000	0.99	92	75-120	0.4		20
Batch 2104210 - SM4500-SiO2 C										
Blank (2104210-BLK1)					Prepared & Analyzed: 04/16/2021					
Silica	ND	2.0	mg/L							
LCS (2104210-BS1)					Prepared & Analyzed: 04/16/2021					
Silica	8.2	2.0	mg/L	8.000		102	90-110			
LCS Dup (2104210-BSD1)					Prepared & Analyzed: 04/16/2021					
Silica	8.3	2.0	mg/L	8.000		104	90-110	2		20
Matrix Spike (2104210-MS1)		Source: 21D0200-01			Prepared & Analyzed: 04/16/2021					
Silica	63	10	mg/L	40.00	20	109	85-115			
Matrix Spike Dup (2104210-MSD1)		Source: 21D0200-01			Prepared & Analyzed: 04/16/2021					
Silica	63	10	mg/L	40.00	20	108	85-115	0.7		20

Client: Arizona Minerals Inc.
Project: AMI-310
Work Order: 21D0200
Date Received: 04/07/2021

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2104093 - E300.0 (2.1)										
Blank (2104093-BLK1)				Prepared & Analyzed: 04/07/2021						
Chloride	ND	1.0	mg/L							
Fluoride	ND	0.50	mg/L							
Nitrogen, Nitrate (As N)	ND	0.50	mg/L							
Nitrogen, Nitrite (As N)	ND	0.10	mg/L							
Sulfate	ND	5.0	mg/L							
LCS (2104093-BS1)				Prepared & Analyzed: 04/07/2021						
Chloride	12	1.0	mg/L	12.50		93	90-110			
Fluoride	1.9	0.50	mg/L	2.000		97	90-110			
Nitrogen, Nitrate (As N)	4.9	0.50	mg/L	5.000		98	90-110			
Nitrogen, Nitrite (As N)	2.3	0.10	mg/L	2.500		92	90-110			
Sulfate	12	5.0	mg/L	12.50		97	90-110			
LCS Dup (2104093-BSD1)				Prepared & Analyzed: 04/07/2021						
Chloride	12	1.0	mg/L	12.50		93	90-110	0.1	10	
Fluoride	1.9	0.50	mg/L	2.000		97	90-110	0.03	10	
Nitrogen, Nitrate (As N)	4.9	0.50	mg/L	5.000		98	90-110	0.1	10	
Nitrogen, Nitrite (As N)	2.3	0.10	mg/L	2.500		92	90-110	0.06	10	
Sulfate	12	5.0	mg/L	12.50		96	90-110	0.2	10	
Matrix Spike (2104093-MS1)				Source: 21D0185-01		Prepared: 04/07/2021 Analyzed: 04/10/2021				
Chloride	270	20	mg/L	250.0	36	93	80-120			
Fluoride	38	10	mg/L	40.00	ND	95	80-120			
Nitrogen, Nitrate (As N)	100	10	mg/L	100.0	ND	103	80-120			
Nitrogen, Nitrite (As N)	47	2.0	mg/L	50.00	ND	93	80-120			
Sulfate	270	100	mg/L	250.0	ND	106	80-120			
Matrix Spike Dup (2104093-MSD1)				Source: 21D0185-01		Prepared: 04/07/2021 Analyzed: 04/10/2021				
Chloride	270	20	mg/L	250.0	36	94	80-120	0.5	10	
Fluoride	39	10	mg/L	40.00	ND	96	80-120	1	10	
Nitrogen, Nitrate (As N)	100	10	mg/L	100.0	ND	103	80-120	0.6	10	
Nitrogen, Nitrite (As N)	47	2.0	mg/L	50.00	ND	94	80-120	0.5	10	
Sulfate	270	100	mg/L	250.0	ND	107	80-120	0.4	10	

2445 N. Coyote Drive, Suite 104
Tucson, Arizona 85745
(520) 882-5880
Fax: (520) 882-9788
www.turnerlabs.com

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

TURNER LABORATORIES INC.

TURNER WORK ORDER # AMI-310 DATE 4-7-21 PAGE 1 OF 1

PROJECT NAME : AMI-310

CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX

CONTACT NAME : Jared Bean, NewFields

COMPANY NAME : Arizona Minerals, Inc.

ADDRESS : 2210 E. Fort Lowell Rd.

CITY Tucson STATE AZ ZIP CODE 85712

PHONE: 406.546.4076 Email: jbean@newfields.com

SAMPLER'S SIGNATURE [Signature]

SAMPLE I.D. DATE TIME LAB I.D. SAMPLE MATRIX*

MM-9-20210407 4/7/2021 0855 GW

NUMBER OF CONTAINERS

Cyanide	5	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Cl, F, SO4, NO2, NO3																			
Alk, TDS, TSS, Cation/Anion Balance																			
Hardness																			
Total Metals See Below																			
Dissolved Metals See Below																			
Mercury Total / Dissolved																			
Ammonia																			
MS, MSD																			

TURNAROUND REQUIREMENTS:

X Standard (approx. 10 days)*
Next day 2 Day 5 Day*
X Email Preliminary Results To:
Jared Bean
* Working Days

REPORT REQUIREMENTS:

I. Routine Report
II. Report (Includes DUP, MS, MSD, as required, may be charged as samples)
X III. Data Validation Report (Includes All Raw Data)
Add 10% to Invoice

INVOICE INFORMATION:

Account X Y N
P.O. # AMI-310 Groundwater
Bill to: AMI, Kara Hass

SAMPLE RECEIPT:

Total Containers 5
Temperature 5.6
 Wet Ice Blue Ice

* LEGEND

DW = DRINKING WATER
GW = GROUNDWATER
SD = SOLID
SG = SLUDGE
SL = SOIL
ST = STORMWATER
WW = WASTEWATER

SPECIAL INSTRUCTIONS/COMMENTS:

Compliance Analysis: Yes NO
ADEQ Forms: Yes NO
Mail ADEQ Forms: Yes NO
COC/Labels Agree Received Within Hold Time
200.7 Total/Diss: Ca, Fe, SiO2, K, Mg, Na, B
200.8 Total/Diss: Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Se, Ag, Ni, Tl, U, Zn

1. RELINQUISHED BY:
Signature [Signature]
Printed Name Jared Taylor
Firm Verdell Group, LLC
Date/Time 4-30-21/1419

2. RECEIVED BY:
Signature [Signature]
Printed Name Jared Bean
Firm TURNER LABORATORIES, INC.
Date/Time 4/7/21 14:19

3. RELINQUISHED BY:
Signature [Signature]
Printed Name [Signature]
Firm TURNER LABORATORIES, INC.
Date/Time [Signature]

4. RECEIVED BY:
Signature [Signature]
Printed Name [Signature]
Firm TURNER LABORATORIES, INC.
Date/Time [Signature]

TURNER LABORATORIES, INC.

DATA VALIDATION REPORT LEVEL IV

Work Order No.

21D0200-01

2104096-MS1

210132-MS1

Dissolved & Total ICP Metals

EPA 200.7

Analysis Date – April 13 & 15, 2021

<u>Section</u>		<u>Page</u>
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Sequence log	(04/13/2021)	23
Analytical data	(04/13/2021)	25
Sequence log	(04/15/2021)	55
Analytical data	(04/15/2021)	57
Standard log entries and traceability		80

Date Prepared: 04/15/2021 10:00:00AM

Prep Batch: 2104096 Prep Code: E200.2 D ICP Technician: MH

Sample ID	Sample and Source	Matrix	pH	Initial Volume (ml)	Spike 1 Added /uL	Spike 2 Added /uL	Final Vol (ml)	Comments
2104096-BLK Blank		Drinking Water		10	/	/	10	
2104096-BS1 LCS		Drinking Water		10	2100525/100	2100508/100	10	
2104096-BS2 LCS		Drinking Water		10	2100713/100	/	10	
2104096-BSD LCS Dup		Drinking Water		10	2100525/100	2100508/100	10	
2104096-BSD LCS Dup		Drinking Water		10	2100713/100	/	10	
2104096-MRL MRL Check		Drinking Water		10	2001459/100	2101204/200	10	
2104096-MS1 Matrix Spike [21D0046-27]		Drinking Water		2	2100525/100	2100508/100		[Spk] 50mL->50mL; 2mL->10mL
2104096-MS2 Matrix Spike [21D0046-31]		Drinking Water		2	2100525/100	2100508/100		[Spk] 50mL->50mL; 2mL->10mL
2104096-MS3 Matrix Spike [21D0046-27]		Drinking Water		2	2100713/100	/		[Spk] 50mL->50mL; 2mL->10mL
21D0046-26 IR 1 5337		Non-Potable Water		50			50	
21D0046-27 IR 1 5338		Non-Potable Water		50			50	
21D0046-28 IR 1 5406		Non-Potable Water		50			50	
21D0046-29 IR 1 5473		Non-Potable Water		50			50	
21D0046-30 IR 1 5474		Non-Potable Water		50			50	
21D0046-31 IR 1 7774		Non-Potable Water		50			50	
21D0046-32 IR 1 7757		Non-Potable Water		50			50	
21D0046-33 IR 1 7758		Non-Potable Water		50			50	
21D0046-34 IR 1 7855		Non-Potable Water		50			50	
21D0046-35 IR 1 7854		Non-Potable Water		50			50	
21D0046-36 IR 1 7853A		Non-Potable Water		50			50	
21D0047-03 PLS J		Non-Potable Water		50			50	
21D0047-04 E2B		Non-Potable Water		50			50	
21D0047-06 BE		Non-Potable Water		50			50	
21D0047-07 Burro Pit		Non-Potable Water		50			50	
21D0200-01 MW-9-20210407		Drinking Water		50			50	

Lab or field filtered through 0.45 um and acidified with HNO3

Date Prepared: 04/07/2021 5:00:00PM

Prep Batch: 2104096 Prep Code: E 200.2 D ICP

Technician: LB

Sample ID	Sample ID and Source	Matrix	pH	Initial Volume (mL)	Spike 1 Added /uL	Spike 2 Added /uL	Final Vol (mL)	Comments
2003408	Nitric Acid Trace Metal							

Spike 1:
 2001459 ICP PQL Check
 3188568 ICP Spike A
 2100713 Silica Standard Solution 1000ppm
 2101204 Silica PQL check

Number: Surrogate Name

Analysis: SiO2 by ICP, dissolved

Date Prepared: 04/08/2021 11:30:00AM

Prep Batch: 2104132 Prep Code: E 200.2 ICP Technician: LB

Sample ID	Sample ID and Source	Matrix	pH	Initial Volume (mL)	Spike 1 Added /uL	Spike 2 Added /uL	Final Vol (mL)	Comments
2104132-BLK	Blank	Non-Potable Water		50	/	/	50	
2104132-BS1	LCS	Non-Potable Water		50	2100525/500	2100508/500	50	
2104132-BS2	LCS	Non-Potable Water		50	2100713/500	/	50	
2104132-BS3	LCS	Non-Potable Water		50	2002062/500	/	50	
2104132-BSD	LCS Dup	Non-Potable Water		50	2100525/500	2100508/500	50	
2104132-BSD	LCS Dup	Non-Potable Water		50	2100713/500	/	50	
2104132-BSD	LCS Dup	Non-Potable Water		50	2002062/500	/	50	
2104132-MRL	MRL Check	Non-Potable Water		50	2001459/500	/	50	
2104132-MS1	Matrix Spike [21D0009-02]	Non-Potable Water		50	2100525/500	2100508/500	50	
2104132-MS2	Matrix Spike [21D0010-01]	Non-Potable Water		50	2100525/500	2100508/500	50	
2104132-MSS3	Matrix Spike [21D0009-02]	Non-Potable Water		50	2100713/500	/	50	
2104132-MS4	Matrix Spike [21D0009-02]	Non-Potable Water		50	2002062/500	/	50	
21C0651-03	Loc 6 Lift Station Comp	Non-Potable Water		50			50	
21C0684-21	WP PE 1041	Non-Potable Water		50			50	
21C0735-01	Exit of Silver Recovery	Non-Potable Water		50			50	
21C0748-01	H21099-1	Non-Potable Water		50			50	
21D0007-01	Location 8 Composite	Non-Potable Water		50			50	
21D0007-03	Location 9 Composite	Non-Potable Water		50			50	
21D0009-02	Influent	Non-Potable Water		50			50	Added for BatchQC in: 2104132
21D0010-01	Composite	Non-Potable Water		50			50	Added for BatchQC in: 2104132
21D0012-01	Composite	Non-Potable Water		50			50	No MDL reporting, Haz flag
21D0022-02	CP700 CS 04121 Comp	Non-Potable Water		50			50	Flag no MDL reporting
21D0038-19	WB-04.5	Non-Potable Water		50			50	
21D0115-01	Discharge	Non-Potable Water		50			50	
21D0146-01	Well	Drinking Water		50			50	
21D0176-01	Composite	Non-Potable Water		50			50	
21D0177-01	040721-M	Non-Potable Water		50			50	
21D0178-01	FDB	Non-Potable Water		50			50	
21D0181-01		Non-Potable Water		50			50	
21D0184-01	Comp	Non-Potable Water		50			50	Custom Alert Level
21D0200-01	MW-9-20210407	Drinking Water		50			50	

Date Prepared: 04/08/2021 11:30:00AM

Prep Batch: 2104132 Prep Code: E 200.2 ICP Technician: LB

Sample ID	Sample ID and Source	Matrix	pH	Initial Volume (mL)	Spike 1 Added /uL	Spike 2 Added /uL	Final Vol (mL)	Comments
21D0215-03	Concentrate	Drinking Water		50			50	
Digested at 95 deg C								

Number	Reagent Name
2101359	1:1 Nitric for Metals 200.7 Digestions
2101360	1:1 HCl for 200.7 Digestions

Spike ID	Spike Name
2001459	ICP PQL Check
2009988	ICP Spike Solution C - Additional
2100525	ICP Spike A
2100713	Silica Standard Solution 1000ppm

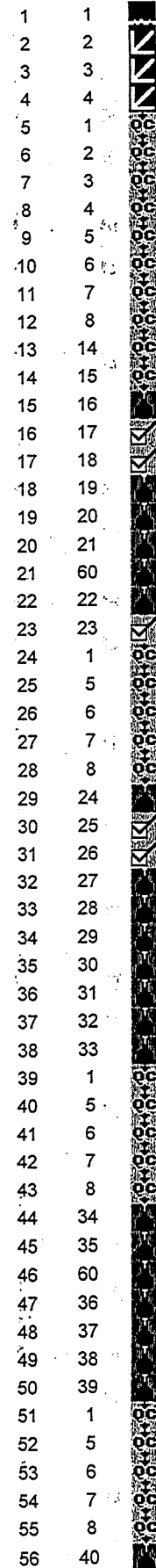
Number	Surrogate Name

MRLCHECK1 = 2104064MRL1 (2001459 & 2101264). MRLCHECK2 = 2104103MRL2 (2101459). Spikes = 2100525 & 2100504 in 2100713 2104103 / 2104132 were digested per 200.2. 2104064 is total

Handwritten signature
4/13/2021

Seq. Loc.

Sample ID



1 1 Calib Blank 1
 2 2 Calib Std 1 2101375
 3 3 Calib Std 2 2101333 MM
 4 4 Calib Std 3 2101338 4/13/21
 5 1 ICB
 6 2 IPC-1 2101375
 7 3 IPC-2 2101333
 8 4 IPC-3 2101338
 9 5 ICV-1 2101352
 10 6 ICV-2 2101383
 11 7 ICV-3 2101384
 12 8 ICV-4 2101376
 13 14 MRL CHECK 1
 14 15 MRL CHECK 2
 15 16 2104103-BLK1
 16 17 2104103-BS1
 17 18 2104103-BSD1
 18 19 21C0684-17
 19 20 21D0106-03@20
 20 21 21D0106-03@2
 21 60 RINSE
 22 22 21C0646-01
 23 23 2104103-MS1
 24 1 CCB
 25 5 CCV-1 2101352
 26 6 CCV-2 2101383
 27 7 CCV-3 2101384
 28 8 CCV-4 2101376
 29 24 2104064-BLK1
 30 25 2104064-BS1
 31 26 2104064-BSD1
 32 27 21C0683-06
 33 28 21C0724-01@5
 34 29 2104064-MS1@5
 35 30 21D0106-01@10
 36 31 21D0106-02
 37 32 21D0215-01@10
 38 33 21D0215-02
 39 1 CCB
 40 5 CCV-1
 41 6 CCV-2
 42 7 CCV-3
 43 8 CCV-4
 44 34 21D0106-01@2
 45 35 21D0215-01@2
 46 60 RINSE
 47 36 21C0720-01
 48 37 21C0733-01@5
 49 38 21D0148-01
 50 39 21D0019-01
 51 1 CCB
 52 5 CCV-1
 53 6 CCV-2
 54 7 CCV-3
 55 8 CCV-4
 56 40 2104132-MRL1

Set 1

Set 2

Set 3

Set 1: Al, Cd, Ba, Pb, Cu, Cr Repeats
 CCB, CCVS pass
 Set 2: 2104064-BS1/D/MS1 pass
 CCB, CCVS pass
 Set 3: CCB, CCVS pass
 Set 4: 2104132-BS1/D/BS2/MS3
 pass
 MS1 - Ca M3
 CCB, CCVS pass
 Set 5: Cu ↑, none in set
 MM 4/13/21

Analytical Sequence

Method : Master 200.7

Seq.	Loc.	Sample ID
57	41	2104132-BLK1
58	42	2104132-BS1
59	43	2104132-BSD1
60	44	2104132-BS2
61	45	2104132-BSD2
62	46	21C0684-21
63	47	21D0009-02
64	48	2104132-MS1
65	49	2104132-MS3
66	50	21C0651-03
67	51	21C0748-01
68	52	21D0022-02
69	53	21D0038-19@10
70	54	21D0146-01
71	55	21D0178-01
72	56	21D0215-03@50
73	1	CCB
74	5	CCV-1
75	6	CCV-2
76	7	CCV-3
77	8	CCV-4
78	57	21D0215-03
79	58	21C0735-01
80	59	21D0200-01
81	1	CCB
82	5	CCV-1
83	6	CCV-2
84	7	CCV-3
85	8	CCV-4
86	60	RINSE

W

=====
Analysis BegunStart Time: 4/13/2021 8:05:30 AM
Logged In Analyst: Optima7300DV
Spectrometer Model: Optima 7300 DV, S/N 077C9102801Plasma On Time: 4/13/2021 6:12:27 AM
Technique: ICP ContinuousSample Information File: C:\pe\Optima7300DV\Sample Information\210413_1.sif
Batch ID:
Results Data Set: 210413_1
Results Library: C:\pe\Optima7300DV\Results\Results.mdb*m*
4/13/21

Sequence No.: 1

Autosampler Location: 1

Sample ID: Calib Blank 1

Date Collected: 4/13/2021 8:05:30 AM

Analyst:

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

Nebulizer Parameters: Calib Blank 1

Analyte	Back Pressure	Flow
All	258.0 kPa	0.75 L/min

Mean Data: Calib Blank 1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc. Units
Y 371.029	3166170.3	35290.46	1.11%	1.00 mg/L
Sc 361.383	5250974.6	58300.93	1.11%	1.00 mg/L
Ag 328.068+	-1664.8	96.44	5.79%	[0.00] mg/L
Al 308.215+	7970.7	106.19	1.33%	[0.00] mg/L
As 188.979+	-23.5	11.67	49.76%	[0.00] mg/L
B 249.772+	767.7	57.55	7.50%	[0.00] mg/L
Ba 233.527+	-268.0	25.82	9.63%	[0.00] mg/L
Be 313.107+	-12788.7	158.87	1.24%	[0.00] mg/L
Ca 317.933+	3371.0	55.59	1.65%	[0.00] mg/L
Cd 214.440+	188.2	21.93	11.66%	[0.00] mg/L
Co 228.616+	155.5	9.57	6.15%	[0.00] mg/L
Cr 267.716+	219.6	26.96	12.28%	[0.00] mg/L
Cu 324.752+	8351.7	140.10	1.68%	[0.00] mg/L
Fe 238.204+	634.9	22.56	3.55%	[0.00] mg/L
K 766.490+	859.7	109.79	12.77%	[0.00] mg/L
Mg 279.077+	189.0	8.30	4.39%	[0.00] mg/L
Mn 257.610+	192.1	15.71	8.18%	[0.00] mg/L
Mo 202.031+	169.7	23.30	13.73%	[0.00] mg/L
Na 330.237+	47.5	28.36	59.74%	[0.00] mg/L
Ni 232.003+	-1889.1	54.47	2.88%	[0.00] mg/L
Pb 220.353+	-86.2	9.72	11.28%	[0.00] mg/L
Sb 206.836+	117.1	5.31	4.53%	[0.00] mg/L
Se 196.026+	-2.1	8.19	387.90%	[0.00] mg/L
Tl 190.801+	-142.7	10.19	7.14%	[0.00] mg/L
V 292.402+	1138.6	136.87	12.02%	[0.00] mg/L
Zn 213.857+	2059.1	19.28	0.94%	[0.00] mg/L
P 178.221+	60.1	6.08	10.12%	[0.00] mg/L
Si 251.611+	1854.6	29.77	1.61%	[0.00] mg/L

Sequence No.: 2

Autosampler Location: 2

Sample ID: Calib Std 1

Date Collected: 4/13/2021 8:09:32 AM

Analyst:

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

Nebulizer Parameters: Calib Std 1

Analyte	Back Pressure	Flow
All	259.0 kPa	0.75 L/min

Mean Data: Calib Std 1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc. Units	Calib
Y 371.029	3080132.2	23803.75	0.77%	0.973	mg/L
Sc 361.383	5284508.7	57334.28	1.08%	1.01	mg/L
Al 308.215†	303544.3	5341.53	1.76%	[10.0]	mg/L
Ba 233.527†	221635.6	3641.95	1.64%	[1.0]	mg/L
Be 313.107†	5709922.9	7415.45	0.13%	[0.5000]	mg/L
Cd 214.440†	919558.5	15092.01	1.64%	[1.50]	mg/L
Co 228.616†	111015.2	923.85	0.83%	[1.0]	mg/L
Cr 267.716†	265715.3	4104.67	1.54%	[1.0]	mg/L
Cu 324.752†	447196.1	7960.32	1.78%	[1.0]	mg/L
Mn 257.610†	1038306.7	17301.83	1.67%	[1.00]	mg/L
Ni 232.003†	62879.7	536.40	0.85%	[1.0]	mg/L
Pb 220.353†	180833.8	2910.74	1.61%	[5.0]	mg/L
Se 196.026†	5978.1	58.45	0.98%	[2.0]	mg/L
V 292.402†	565920.5	8979.69	1.59%	[1.0]	mg/L
Zn 213.857†	472323.0	7835.95	1.66%	[1.5]	mg/L
Si 251.611†	267499.7	4377.49	1.64%	[5.00]	mg/L

W
4/13/21

Sequence No.: 3
Sample ID: Calib Std 2
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 4/13/2021 8:12:54 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: Calib Std 2

Analyte	Back Pressure	Flow
All	259.0 kPa	0.75 L/min

Mean Data: Calib Std 2

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc. Units	Calib
Y 371.029	3085148.5	9259.86	0.30%	0.974	mg/L
Sc 361.383	5231009.2	15063.65	0.29%	0.996	mg/L
As 188.979†	30541.8	236.02	0.77%	[5.0]	mg/L
Ca 317.933†	534810.7	12700.81	2.37%	[12.5]	mg/L
Fe 238.204†	785310.6	15730.11	2.00%	[20.0]	mg/L
K 766.490†	63574.0	1269.67	2.00%	[12.5]	mg/L
Mg 279.077†	73677.1	1530.18	2.08%	[12.5]	mg/L
Mo 202.031†	65523.9	611.36	0.93%	[1.00]	mg/L
Na 330.237†	767.6	24.12	3.14%	[12.5]	mg/L
P 178.221†	33802.9	365.02	1.08%	[10.0]	mg/L

Sequence No.: 4
Sample ID: Calib Std 3
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 4
Date Collected: 4/13/2021 8:16:19 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: Calib Std 3

Analyte	Back Pressure	Flow
All	259.0 kPa	0.75 L/min

Mean Data: Calib Std 3

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc. Units	Calib
Y 371.029	3202714.2	46246.73	1.44%	1.01	mg/L
Sc 361.383	5355093.2	79569.49	1.49%	1.02	mg/L
Ag 328.068†	195519.2	3681.80	1.88%	[0.5]	mg/L
B 249.772†	237954.2	5198.41	2.18%	[1.0]	mg/L
Be 313.107†	280652.5	325.01	0.12%	[0.025]	mg/L
Sb 206.836†	20678.4	425.71	2.06%	[2.0]	mg/L
Tl 190.801†	15913.8	270.97	1.70%	[2.0]	mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	1	Lin, Calc Int	0.0	391000	0.00000	1.000000 ✓	
Al 308.215	1	Lin, Calc Int	0.0	30350	0.00000	1.000000	
As 188.979	1	Lin, Calc Int	0.0	6108	0.00000	1.000000	
B 249.772	1	Lin, Calc Int	0.0	238000	0.00000	1.000000	
Ba 233.527	1	Lin, Calc Int	0.0	221600	0.00000	1.000000	
Be 313.107	2	Lin, Calc Int	-2415.5	11420000	0.00000	1.000000	
Ca 317.933	1	Lin, Calc Int	0.0	42780	0.00000	1.000000	
Cd 214.440	1	Lin, Calc Int	-0.0	613000	0.00000	1.000000	
Co 228.616	1	Lin, Calc Int	0.0	111000	0.00000	1.000000	
Cr 267.716	1	Lin, Calc Int	0.0	265700	0.00000	1.000000	
Cu 324.752	1	Lin, Calc Int	0.0	447200	0.00000	1.000000	
Fe 238.204	1	Lin, Calc Int	0.0	39270	0.00000	1.000000	
K 766.490	1	Lin, Calc Int	0.0	5086	0.00000	1.000000	
Mg 279.077	1	Lin, Calc Int	0.0	5894	0.00000	1.000000	
Mn 257.610	1	Lin, Calc Int	0.0	1038000	0.00000	1.000000	
Mo 202.031	1	Lin, Calc Int	0.0	65520	0.00000	1.000000	
Na 330.237	1	Lin, Calc Int	0.0	61.41	0.00000	1.000000	
Ni 232.003	1	Lin, Calc Int	0.0	62880	0.00000	1.000000	
Pb 220.353	1	Lin, Calc Int	0.0	36170	0.00000	1.000000	
Sb 206.836	1	Lin, Calc Int	0.0	10340	0.00000	1.000000	
Se 196.026	1	Lin, Calc Int	0.0	2989	0.00000	1.000000	
Tl 190.801	1	Lin, Calc Int	0.0	7957	0.00000	1.000000	
V 292.402	1	Lin, Calc Int	0.0	565900	0.00000	1.000000	
Zn 213.857	1	Lin, Calc Int	0.0	314900	0.00000	1.000000	
P 178.221	1	Lin, Calc Int	0.0	3380	0.00000	1.000000	
Si 251.611	1	Lin, Calc Int	0.0	53500	0.00000	1.000000	

Sequence No.: 5

Sample ID: ICB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 1

Date Collected: 4/13/2021 8:19:37 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Handwritten signature and date: 4/13/21

Nebulizer Parameters: ICB

Analyte	Back Pressure	Flow
All	259.0 kPa	0.75 L/min

Mean Data: ICB

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	3194702.5	1.01 mg/L		0.009			0.86%
Sc 361.383	5306971.3	1.01 mg/L		0.010			1.02%
Ag 328.068†	356.9	0.00091 mg/L		0.000465	0.00091 mg/L	0.000465	50.91%
QC value within limits for Ag 328.068 Recovery = Not calculated							
Al 308.215†	-449.9	-0.0148 mg/L		0.00384	-0.0148 mg/L	0.00384	25.89%
QC value within limits for Al 308.215 Recovery = Not calculated							
As 188.979†	-14.1	-0.0023 mg/L		0.00180	-0.0023 mg/L	0.00180	78.20%
QC value within limits for As 188.979 Recovery = Not calculated							
B 249.772†	1651.4	0.0069 mg/L		0.00035	0.0069 mg/L	0.00035	5.01%
QC value within limits for B 249.772 Recovery = Not calculated							
Ba 233.527†	35.2	0.0002 mg/L		0.00010	0.0002 mg/L	0.00010	60.00%
QC value within limits for Ba 233.527 Recovery = Not calculated							
Be 313.107†	416.0	0.00025 mg/L		0.000016	0.00025 mg/L	0.000016	6.52%
QC value within limits for Be 313.107 Recovery = Not calculated							
Ca 317.933†	-8.6	-0.0002 mg/L		0.00248	-0.0002 mg/L	0.00248	>999.9%
QC value within limits for Ca 317.933 Recovery = Not calculated							
Cd 214.440†	52.8	0.00009 mg/L		0.000018	0.00009 mg/L	0.000018	21.22%
QC value within limits for Cd 214.440 Recovery = Not calculated							
Co 228.616†	6.2	0.0001 mg/L		0.00012	0.0001 mg/L	0.00012	222.83%
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	-24.4	-0.0001 mg/L		0.00005	-0.0001 mg/L	0.00005	58.38%
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	-134.6	-0.0003 mg/L		0.00035	-0.0003 mg/L	0.00035	117.24%
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204†	-207.1	-0.0053 mg/L		0.00047	-0.0053 mg/L	0.00047	8.87%
QC value within limits for Fe 238.204 Recovery = Not calculated							
K 766.490†	-3.2	-0.0008 mg/L		0.02099	-0.0008 mg/L	0.02099	>999.9%

Mg	279.077†	QC value within limits for K 766.490	Recovery = Not calculated	-5.2	-0.0009 mg/L	0.00337	-0.0009 mg/L	0.00337	378.10%
Mn	257.610†	QC value within limits for Mg 279.077	Recovery = Not calculated	13.2	0.0000 mg/L	0.00003	0.0000 mg/L	0.00003	202.42%
Mo	202.031†	QC value within limits for Mn 257.610	Recovery = Not calculated	-105.6	-0.0016 mg/L	0.00034	-0.0016 mg/L	0.00034	20.89%
Na	330.237†	QC value within limits for Mo 202.031	Recovery = Not calculated	16.1	0.2616 mg/L	0.44753	0.2616 mg/L	0.44753	171.05%
Ni	232.003†	QC value within limits for Na 330.237	Recovery = Not calculated	-9.5	-0.0001 mg/L	0.00071	-0.0001 mg/L	0.00071	513.66%
Pb	220.353†	QC value within limits for Ni 232.003	Recovery = Not calculated	-39.7	-0.0011 mg/L	0.00058	-0.0011 mg/L	0.00058	52.38%
Sb	206.836†	QC value within limits for Pb 220.353	Recovery = Not calculated	55.1	0.0053 mg/L	0.00136	0.0053 mg/L	0.00136	25.64%
Se	196.026†	QC value within limits for Sb 206.836	Recovery = Not calculated	4.1	0.0014 mg/L	0.00257	0.0014 mg/L	0.00257	189.60%
Tl	190.801†	QC value within limits for Se 196.026	Recovery = Not calculated	18.5	0.0023 mg/L	0.00073	0.0023 mg/L	0.00073	31.44%
V	292.402†	QC value within limits for Tl 190.801	Recovery = Not calculated	37.1	0.0001 mg/L	0.00015	0.0001 mg/L	0.00015	222.94%
Zn	213.857†	QC value within limits for V 292.402	Recovery = Not calculated	14.3	0.0000 mg/L	0.00007	0.0000 mg/L	0.00007	148.86%
P	178.221†	QC value within limits for Zn 213.857	Recovery = Not calculated	-2.5	-0.001 mg/L	0.0034	-0.001 mg/L	0.0034	453.36%
Si	251.611†	QC value within limits for P 178.221	Recovery = Not calculated	2.2	0.000 mg/L	0.0008	0.000 mg/L	0.0008	>999.9%

QC value within limits for Si 251.611 Recovery = Not calculated

All analyte(s) passed QC.

Sequence No.: 6
 Sample ID: IPC-1
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 2
 Date Collected: 4/13/2021 8:23:41 AM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Nebulizer Parameters: IPC-1

Analyte	Back Pressure	Flow
All	260.0 kPa	0.75 L/min

Handwritten signature and date: 4/13/21

Mean Data: IPC-1

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	3121561.6	0.986 mg/L	✓	0.0039			0.39%
Sc 361.383	5312349.4	1.01 mg/L		0.011			1.09%
Ag 328.068†	-138.5	0.00075 mg/L		0.000287	0.00075 mg/L	0.000287	38.09%
Al 308.215†	311700.0	10.24 mg/L		0.132	10.24 mg/L	0.132	1.29%
QC value within limits for Al 308.215 Recovery = 102.42%							
As 188.979†	-11.7	-0.0022 mg/L		0.00069	-0.0022 mg/L	0.00069	31.60%
B 249.772†	153.9	0.0007 mg/L		0.00016	0.0007 mg/L	0.00016	21.59%
Ba 233.527†	224639.4	1.016 mg/L		0.0117	1.016 mg/L	0.0117	1.16%
QC value within limits for Ba 233.527 Recovery = 101.55%							
Be 313.107†	5683956.9	0.49775 mg/L		0.000648	0.49775 mg/L	0.000648	0.13%
QC value within limits for Be 313.107 Recovery = 99.55%							
Ca 317.933†	2110805.0	49.35 mg/L		1.579	49.35 mg/L	1.579	3.20%
Cd 214.440†	915214.0	1.4932 mg/L		0.01739	1.4932 mg/L	0.01739	1.16%
QC value within limits for Cd 214.440 Recovery = 99.55%							
Co 228.616†	109641.4	0.9872 mg/L		0.01123	0.9872 mg/L	0.01123	1.14%
QC value within limits for Co 228.616 Recovery = 98.72%							
Cr 267.716†	270384.7	1.018 mg/L		0.0107	1.018 mg/L	0.0107	1.05%
QC value within limits for Cr 267.716 Recovery = 101.83%							
Cu 324.752†	453336.5	1.014 mg/L		0.0133	1.014 mg/L	0.0133	1.31%
QC value within limits for Cu 324.752 Recovery = 101.43%							
Fe 238.204†	-722.6	-0.0102 mg/L		0.00061	-0.0102 mg/L	0.00061	5.95%
K 766.490†	101705.1	19.99 mg/L		0.626	19.99 mg/L	0.626	3.13%
Mg 279.077†	-41.6	-0.0061 mg/L		0.00345	-0.0061 mg/L	0.00345	56.51%
Mn 257.610†	1039319.0	1.001 mg/L		0.0134	1.001 mg/L	0.0134	1.34%
QC value within limits for Mn 257.610 Recovery = 100.10%							
Mo 202.031†	-108.3	-0.0021 mg/L		0.00032	-0.0021 mg/L	0.00032	15.01%
Na 330.237†	1145.4	17.31 mg/L		1.072	17.31 mg/L	1.072	6.19%

Ni 232.003†	62209.7	0.9573 mg/L	0.01088	0.9573 mg/L	0.01088	1.14%
QC value within limits for Ni 232.003 Recovery = 95.73%						
Pb 220.353†	182233.4	5.037 mg/L	0.0663	5.037 mg/L	0.0663	1.32%
QC value within limits for Pb 220.353 Recovery = 100.75%						
Sb 206.836†	188.7	0.0081 mg/L	0.00088	0.0081 mg/L	0.00088	10.89%
Se 196.026†	5940.8	1.990 mg/L	0.0284	1.990 mg/L	0.0284	1.43%
QC value within limits for Se 196.026 Recovery = 99.49%						
Tl 190.801†	7.0	0.0037 mg/L	0.00120	0.0037 mg/L	0.00120	32.50%
V 292.402†	571199.2	1.013 mg/L	0.0128	1.013 mg/L	0.0128	1.27%
QC value within limits for V 292.402 Recovery = 101.27%						
Zn 213.857†	473442.6	1.497 mg/L	0.0188	1.497 mg/L	0.0188	1.26%
QC value within limits for Zn 213.857 Recovery = 99.81%						
P 178.221†	20.4	0.008 mg/L	0.0025	0.008 mg/L	0.0025	33.20%
Si 251.611†	271761.3	5.087 mg/L	0.0627	5.087 mg/L	0.0627	1.23%
QC value within limits for Si 251.611 Recovery = 101.74%						
All analyte(s) passed QC.						

Sequence No.: 7
 Sample ID: IPC-2
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 3
 Date Collected: 4/13/2021 8:27:33 AM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Nebulizer Parameters: IPC-2

Analyte	Back Pressure	Flow
All	260.0 kPa	0.75 L/min

W 4/13/21

Mean Data: IPC-2

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	3067964.7	0.969 mg/L	0.0140			1.44%
Sc 361.383	5218223.0	0.994 mg/L	0.0154			1.55%
Ag 328.068†	-84.6	0.00104 mg/L	0.000180	0.00104 mg/L	0.000180	17.29%
Al 308.215†	337.5	-0.0075 mg/L	0.00568	-0.0075 mg/L	0.00568	75.97%
As 188.979†	30606.6	5.010 mg/L	0.1213	5.010 mg/L	0.1213	2.42%
QC value within limits for As 188.979 Recovery = 100.20%						
B 249.772†	20528.8	0.0460 mg/L	0.00118	0.0460 mg/L	0.00118	2.56%
Ba 233.527†	303.6	0.0001 mg/L	0.00016	0.0001 mg/L	0.00016	168.87%
Be 313.107†	1783.8	0.00035 mg/L	0.000032	0.00035 mg/L	0.000032	9.19%
Ca 317.933†	537662.8	12.57 mg/L	0.210	12.57 mg/L	0.210	1.67%
QC value within limits for Ca 317.933 Recovery = 100.59%						
Cd 214.440†	591.9	0.00013 mg/L	0.000086	0.00013 mg/L	0.000086	65.12%
Co 228.616†	-24.8	0.0002 mg/L	0.00008	0.0002 mg/L	0.00008	48.43%
Cr 267.716†	34.1	0.0001 mg/L	0.00020	0.0001 mg/L	0.00020	132.86%
Cu 324.752†	-940.9	-0.0010 mg/L	0.00026	-0.0010 mg/L	0.00026	25.29%
Fe 238.204†	790838.3	20.14 mg/L	0.348	20.14 mg/L	0.348	1.73%
QC value within limits for Fe 238.204 Recovery = 100.71%						
K 766.490†	63833.0	12.53 mg/L	0.240	12.53 mg/L	0.240	1.91%
QC value within limits for K 766.490 Recovery = 100.24%						
Mg 279.077†	72547.8	12.31 mg/L	0.186	12.31 mg/L	0.186	1.51%
QC value within limits for Mg 279.077 Recovery = 98.46%						
Mn 257.610†	302.3	-0.0001 mg/L	0.00009	-0.0001 mg/L	0.00009	80.32%
Mo 202.031†	66030.9	1.009 mg/L	0.0232	1.009 mg/L	0.0232	2.30%
QC value within limits for Mo 202.031 Recovery = 100.85%						
Na 330.237†	771.8	12.51 mg/L	0.629	12.51 mg/L	0.629	5.03%
QC value within limits for Na 330.237 Recovery = 100.07%						
Ni 232.003†	562.2	0.0062 mg/L	0.00073	0.0062 mg/L	0.00073	11.75%
Pb 220.353†	13.2	0.0015 mg/L	0.00056	0.0015 mg/L	0.00056	37.37%
Sb 206.836†	-61.5	-0.0044 mg/L	0.00109	-0.0044 mg/L	0.00109	24.68%
Se 196.026†	-17.7	-0.0003 mg/L	0.00072	-0.0003 mg/L	0.00072	287.33%
Tl 190.801†	2.8	0.0051 mg/L	0.00126	0.0051 mg/L	0.00126	24.90%
V 292.402†	44.4	-0.0006 mg/L	0.00022	-0.0006 mg/L	0.00022	38.40%
Zn 213.857†	419.0	-0.0006 mg/L	0.00012	-0.0006 mg/L	0.00012	20.83%
P 178.221†	33536.8	9.925 mg/L	0.1731	9.925 mg/L	0.1731	1.74%
QC value within limits for P 178.221 Recovery = 99.25%						
Si 251.611†	6039.6	0.106 mg/L	0.0017	0.106 mg/L	0.0017	1.62%

All analyte(s) passed QC.
 User canceled analysis.

RECU

Analysis Begun

Start Time: 4/13/2021 8:29:54 AM
Logged In Analyst: Optima7300DV
Spectrometer Model: Optima 7300 DV, S/N:077C9102801

Plasma On Time: 4/13/2021 6:12:27 AM
Technique: ICP Continuous
Autosampler Model: S10

Sample Information File: C:\pe\Optima7300DV\Sample Information\210413_1.sif
Batch ID:
Results Data Set: 210413_1
Results Library: C:\pe\Optima7300DV\Results\Results.mdb

Sequence No.: 7
Sample ID: IPC-2
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 4/13/2021 8:29:55 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Handwritten signature and date: M 4/13/21

Nebulizer Parameters: IPC-2

Analyte Back Pressure Flow
All 260.0 kPa 0.75 L/min

Mean Data: IPC-2

Table with 8 columns: Analyte, Mean Corrected Intensity, Conc. Units, Calib., Std.Dev., Sample Conc. Units, Std.Dev., RSD. Lists various elements like Y, Sc, Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Tl, V, Zn, P, Si with their respective values and recovery percentages.

Sequence No.: 8
Sample ID: IPC-3
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 4
Date Collected: 4/13/2021 8:33:45 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: IPC-3

Analyte Back Pressure Flow
All 260.0 kPa 0.75 L/min

WV 4/13/21

Mean Data: IPC-3

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	3212913.2	1.01 mg/L	0.016			1.56%
Sc 361.383	5385441.3	1.03 mg/L	0.016			1.61%
Ag 328.068†	195012.9	0.49871 mg/L	0.009518	0.49871 mg/L	0.009518	1.91%
QC value within limits for Ag 328.068 Recovery = 99.74%						
Al 308.215†	-355.0	-0.0117 mg/L	0.00280	-0.0117 mg/L	0.00280	23.88%
As 188.979†	36.2	0.0059 mg/L	0.00281	0.0059 mg/L	0.00281	47.42%
B 249.772†	239467.5	1.006 mg/L	0.0221	1.006 mg/L	0.0221	2.20%
QC value within limits for B 249.772 Recovery = 100.63%						
Ba 233.527†	57.4	0.0003 mg/L	0.00008	0.0003 mg/L	0.00008	29.26%
Be 313.107†	278736.1	0.02461 mg/L	0.000049	0.02461 mg/L	0.000049	0.20%
Ca 317.933†	466.9	0.0109 mg/L	0.00147	0.0109 mg/L	0.00147	13.42%
Cd 214.440†	-1019.3	-0.00166 mg/L	0.000042	-0.00166 mg/L	0.000042	2.54%
Co 228.616†	12.2	0.0001 mg/L	0.00009	0.0001 mg/L	0.00009	81.75%
Cr 267.716†	40.4	0.0002 mg/L	0.00011	0.0002 mg/L	0.00011	73.37%
Cu 324.752†	331.8	0.0007 mg/L	0.00019	0.0007 mg/L	0.00019	25.01%
Fe 238.204†	528.2	0.0135 mg/L	0.00159	0.0135 mg/L	0.00159	11.85%
K 766.490†	225.6	0.0442 mg/L	0.01603	0.0442 mg/L	0.01603	36.29%
Mg 279.077†	33.6	0.0057 mg/L	0.00211	0.0057 mg/L	0.00211	37.08%
Mn 257.610†	179.8	0.0002 mg/L	0.00002	0.0002 mg/L	0.00002	10.55%
Mo 202.031†	56.4	0.0009 mg/L	0.00016	0.0009 mg/L	0.00016	18.72%
Na 330.237†	17.5	0.2829 mg/L	0.36273	0.2829 mg/L	0.36273	128.21%
Ni 232.003†	-450.7	-0.0072 mg/L	0.00129	-0.0072 mg/L	0.00129	17.94%
Pb 220.353†	19.8	0.0005 mg/L	0.00098	0.0005 mg/L	0.00098	181.02%
Sb 206.836†	20577.2	1.990 mg/L	0.0421	1.990 mg/L	0.0421	2.11%
QC value within limits for Sb 206.836 Recovery = 99.51%						
Se 196.026†	9.6	0.0032 mg/L	0.00357	0.0032 mg/L	0.00357	110.84%
Tl 190.801†	15209.8	1.912 mg/L	0.0530	1.912 mg/L	0.0530	2.77%
QC value within limits for Tl 190.801 Recovery = 95.58%						
V 292.402†	1.1	0.0000 mg/L	0.00014	0.0000 mg/L	0.00014	>999.9%
Zn 213.857†	847.1	0.0027 mg/L	0.00017	0.0027 mg/L	0.00017	6.21%
P 178.221†	20.9	0.006 mg/L	0.0024	0.006 mg/L	0.0024	38.46%
Si 251.611†	18474.4	0.345 mg/L	0.0081	0.345 mg/L	0.0081	2.35%
All analyte(s) passed QC.						

Sequence No.: 9

Sample ID: ICV-1

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 5

Date Collected: 4/13/2021 8:37:52 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: ICV-1

Analyte Back Pressure Flow
All 261.0 kPa 0.75 L/min

Mean Data: ICV-1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	3168164.2	1.00 mg/L	0.009			0.87%
Sc 361.383	5340092.8	1.02 mg/L	0.009			0.93%
Ag 328.068†	-1169.7	-0.00090 mg/L	0.000513	-0.00090 mg/L	0.000513	57.27%
Al 308.215†	262.0	-0.0218 mg/L	0.00233	-0.0218 mg/L	0.00233	10.71%
As 188.979†	6071.5	0.9938 mg/L	0.01844	0.9938 mg/L	0.01844	1.86%
QC value within limits for As 188.979 Recovery = 99.38%						
B 249.772†	4362.3	0.0181 mg/L	0.00045	0.0181 mg/L	0.00045	2.47%
Ba 233.527†	-484.1	-0.0004 mg/L	0.00013	-0.0004 mg/L	0.00013	34.48%
Be 313.107†	11091044.5	0.97105 mg/L	0.006969	0.97105 mg/L	0.006969	0.72%
QC value within limits for Be 313.107 Recovery = 97.10%						
Ca 317.933†	43890.7	1.036 mg/L	0.0285	1.036 mg/L	0.0285	2.75%
Cd 214.440†	606665.6	0.98987 mg/L	0.001101	0.98987 mg/L	0.001101	0.11%

Co	228.616†	113148.2	1.019 mg/L	0.0265	1.019 mg/L	0.0265	2.60%
Cr	267.716†	275478.9	1.037 mg/L	0.0242	1.037 mg/L	0.0242	2.34%
Cu	324.752†	425133.7	0.9511 mg/L	0.00188	0.9511 mg/L	0.00188	0.20%
Fe	238.204†	38730.7	0.9946 mg/L	0.02676	0.9946 mg/L	0.02676	2.69%
K	766.490†	-40.7	-0.0068 mg/L	0.00413	-0.0068 mg/L	0.00413	60.58%
Mg	279.077†	5700.0	0.9740 mg/L	0.03018	0.9740 mg/L	0.03018	3.10%
Mn	257.610†	1055820.7	1.017 mg/L	0.0021	1.017 mg/L	0.0021	0.20%
Mo	202.031†	63789.9	0.9734 mg/L	0.02707	0.9734 mg/L	0.02707	2.78%
Na	330.237†	-22.3	-1.157 mg/L	0.4788	-1.157 mg/L	0.4788	41.36%
Ni	232.003†	63490.1	0.9708 mg/L	0.02265	0.9708 mg/L	0.02265	2.33%
Pb	220.353†	36900.1	1.020 mg/L	0.0251	1.020 mg/L	0.0251	2.47%
Sb	206.836†	10925.5	1.050 mg/L	0.0161	1.050 mg/L	0.0161	1.54%
Se	196.026†	2869.3	0.9611 mg/L	0.01091	0.9611 mg/L	0.01091	1.14%
Tl	190.801†	7597.8	0.9560 mg/L	0.01390	0.9560 mg/L	0.01390	1.45%
V	292.402†	561852.4	0.9958 mg/L	0.00041	0.9958 mg/L	0.00041	0.04%
Zn	213.857†	313440.4	0.9886 mg/L	0.02607	0.9886 mg/L	0.02607	2.64%
P	178.221†	-14.3	0.000 mg/L	0.0006	0.000 mg/L	0.0006	350.66%
Si	251.611†	12453.3	0.225 mg/L	0.0775	0.225 mg/L	0.0775	34.47%

All analyte(s) passed QC.

Sequence No.: 10
Sample ID: ICV-2
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 6
Date Collected: 4/13/2021 8:41:43 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: ICV-2

Analyte	Back Pressure	Flow
All	261.0 kPa	0.75 L/min

Handwritten signature and date: 4/13/21

Mean Data: ICV-2

Analyte	Mean Corrected Intensity	Conc. Units	Calib. / Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	3131388.9	0.989 mg/L	0.0087			0.88%
Sc 361.383	5282973.4	1.01 mg/L	0.009			0.92%
Ag 328.068†	184474.7	0.47174 mg/L	0.005345	0.47174 mg/L	0.005345	1.13%
Al 308.215†	29202.7	0.9602 mg/L	0.01418	0.9602 mg/L	0.01418	1.48%
As 188.979†	-2.7	-0.0004 mg/L	0.00170	-0.0004 mg/L	0.00170	462.87%
B 249.772†	240722.9	1.012 mg/L	0.0117	1.012 mg/L	0.0117	1.16%
Ba 233.527†	237906.1	1.073 mg/L	0.0093	1.073 mg/L	0.0093	0.86%
Be 313.107†	6156.0	0.00075 mg/L	0.000025	0.00075 mg/L	0.000025	3.34%
Ca 317.933†	-183.6	-0.0037 mg/L	0.00096	-0.0037 mg/L	0.00096	25.88%
Cd 214.440†	427.7	0.00072 mg/L	0.000036	0.00072 mg/L	0.000036	5.06%
Co 228.616†	-36.1	0.0008 mg/L	0.00012	0.0008 mg/L	0.00012	15.00%
Cr 267.716†	168.3	0.0006 mg/L	0.00010	0.0006 mg/L	0.00010	15.47%
Cu 324.752†	662.6	0.0014 mg/L	0.00028	0.0014 mg/L	0.00028	19.44%
Fe 238.204†	-234.9	-0.0059 mg/L	0.00020	-0.0059 mg/L	0.00020	3.34%
K 766.490†	53115.7	10.44 mg/L	0.132	10.44 mg/L	0.132	1.26%
Mg 279.077†	-30.8	-0.0052 mg/L	0.00221	-0.0052 mg/L	0.00221	42.05%
Mn 257.610†	712.3	0.0007 mg/L	0.00003	0.0007 mg/L	0.00003	4.99%
Mo 202.031†	34.3	0.0005 mg/L	0.00004	0.0005 mg/L	0.00004	8.57%

Na 330.237†	77.2	1.249 mg/L	0.2914	1.249 mg/L	0.2914	23.32%
Ni 232.003†	-397.3	-0.0062 mg/L	0.00026	-0.0062 mg/L	0.00026	4.17%
Pb 220.353†	5.6	0.0003 mg/L	0.00126	0.0003 mg/L	0.00126	452.97%
Sb 206.836†	137.4	0.0132 mg/L	0.00069	0.0132 mg/L	0.00069	5.24%
Se 196.026†	14.1	0.0048 mg/L	0.00395	0.0048 mg/L	0.00395	82.70%
Tl 190.801†	33.4	0.0045 mg/L	0.00123	0.0045 mg/L	0.00123	27.03%
V 292.402†	343.9	0.0006 mg/L	0.00013	0.0006 mg/L	0.00013	21.81%
Zn 213.857†	593.9	0.0021 mg/L	0.00018	0.0021 mg/L	0.00018	8.65%
P 178.221†	0.8	0.000 mg/L	0.0016	0.000 mg/L	0.0016	>999.9%
Si 251.611†	123213.3	2.304 mg/L	0.0232	2.304 mg/L	0.0232	1.01%

All analyte(s) passed QC.

Sequence No.: 11
 Sample ID: ICV-3
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 7
 Date Collected: 4/13/2021 8:45:47 AM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Nebulizer Parameters: ICV-3

Analyte Back Pressure Flow
 All 261.0 kPa 0.75 L/min

Handwritten signature
 4/13/21

Mean Data: ICV-3

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	3164216.2	0.999 mg/L	0.0040			0.40%
Sc 361.383	5371082.6	1.02 mg/L	0.004			0.35%
Ag 328.068†	631.4	0.00133 mg/L	0.000271	0.00133 mg/L	0.000271	20.34%
Al 308.215†	-40.6	-0.0195 mg/L	0.00245	-0.0195 mg/L	0.00245	12.55%
As 188.979†	25.2	0.0017 mg/L	0.00089	0.0017 mg/L	0.00089	51.49%
B 249.772†	240529.8	1.010 mg/L	0.0177	1.010 mg/L	0.0177	1.75%
Ba 233.527†	194.8	0.0008 mg/L	0.00005	0.0008 mg/L	0.00005	5.97%
Be 313.107†	2650.1	0.00045 mg/L	0.000016	0.00045 mg/L	0.000016	3.47%
Ca 317.933†	427865.9	10.00 mg/L	0.331	10.00 mg/L	0.331	3.31%
QC value within limits for Ca 317.933 Recovery = 100.01%						
Cd 214.440†	61.0	0.00028 mg/L	0.000061	0.00028 mg/L	0.000061	21.46%
Co 228.616†	-89.2	0.0002 mg/L	0.00009	0.0002 mg/L	0.00009	49.68%
Cr 267.716†	66.4	0.0002 mg/L	0.00014	0.0002 mg/L	0.00014	83.67%
Cu 324.752†	307.9	-0.0001 mg/L	0.00032	-0.0001 mg/L	0.00032	245.04%
Fe 238.204†	-356.2	-0.0089 mg/L	0.00015	-0.0089 mg/L	0.00015	1.64%
K 766.490†	50658.5	9.951 mg/L	0.2726	9.951 mg/L	0.2726	2.74%
QC value within limits for K 766.490 Recovery = 99.51%						
Mg 279.077†	57470.0	9.754 mg/L	0.3334	9.754 mg/L	0.3334	3.42%
QC value within limits for Mg 279.077 Recovery = 97.54%						
Mn 257.610†	195.5	0.0001 mg/L	0.00002	0.0001 mg/L	0.00002	13.60%
Mo 202.031†	65651.0	1.002 mg/L	0.0159	1.002 mg/L	0.0159	1.58%
Na 330.237†	647.1	10.58 mg/L	0.495	10.58 mg/L	0.495	4.68%
QC value within limits for Na 330.237 Recovery = 105.81%						
Ni 232.003†	536.2	0.0037 mg/L	0.00095	0.0037 mg/L	0.00095	25.89%
Pb 220.353†	-115.3	-0.0014 mg/L	0.00038	-0.0014 mg/L	0.00038	26.60%
Sb 206.836†	-61.5	-0.0032 mg/L	0.00144	-0.0032 mg/L	0.00144	44.30%
Se 196.026†	-3.0	-0.0006 mg/L	0.00460	-0.0006 mg/L	0.00460	811.61%
Tl 190.801†	11.5	0.0023 mg/L	0.00043	0.0023 mg/L	0.00043	18.81%
V 292.402†	66.7	-0.0003 mg/L	0.00016	-0.0003 mg/L	0.00016	51.22%
Zn 213.857†	-393.0	-0.0008 mg/L	0.00004	-0.0008 mg/L	0.00004	5.15%
P 178.221†	16984.1	5.027 mg/L	0.0760	5.027 mg/L	0.0760	1.51%
QC value within limits for P 178.221 Recovery = 100.54%						
Si 251.611†	11763.5	0.206 mg/L	0.0051	0.206 mg/L	0.0051	2.50%

All analyte(s) passed QC.

Sequence No.: 12
 Sample ID: ICV-4
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 8
 Date Collected: 4/13/2021 8:49:52 AM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Nebulizer Parameters: ICV-4

Analyte Back Pressure Flow
All 262.0 kPa 0.75 L/min

Mean Data: ICV-4

Table with 8 columns: Analyte, Mean Corrected Intensity, Conc., Calib. Units, Std.Dev., Conc., Sample Units, Std.Dev., RSD. Lists various elements like Y, Sc, Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Tl, V, Zn, P, Si with their respective values.

QC value within limits for Si 251.611 Recovery = 98.64%
All analyte(s) passed QC.

Sequence No.: 13
Sample ID: MRL CHECK 1
Analyst:
Initial Sample Wt:
Dilution:

Handwritten signature and date: 4/13/21

Autosampler Location: 14
Date Collected: 4/13/2021 8:53:58 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: MRL CHECK 1

Analyte Back Pressure Flow
All 262.0 kPa 0.75 L/min

Handwritten note: 2104064 MRL1

Mean Data: MRL CHECK 1

Table with 8 columns: Analyte, Mean Corrected Intensity, Conc., Calib. Units, Std.Dev., Conc., Sample Units, Std.Dev., RSD. Lists various elements like Y, Sc, Ag, Al, As, B, Ba, Be, Ca, Cd with their respective values and recovery percentages.

Pb 220.353†	-132.0	0.0007 mg/L	0.00063	0.0007 mg/L	0.00063	92.96%
Sb 206.836†	-25.3	-0.0049 mg/L	0.00072	-0.0049 mg/L	0.00072	14.49%
Se 196.026†	-16.6	-0.0025 mg/L	0.00361	-0.0025 mg/L	0.00361	144.29%
Tl 190.801†	27.7	0.0094 mg/L	0.00058	0.0094 mg/L	0.00058	6.20%
V 292.402†	842.6	0.0014 mg/L	0.00005	0.0014 mg/L	0.00005	3.44%
Zn 213.857†	3283.9	0.0125 mg/L	0.00028	0.0125 mg/L	0.00028	2.20%
P 178.221†	34.6	0.009 mg/L	0.0044	0.009 mg/L	0.0044	47.53%
Si 251.611†	280953.2	5.254 mg/L	0.0457	5.254 mg/L	0.0457	0.87%

Sequence No.: 50
 Sample ID: 21D0019-01
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 39
 Date Collected: 4/13/2021 11:24:02 AM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

W-413/M

Nebulizer Parameters: 21D0019-01

Analyte	Back Pressure	Flow
All	271.0 kPa	0.75 L/min

Mean Data: 21D0019-01

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD%
Y 371.029	3094899.3	0.977 mg/L	✓	0.0218			2.23%
Sc 361.383	5334777.9	1.02 mg/L		0.024			2.37%
Ag 328.068†	3837.8	0.00684 mg/L		0.000263	0.00684 mg/L	0.000263	3.85%
Al 308.215†	-419.7	-0.0465 mg/L		0.00705	-0.0465 mg/L	0.00705	15.19%
As 188.979†	46.0	0.0053 mg/L		0.00159	0.0053 mg/L	0.00159	30.00%
B 249.772†	40458.9	0.1654 mg/L		0.00536	0.1654 mg/L	0.00536	3.24%
Ba 233.527†	12729.8	0.0574 mg/L		0.00135	0.0574 mg/L	0.00135	2.36%
Be 313.107†	-331.8	0.00025 mg/L	✓	0.000019	0.00025 mg/L	0.000019	7.47%
Ca 317.933†	6202697.3	145.0 mg/L		2.73	145.0 mg/L	2.73	1.89%
Cd 214.440†	-30.0	-0.00014 mg/L		0.000052	-0.00014 mg/L	0.000052	36.49%
Co 228.616†	124.6	0.0012 mg/L		0.00012	0.0012 mg/L	0.00012	10.38%
Cr 267.716†	227.5	0.0006 mg/L		0.00008	0.0006 mg/L	0.00008	13.24%
Cu 324.752†	7652.1	0.0157 mg/L		0.00290	0.0157 mg/L	0.00290	18.52%
Fe 238.204†	2280.5	0.0584 mg/L		0.00335	0.0584 mg/L	0.00335	5.74%
K 766.490†	18373.8	3.532 mg/L	✓	0.0766	3.532 mg/L	0.0766	2.17%
Mg 279.077†	125017.5	21.20 mg/L	✓	0.464	21.20 mg/L	0.464	2.19%
Mn 257.610†	1898.0	0.0017 mg/L		0.00006	0.0017 mg/L	0.00006	3.67%
Mo 202.031†	44.3	0.0003 mg/L		0.00020	0.0003 mg/L	0.00020	59.40%
Na 330.237†	6568.1	106.8 mg/L	✓	3.40	106.8 mg/L	3.40	3.19%
Ni 232.003†	64.8	0.0034 mg/L		0.00030	0.0034 mg/L	0.00030	8.96%
Pb 220.353†	-174.4	-0.0023 mg/L		0.00065	-0.0023 mg/L	0.00065	27.80%
Sb 206.836†	-27.0	-0.0036 mg/L		0.00055	-0.0036 mg/L	0.00055	15.42%
Se 196.026†	-19.9	-0.0046 mg/L		0.00276	-0.0046 mg/L	0.00276	59.89%
Tl 190.801†	5.0	0.0029 mg/L		0.00130	0.0029 mg/L	0.00130	45.53%
V 292.402†	3389.1	0.0059 mg/L		0.00014	0.0059 mg/L	0.00014	2.27%
Zn 213.857†	-203.0	0.0001 mg/L		0.00025	0.0001 mg/L	0.00025	355.71%
P 178.221†	177.2	0.052 mg/L		0.0047	0.052 mg/L	0.0047	8.96%
Si 251.611†	1860636.8	34.78 mg/L		0.153	34.78 mg/L	0.153	0.44%

Sequence No.: 51
 Sample ID: CCB
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 1
 Date Collected: 4/13/2021 11:27:53 AM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	265.0 kPa	0.75 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD%
Y 371.029	3181009.6	1.00 mg/L		0.014			1.42%
Sc 361.383	5284609.7	1.01 mg/L		0.015			1.45%

Ag 328.068†	368.9	0.00094 mg/L	0.000443	0.00094 mg/L	0.000443	47.06%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 308.215†	-940.7	-0.0310 mg/L	0.00542	-0.0310 mg/L	0.00542	17.47%
QC value within limits for Al 308.215 Recovery = Not calculated						
As 188.979†	-20.8	-0.0034 mg/L	0.00019	-0.0034 mg/L	0.00019	5.64%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.772†	738.0	0.0031 mg/L	0.00013	0.0031 mg/L	0.00013	4.25%
QC value within limits for B 249.772 Recovery = Not calculated						
Ba 233.527†	41.3	0.0002 mg/L	0.00005	0.0002 mg/L	0.00005	27.93%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	-601.7	0.00016 mg/L	0.000016	0.00016 mg/L	0.000016	9.90%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933†	3181.1	0.0744 mg/L	0.00088	0.0744 mg/L	0.00088	1.18%
QC value within limits for Ca 317.933 Recovery = Not calculated						
Cd 214.440†	43.4	0.00007 mg/L	0.000050	0.00007 mg/L	0.000050	71.57%
QC value within limits for Cd 214.440 Recovery = Not calculated						
Co 228.616†	42.0	0.0004 mg/L	0.00022	0.0004 mg/L	0.00022	57.92%
QC value within limits for Co 228.616 Recovery = Not calculated						
Cr 267.716†	-94.8	-0.0004 mg/L	0.00010	-0.0004 mg/L	0.00010	27.02%
QC value within limits for Cr 267.716 Recovery = Not calculated						
Cu 324.752†	2601.2	0.0058 mg/L	0.00350	0.0058 mg/L	0.00350	60.20%
QC value within limits for Cu 324.752 Recovery = Not calculated						
Fe 238.204†	-451.8	-0.0115 mg/L	0.00008	-0.0115 mg/L	0.00008	0.71%
QC value within limits for Fe 238.204 Recovery = Not calculated						
K 766.490†	372.1	0.0728 mg/L	0.00222	0.0728 mg/L	0.00222	3.04%
QC value within limits for K 766.490 Recovery = Not calculated						
Mg 279.077†	56.0	0.0095 mg/L	0.00377	0.0095 mg/L	0.00377	39.77%
QC value within limits for Mg 279.077 Recovery = Not calculated						
Mn 257.610†	98.2	0.0001 mg/L	0.00005	0.0001 mg/L	0.00005	56.42%
QC value within limits for Mn 257.610 Recovery = Not calculated						
Mo 202.031†	-188.5	-0.0029 mg/L	0.00028	-0.0029 mg/L	0.00028	9.87%
QC value within limits for Mo 202.031 Recovery = Not calculated						
Na 330.237†	34.5	0.5598 mg/L	0.14503	0.5598 mg/L	0.14503	25.91%
QC value within limits for Na 330.237 Recovery = Not calculated						
Ni 232.003†	30.9	0.0005 mg/L	0.00072	0.0005 mg/L	0.00072	137.36%
QC value within limits for Ni 232.003 Recovery = Not calculated						
Pb 220.353†	-76.1	-0.0021 mg/L	0.00055	-0.0021 mg/L	0.00055	25.98%
QC value within limits for Pb 220.353 Recovery = Not calculated						
Sb 206.836†	-16.5	-0.0016 mg/L	0.00068	-0.0016 mg/L	0.00068	42.63%
QC value within limits for Sb 206.836 Recovery = Not calculated						
Se 196.026†	3.0	0.0010 mg/L	0.00614	0.0010 mg/L	0.00614	617.65%
QC value within limits for Se 196.026 Recovery = Not calculated						
Tl 190.801†	19.9	0.0025 mg/L	0.00182	0.0025 mg/L	0.00182	72.59%
QC value within limits for Tl 190.801 Recovery = Not calculated						
V 292.402†	51.4	0.0001 mg/L	0.00017	0.0001 mg/L	0.00017	189.71%
QC value within limits for V 292.402 Recovery = Not calculated						
Zn 213.857†	687.5	0.0022 mg/L	0.00011	0.0022 mg/L	0.00011	5.14%
QC value within limits for Zn 213.857 Recovery = Not calculated						
P 178.221†	11.4	0.003 mg/L	0.0030	0.003 mg/L	0.0030	89.87%
QC value within limits for P 178.221 Recovery = Not calculated						
Si 251.611†	1004.6	0.019 mg/L	0.0016	0.019 mg/L	0.0016	8.25%
QC value within limits for Si 251.611 Recovery = Not calculated						

All analyte(s) passed QC.

Sequence No.: 52
 Sample ID: CCV-1
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 5
 Date Collected: 4/13/2021 11:31:58 AM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Handwritten signature
 4/13/21

Nebulizer Parameters: CCV-1

Analyte	Back Pressure	Flow
All	264.0 kPa	0.75 L/min

Mean Data: CCV-1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	3126297.9	0.987 mg/L	0.0180			1.83%
Sc 361.383	5254527.0	1.00 mg/L	0.019			1.89%

Ag 328.068†	-1384.8	-0.00142 mg/L	0.000224	-0.00142 mg/L	0.000224	15.76%
Al 308.215†	-21.4	-0.0318 mg/L	0.00832	-0.0318 mg/L	0.00832	26.19%
As 188.979†	6373.1	1.043 mg/L	0.0169	1.043 mg/L	0.0169	1.62%
QC value within limits for As 188.979 Recovery = 104.32%						
B 249.772†	2378.7	0.0099 mg/L	0.00033	0.0099 mg/L	0.00033	3.30%
Ba 233.527†	-515.7	-0.0005 mg/L	0.00014	-0.0005 mg/L	0.00014	28.62%
Be 313.107†	11300267.5	0.98936 mg/L	0.015332	0.98936 mg/L	0.015332	1.55%
QC value within limits for Be 313.107 Recovery = 98.94%						
Ca 317.933†	45519.6	1.074 mg/L	0.0387	1.074 mg/L	0.0387	3.61%
Cd 214.440†	635606.7	1.0371 mg/L	0.00145	1.0371 mg/L	0.00145	0.14%
QC value within limits for Cd 214.440 Recovery = 103.71%						
Co 228.616†	117137.0	1.055 mg/L	0.0223	1.055 mg/L	0.0223	2.11%
QC value within limits for Co 228.616 Recovery = 105.49%						
Cr 267.716†	284353.1	1.071 mg/L	0.0218	1.071 mg/L	0.0218	2.03%
QC value within limits for Cr 267.716 Recovery = 107.09%						
Cu 324.752†	425757.7	0.9525 mg/L	0.00313	0.9525 mg/L	0.00313	0.33%
QC value within limits for Cu 324.752 Recovery = 95.25%						
Fe 238.204†	37959.3	0.9753 mg/L	0.03299	0.9753 mg/L	0.03299	3.38%
QC value within limits for Fe 238.204 Recovery = 97.53%						
K 766.490†	158.4	0.0325 mg/L	0.02728	0.0325 mg/L	0.02728	83.96%
Mg 279.077†	5703.9	0.9749 mg/L	0.03837	0.9749 mg/L	0.03837	3.94%
Mn 257.610†	1078392.5	1.039 mg/L	0.0004	1.039 mg/L	0.0004	0.04%
QC value within limits for Mn 257.610 Recovery = 103.86%						
Mo 202.031†	65842.7	1.005 mg/L	0.0215	1.005 mg/L	0.0215	2.14%
QC value within limits for Mo 202.031 Recovery = 100.47%						
Na 330.237†	-33.1	-1.368 mg/L	0.4422	-1.368 mg/L	0.4422	32.31%
Ni 232.003†	64952.2	0.9928 mg/L	0.01982	0.9928 mg/L	0.01982	2.00%
QC value within limits for Ni 232.003 Recovery = 99.28%						
Pb 220.353†	38603.6	1.067 mg/L	0.0245	1.067 mg/L	0.0245	2.29%
QC value within limits for Pb 220.353 Recovery = 106.67%						
Sb 206.836†	11058.8	1.063 mg/L	0.0218	1.063 mg/L	0.0218	2.05%
QC value within limits for Sb 206.836 Recovery = 106.25%						
Se 196.026†	3030.7	1.015 mg/L	0.0170	1.015 mg/L	0.0170	1.67%
QC value within limits for Se 196.026 Recovery = 101.52%						
Tl 190.801†	8078.9	1.016 mg/L	0.0198	1.016 mg/L	0.0198	1.95%
QC value within limits for Tl 190.801 Recovery = 101.64%						
V 292.402†	570276.2	1.011 mg/L	0.0014	1.011 mg/L	0.0014	0.14%
QC value within limits for V 292.402 Recovery = 101.08%						
Zn 213.857†	327117.3	1.032 mg/L	0.0218	1.032 mg/L	0.0218	2.11%
QC value within limits for Zn 213.857 Recovery = 103.19%						
P 178.221†	-4.9	0.003 mg/L	0.0031	0.003 mg/L	0.0031	112.23%
Si 251.611†	11589.9	0.208 mg/L	0.0039	0.208 mg/L	0.0039	1.87%
All analyte(s) passed QC.						

Sequence No.: 53

Sample ID: CCV-2

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 6

Date Collected: 4/13/2021 11:35:48 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCV-2

Analyte	Back Pressure	Flow
All	265.0 kPa	0.75 L/min

Mean Data: CCV-2

Analyte	Mean Corrected		Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
	Intensity	Conc. Units					
Y 371.029	3201088.5	1.01 mg/L	0.008			0.76%	
Sc 361.383	5391139.6	1.03 mg/L	0.007			0.71%	
Ag 328.068†	182586.9	0.46691 mg/L	0.003899	0.46691 mg/L	0.003899	0.84%	
QC value within limits for Ag 328.068 Recovery = 93.38%							
Al 308.215†	28647.5	0.9419 mg/L	0.01252	0.9419 mg/L	0.01252	1.33%	
QC value within limits for Al 308.215 Recovery = 94.19%							
As 188.979†	-13.3	-0.0021 mg/L	0.00110	-0.0021 mg/L	0.00110	52.32%	
B 249.772†	240864.6	1.012 mg/L	0.0136	1.012 mg/L	0.0136	1.35%	
QC value within limits for B 249.772 Recovery = 101.21%							
Ba 233.527†	238908.1	1.078 mg/L	0.0109	1.078 mg/L	0.0109	1.01%	
QC value within limits for Ba 233.527 Recovery = 107.79%							
Be 313.107†	2880.5	0.00047 mg/L	0.000045	0.00047 mg/L	0.000045	9.75%	

Analyte	Intensity	Conc.	Units	Std.Dev.	Conc.	Units	Std.Dev.	RSD
Ca 317.933+	4561.0	0.1072	mg/L	0.00362	0.1072	mg/L	0.00362	3.38%
Cd 214.440+	245.6	0.00042	mg/L	0.000037	0.00042	mg/L	0.000037	8.85%
Co 228.616+	-52.9	0.0007	mg/L	0.00016	0.0007	mg/L	0.00016	24.19%
Cr 267.716+	58.2	0.0002	mg/L	0.00015	0.0002	mg/L	0.00015	69.16%
Cu 324.752+	7182.6	0.0160	mg/L	0.00127	0.0160	mg/L	0.00127	7.94%
Fe 238.204+	-333.3	-0.0084	mg/L	0.00012	-0.0084	mg/L	0.00012	1.45%
K 766.490+	51039.9	10.04	mg/L	0.212	10.04	mg/L	0.212	2.12%
Mg 279.077+	89.6	0.0152	mg/L	0.00329	0.0152	mg/L	0.00329	21.69%
Mn 257.610+	989.3	0.0010	mg/L	0.00004	0.0010	mg/L	0.00004	4.48%
Mo 202.031+	4.0	0.0000	mg/L	0.00052	0.0000	mg/L	0.00052	>999.9%
Na 330.237+	80.5	1.303	mg/L	0.2862	1.303	mg/L	0.2862	21.97%
Ni 232.003+	-510.0	-0.0080	mg/L	0.00025	-0.0080	mg/L	0.00025	3.09%
Pb 220.353+	-42.5	-0.0011	mg/L	0.00030	-0.0011	mg/L	0.00030	28.05%
Sb 206.836+	53.5	0.0050	mg/L	0.00111	0.0050	mg/L	0.00111	21.98%
Se 196.026+	4.8	0.0017	mg/L	0.00260	0.0017	mg/L	0.00260	157.29%
Tl 190.801+	25.9	0.0036	mg/L	0.00068	0.0036	mg/L	0.00068	18.89%
V 292.402+	242.8	0.0004	mg/L	0.00008	0.0004	mg/L	0.00008	19.07%
Zn 213.857+	724.9	0.0025	mg/L	0.00017	0.0025	mg/L	0.00017	6.95%
P 178.221+	-2.0	-0.001	mg/L	0.0008	-0.001	mg/L	0.0008	107.06%
Si 251.611+	124373.6	2.325	mg/L	0.0213	2.325	mg/L	0.0213	0.92%

All analyte(s) passed QC.

Sequence No.: 54
 Sample ID: CCV-3
 Analyst:
 Initial Sample Wt.:
 Dilution:

Autosampler Location: 7
 Date Collected: 4/13/2021 11:39:52 AM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Nebulizer Parameters: CCV-3

Analyte Back Pressure Flow
 All 265.0 kPa 0.75 L/min

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Mean Data: CCV-3

Analyte	Mean Corrected Intensity	Conc.	Units	Std.Dev.	Conc.	Units	Std.Dev.	RSD
Y 371.029	3178880.5	1.00	mg/L	0.010				0.98%
Sc 361.383	5393614.7	1.03	mg/L	0.010				1.00%
Ag 328.068+	665.3	0.00142	mg/L	0.000199	0.00142	mg/L	0.000199	14.08%
Al 308.215+	-265.4	-0.0273	mg/L	0.00582	-0.0273	mg/L	0.00582	21.35%
As 188.979+	12.8	-0.0004	mg/L	0.00099	-0.0004	mg/L	0.00099	272.73%
B 249.772+	247581.0	1.040	mg/L	0.0135	1.040	mg/L	0.0135	1.30%
Ba 233.527+	168.7	0.0007	mg/L	0.00012	0.0007	mg/L	0.00012	17.17%
Be 313.107+	91.1	0.00023	mg/L	0.000013	0.00023	mg/L	0.000013	5.61%
Ca 317.933+	425262.1	9.940	mg/L	0.1712	9.940	mg/L	0.1712	1.72%
QC value within limits for Ca 317.933 Recovery = 99.40%								
Cd 214.440+	-49.5	0.00011	mg/L	0.000039	0.00011	mg/L	0.000039	36.03%
Co 228.616+	-78.7	0.0003	mg/L	0.00012	0.0003	mg/L	0.00012	39.19%
Cr 267.716+	10.7	0.0000	mg/L	0.00012	0.0000	mg/L	0.00012	322.49%
Cu 324.752+	2560.4	0.0049	mg/L	0.00195	0.0049	mg/L	0.00195	39.83%
Fe 238.204+	-437.4	-0.0110	mg/L	0.00022	-0.0110	mg/L	0.00022	2.01%
K 766.490+	50101.8	9.842	mg/L	0.1612	9.842	mg/L	0.1612	1.64%
QC value within limits for K 766.490 Recovery = 98.42%								
Mg 279.077+	57641.9	9.784	mg/L	0.1756	9.784	mg/L	0.1756	1.79%
QC value within limits for Mg 279.077 Recovery = 97.84%								
Mn 257.610+	130.3	0.0001	mg/L	0.00002	0.0001	mg/L	0.00002	20.45%
Mo 202.031+	67304.4	1.027	mg/L	0.0122	1.027	mg/L	0.0122	1.19%
Na 330.237+	640.5	10.48	mg/L	0.329	10.48	mg/L	0.329	3.14%
QC value within limits for Na 330.237 Recovery = 104.75%								
Ni 232.003+	551.4	0.0038	mg/L	0.00102	0.0038	mg/L	0.00102	26.92%
Pb 220.353+	-139.4	-0.0021	mg/L	0.00023	-0.0021	mg/L	0.00023	11.24%
Sb 206.836+	-78.7	-0.0048	mg/L	0.00188	-0.0048	mg/L	0.00188	38.95%
Se 196.026+	2.8	0.0014	mg/L	0.00394	0.0014	mg/L	0.00394	287.22%
Tl 190.801+	15.0	0.0027	mg/L	0.00187	0.0027	mg/L	0.00187	69.16%
V 292.402+	84.0	-0.0003	mg/L	0.00016	-0.0003	mg/L	0.00016	54.42%
Zn 213.857+	-422.1	-0.0009	mg/L	0.00013	-0.0009	mg/L	0.00013	15.19%
P 178.221+	18129.8	5.366	mg/L	0.0723	5.366	mg/L	0.0723	1.35%
QC value within limits for P 178.221 Recovery = 107.32%								
Si 251.611+	12812.3	0.225	mg/L	0.0051	0.225	mg/L	0.0051	2.25%

All analyte(s) passed QC.

Sequence No.: 55
Sample ID: CCV-4
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 8
Date Collected: 4/13/2021 11:43:58 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

MW 4/13/21

Nebulizer Parameters: CCV-4

Analyte Back Pressure Flow
All 266.0 kPa 0.75 L/min

Mean Data: CCV-4

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	3346860.0	1.06	mg/L	0.014			1.29%
Sc 361.383	5633492.3	1.07	mg/L	0.015			1.40%
Ag 328.068†	441.7	0.00113	mg/L	0.000286	0.00113 mg/L	0.000286	25.29%
Al 308.215†	-1342.7	-0.0446	mg/L	0.00334	-0.0446 mg/L	0.00334	7.49%
As 188.979†	-14.1	-0.0023	mg/L	0.00113	-0.0023 mg/L	0.00113	49.61%
B 249.772†	3511.2	0.0147	mg/L	0.00029	0.0147 mg/L	0.00029	2.00%
Ba 233.527†	75.6	0.0003	mg/L	0.00010	0.0003 mg/L	0.00010	29.18%
Be 313.107†	705.2	0.00027	mg/L	0.000036	0.00027 mg/L	0.000036	13.16%
Ca 317.933†	530.3	0.0125	mg/L	0.00166	0.0125 mg/L	0.00166	13.31%
Cd 214.440†	27.5	0.00004	mg/L	0.000020	0.00004 mg/L	0.000020	45.91%
Co 228.616†	19.7	0.0002	mg/L	0.00007	0.0002 mg/L	0.00007	41.02%
Cr 267.716†	-62.4	-0.0002	mg/L	0.00012	-0.0002 mg/L	0.00012	49.51%
Cu 324.752†	865.7	0.0019	mg/L	0.00052	0.0019 mg/L	0.00052	27.20%
Fe 238.204†	-322.2	-0.0082	mg/L	0.00042	-0.0082 mg/L	0.00042	5.17%
K 766.490†	156.6	0.0285	mg/L	0.01382	0.0285 mg/L	0.01382	48.53%
Mg 279.077†	9.2	0.0014	mg/L	0.00094	0.0014 mg/L	0.00094	66.59%
Mn 257.610†	105.3	0.0001	mg/L	0.00005	0.0001 mg/L	0.00005	45.87%
Mo 202.031†	-24.1	-0.0004	mg/L	0.00014	-0.0004 mg/L	0.00014	39.06%
Na 330.237†	231.4	3.769	mg/L	0.1699	3.769 mg/L	0.1699	4.51%
Ni 232.003†	135.8	0.0022	mg/L	0.00063	0.0022 mg/L	0.00063	28.33%
Pb 220.353†	-67.1	-0.0019	mg/L	0.00060	-0.0019 mg/L	0.00060	32.64%
Sb 206.836†	-20.1	-0.0020	mg/L	0.00084	-0.0020 mg/L	0.00084	43.01%
Se 196.026†	-1.6	-0.0006	mg/L	0.00200	-0.0006 mg/L	0.00200	347.67%
Tl 190.801†	27.5	0.0035	mg/L	0.00124	0.0035 mg/L	0.00124	35.78%
V 292.402†	35.7	0.0001	mg/L	0.00007	0.0001 mg/L	0.00007	113.97%
Zn 213.857†	-221.7	-0.0007	mg/L	0.00014	-0.0007 mg/L	0.00014	19.34%
P 178.221†	3.8	0.001	mg/L	0.0016	0.001 mg/L	0.0016	148.01%
Si 251.611†	133418.0	2.494	mg/L	0.0286	2.494 mg/L	0.0286	1.15%

QC value within limits for Si 251.611 Recovery = 99.75%
All analyte(s) passed QC.

Sequence No.: 56
Sample ID: 2104132-MRL1
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 40
Date Collected: 4/13/2021 11:48:03 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 2104132-MRL1

Analyte Back Pressure Flow
All 266.0 kPa 0.75 L/min

MW 4/13/21

Mean Data: 2104132-MRL1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	3354636.2	1.06	mg/L	0.003			0.31%
Sc 361.383	5667311.6	1.08	mg/L	0.004			0.38%
Ag 328.068†	4155.2	0.01080	mg/L	0.000353	0.01080 mg/L	0.000353	3.26%
Al 308.215†	56792.6	1.867	mg/L	0.0119	1.867 mg/L	0.0119	0.64%
As 188.979†	227.9	0.0373	mg/L	0.00165	0.0373 mg/L	0.00165	4.43%
B 249.772†	31977.1	0.1337	mg/L	0.00155	0.1337 mg/L	0.00155	1.16%
Ba 233.527†	11057.5	0.0501	mg/L	0.00032	0.0501 mg/L	0.00032	0.64%
Be 313.107†	22369.4	0.00217	mg/L	0.000012	0.00217 mg/L	0.000012	0.56%

Ca 317.933†	164816.2	3.852 mg/L	0.0709	3.852 mg/L	0.0709	1.84%
Cd 214.440†	1114.3	0.00184 mg/L	0.000023	0.00184 mg/L	0.000023	1.25%
Co 228.616†	10941.8	0.0986 mg/L	0.00066	0.0986 mg/L	0.00066	0.67%
Cr 267.716†	7763.6	0.0293 mg/L	0.00019	0.0293 mg/L	0.00019	0.65%
Cu 324.752†	9415.6	0.0211 mg/L	0.00231	0.0211 mg/L	0.00231	10.96%
Fe 238.204†	10706.1	0.2735 mg/L	0.00475	0.2735 mg/L	0.00475	1.74%
K 766.490†	23743.3	4.664 mg/L	0.0885	4.664 mg/L	0.0885	1.90%
Mg 279.077†	16669.8	2.828 mg/L	0.0322	2.828 mg/L	0.0322	1.14%
Mn 257.610†	20655.6	0.0199 mg/L	0.00011	0.0199 mg/L	0.00011	0.58%
Mo 202.031†	505.6	0.0077 mg/L	0.00023	0.0077 mg/L	0.00023	2.97%
Na 330.237†	287.6	4.637 mg/L	0.4256	4.637 mg/L	0.4256	9.18%
Ni 232.003†	3034.7	0.0476 mg/L	0.00066	0.0476 mg/L	0.00066	1.40%
Pb 220.353†	1375.2	0.0383 mg/L	0.00038	0.0383 mg/L	0.00038	1.01%
Sb 206.836†	1956.0	0.1889 mg/L	0.00225	0.1889 mg/L	0.00225	1.19%
Se 196.026†	108.5	0.0366 mg/L	0.00232	0.0366 mg/L	0.00232	6.35%
Tl 190.801†	330.0	0.0418 mg/L	0.00056	0.0418 mg/L	0.00056	1.33%
V 292.402†	55152.1	0.0975 mg/L	0.00050	0.0975 mg/L	0.00050	0.51%
Zn 213.857†	12802.7	0.0404 mg/L	0.00035	0.0404 mg/L	0.00035	0.87%
P 178.221†	1732.1	0.512 mg/L	0.0025	0.512 mg/L	0.0025	0.48%
Si 251.611†	1349.9	0.025 mg/L	0.0005	0.025 mg/L	0.0005	1.93%

Sequence No.: 57
 Sample ID: 2104132-BLK1
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 41
 Date Collected: 4/13/2021 11:51:49 AM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Nebulizer Parameters: 2104132-BLK1

Analyte Back Pressure Flow
 All 264.0 kPa 0.75 L/min

Handwritten signature
 4/13/21

Mean Data: 2104132-BLK1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	3356954.0	1.06 mg/L	0.007			0.67%
Sc 361.383	5574948.0	1.06 mg/L	0.007			0.67%
Ag 328.068†	344.3	0.00088 mg/L	0.000221	0.00088 mg/L	0.000221	25.13%
Al 308.215†	-450.9	-0.0149 mg/L	0.00286	-0.0149 mg/L	0.00286	19.22%
As 188.979†	-17.7	-0.0029 mg/L	0.00118	-0.0029 mg/L	0.00118	40.76%
B 249.772†	9114.2	0.0383 mg/L	0.00082	0.0383 mg/L	0.00082	2.15%
Ba 233.527†	60.5	0.0003 mg/L	0.00012	0.0003 mg/L	0.00012	43.71%
Be 313.107†	625.6	0.00027 mg/L	0.000015	0.00027 mg/L	0.000015	5.47%
Ca 317.933†	738.5	0.0173 mg/L	0.00111	0.0173 mg/L	0.00111	6.44%
Cd 214.440†	18.5	0.00003 mg/L	0.000044	0.00003 mg/L	0.000044	149.08%
Co 228.616†	23.5	0.0002 mg/L	0.00015	0.0002 mg/L	0.00015	70.38%
Cr 267.716†	-53.1	-0.0002 mg/L	0.00012	-0.0002 mg/L	0.00012	57.71%
Cu 324.752†	1284.6	0.0029 mg/L	0.00119	0.0029 mg/L	0.00119	41.49%
Fe 238.204†	-54.3	-0.0014 mg/L	0.00040	-0.0014 mg/L	0.00040	29.24%
K 766.490†	118.3	0.0231 mg/L	0.02754	0.0231 mg/L	0.02754	119.27%
Mg 279.077†	58.7	0.0099 mg/L	0.00109	0.0099 mg/L	0.00109	10.99%
Mn 257.610†	338.8	0.0003 mg/L	0.00002	0.0003 mg/L	0.00002	6.12%
Mo 202.031†	-173.0	-0.0026 mg/L	0.00017	-0.0026 mg/L	0.00017	6.28%
Na 330.237†	17.5	0.2842 mg/L	0.32453	0.2842 mg/L	0.32453	114.20%
Ni 232.003†	153.2	0.0025 mg/L	0.00037	0.0025 mg/L	0.00037	15.20%
Pb 220.353†	-41.7	-0.0012 mg/L	0.00033	-0.0012 mg/L	0.00033	28.41%
Sb 206.836†	-13.8	-0.0013 mg/L	0.00051	-0.0013 mg/L	0.00051	38.15%
Se 196.026†	7.0	0.0023 mg/L	0.00254	0.0023 mg/L	0.00254	108.25%
Tl 190.801†	32.0	0.0040 mg/L	0.00048	0.0040 mg/L	0.00048	11.94%
V 292.402†	33.3	0.0001 mg/L	0.00027	0.0001 mg/L	0.00027	453.12%
Zn 213.857†	447.1	0.0014 mg/L	0.00008	0.0014 mg/L	0.00008	5.49%
P 178.221†	-2.3	-0.001 mg/L	0.0033	-0.001 mg/L	0.0033	480.94%
Si 251.611†	490.8	0.009 mg/L	0.0003	0.009 mg/L	0.0003	3.25%

Sequence No.: 58
 Sample ID: 2104132-BS1
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 42
 Date Collected: 4/13/2021 11:55:55 AM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Nebulizer Parameters: 2104132-BS1

Analyte Back Pressure Flow
 All 263.0 kPa 0.75 L/min

AW
 4/13/21

Mean Data: 2104132-BS1

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
Y 371.029	3311600.9	1.05	mg/L	0.007				0.69%
Sc 361.383	5606392.9	1.07	mg/L	0.008				0.71%
Ag 328.068†	18529.6	0.04818	mg/L	0.000647	0.04818	mg/L	0.000647	1.34%
Al 308.215†	58007.9	1.885	mg/L	0.0302	1.885	mg/L	0.0302	1.60%
As 188.979†	11765.1	1.924	mg/L	0.0323	1.924	mg/L	0.0323	1.68%
B 249.772†	229265.0	0.9622	mg/L	0.00199	0.9622	mg/L	0.00199	0.21%
Ba 233.527†	438253.6	1.978	mg/L	0.0027	1.978	mg/L	0.0027	0.13%
Be 313.107†	530285.0	0.04664	mg/L	0.000026	0.04664	mg/L	0.000026	0.06%
Ca 317.933†	389672.8	9.114	mg/L	0.1608	9.114	mg/L	0.1608	1.76%
Cd 214.440†	28783.1	0.04725	mg/L	0.000595	0.04725	mg/L	0.000595	1.26%
Co 228.616†	52903.3	0.4789	mg/L	0.00720	0.4789	mg/L	0.00720	1.50%
Cr 267.716†	52298.6	0.1971	mg/L	0.00228	0.1971	mg/L	0.00228	1.15%
Cu 324.752†	101851.6	0.2275	mg/L	0.00294	0.2275	mg/L	0.00294	1.29%
Fe 238.204†	36704.9	0.9389	mg/L	0.01341	0.9389	mg/L	0.01341	1.43%
K 766.490†	45807.5	8.998	mg/L	0.1592	8.998	mg/L	0.1592	1.77%
Mg 279.077†	54078.1	9.180	mg/L	0.1461	9.180	mg/L	0.1461	1.59%
Mn 257.610†	508050.9	0.4892	mg/L	0.00044	0.4892	mg/L	0.00044	0.09%
Mo 202.031†	62359.1	0.9516	mg/L	0.01346	0.9516	mg/L	0.01346	1.41%
Na 330.237†	646.2	10.15	mg/L	0.879	10.15	mg/L	0.879	8.67%
Ni 232.003†	28776.9	0.4473	mg/L	0.00547	0.4473	mg/L	0.00547	1.22%
Pb 220.353†	17126.0	0.4744	mg/L	0.00575	0.4744	mg/L	0.00575	1.21%
Sb 206.836†	4790.8	0.4644	mg/L	0.00841	0.4644	mg/L	0.00841	1.81%
Se 196.026†	5604.3	1.876	mg/L	0.0170	1.876	mg/L	0.0170	0.90%
Tl 190.801†	13931.2	1.753	mg/L	0.0375	1.753	mg/L	0.0375	2.14%
V 292.402†	269584.0	0.4766	mg/L	0.00071	0.4766	mg/L	0.00071	0.15%
Zn 213.857†	148892.5	0.4705	mg/L	0.00045	0.4705	mg/L	0.00045	0.10%
P 178.221†	16911.0	5.006	mg/L	0.0937	5.006	mg/L	0.0937	1.87%
Si 251.611†	49570.4	0.917	mg/L	0.0120	0.917	mg/L	0.0120	1.31%

Matrix Recovery Check: 2104132-BS1

Analyte	Expected Conc.	Measured Conc.	Std. Dev.	Units	Recovery (%)
Ca 317.933	10.02	9.114	0.161	mg/L	91.0
Fe 238.204	0.9986	0.9389	0.013	mg/L	94.0
K 766.490	10.02	8.998	0.159	mg/L	89.8
Mg 279.077	10.01	9.180	0.146	mg/L	91.7
Na 330.237	10.28	10.15	0.879	mg/L	98.6
Ag 328.068	0.05088	0.04818	0.001	mg/L	94.6
Al 308.215	1.985	1.885	0.030	mg/L	95.0
As 188.979	1.997	1.924	0.032	mg/L	96.3
B 249.772	1.038	0.9622	0.002	mg/L	92.4
Ba 233.527	2.000	1.978	0.003	mg/L	98.9
Be 313.107	0.05027	0.04664	0.000	mg/L	92.7
Cd 214.440	0.05003	0.04725	0.001	mg/L	94.4
Co 228.616	0.5002	0.4789	0.007	mg/L	95.7
Cr 267.716	0.1998	0.1971	0.002	mg/L	98.7
Cu 324.752	0.2529	0.2275	0.003	mg/L	89.8
Mn 257.610	0.5003	0.4892	0.000	mg/L	97.8
Mo 202.031	0.9974	0.9516	0.013	mg/L	95.4
Ni 232.003	0.5025	0.4473	0.005	mg/L	89.0
Pb 220.353	0.4988	0.4744	0.006	mg/L	95.1
Sb 206.836	0.4987	0.4644	0.008	mg/L	93.2
Se 196.026	2.002	1.876	0.017	mg/L	93.7
Tl 190.801	2.004	1.753	0.037	mg/L	87.4
V 292.402	0.5001	0.4766	0.001	mg/L	95.3
Zn 213.857	0.5014	0.4705	0.000	mg/L	93.8
P 178.221	4.999	5.006	0.094	mg/L	100.1

Analyst:
Initial Sample Wt:
Dilution:

Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 2104132-BSD1

Analyte Back Pressure Flow
All 265.0 kPa 0.75 L/min

W 4/13/21

Mean Data: 2104132-BSD1

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Conc. Units	Sample Std.Dev.	RSD
Y 371.029	3299996.6	1.04	mg/L	0.002			0.19%
Sc 361.383	5592477.1	1.07	mg/L	0.002			0.22%
Ag 328.068†	18683.5	0.04857	mg/L	0.000355	0.04857	0.000355	0.73%
Al 308.215†	58112.8	1.888	mg/L	0.0067	1.888	0.0067	0.36%
As 188.979†	11960.0	1.956	mg/L	0.0135	1.956	0.0135	0.69%
B 249.772†	227637.2	0.9553	mg/L	0.00052	0.9553	0.00052	0.05%
Ba 233.527†	441907.6	1.995	mg/L	0.0020	1.995	0.0020	0.10%
Be 313.107†	534910.7	0.04704	mg/L	0.00022	0.04704	0.00022	0.05%
Ca 317.933†	403512.9	9.438	mg/L	0.2741	9.438	0.2741	2.90%
Cd 214.440†	29224.7	0.04798	mg/L	0.000190	0.04798	0.000190	0.40%
Co 228.616†	53775.0	0.4868	mg/L	0.00119	0.4868	0.00119	0.24%
Cr 267.716†	52840.8	0.1991	mg/L	0.00070	0.1991	0.00070	0.35%
Cu 324.752†	102728.8	0.2295	mg/L	0.00089	0.2295	0.00089	0.39%
Fe 238.204†	36911.0	0.9442	mg/L	0.01022	0.9442	0.01022	1.08%
K 766.490†	46922.2	9.218	mg/L	0.2591	9.218	0.2591	2.81%
Mg 279.077†	54742.0	9.293	mg/L	0.1288	9.293	0.1288	1.39%
Mn 257.610†	508822.5	0.4899	mg/L	0.00039	0.4899	0.00039	0.08%
Mo 202.031†	63275.4	0.9655	mg/L	0.00544	0.9655	0.00544	0.56%
Na 330.237†	583.8	9.131	mg/L	0.5932	9.131	0.5932	6.50%
Ni 232.003†	29038.1	0.4514	mg/L	0.00254	0.4514	0.00254	0.56%
Pb 220.353†	17426.4	0.4827	mg/L	0.00237	0.4827	0.00237	0.49%
Sb 206.836†	4775.8	0.4630	mg/L	0.00439	0.4630	0.00439	0.95%
Se 196.026†	5679.4	1.901	mg/L	0.0149	1.901	0.0149	0.78%
Tl 190.801†	14285.9	1.797	mg/L	0.0079	1.797	0.0079	0.44%
V 292.402†	271425.2	0.4799	mg/L	0.00099	0.4799	0.00099	0.21%
Zn 213.857†	148605.2	0.4695	mg/L	0.00088	0.4695	0.00088	0.19%
P 178.221†	17214.0	5.096	mg/L	0.0470	5.096	0.0470	0.92%
Si 251.611†	49252.0	0.911	mg/L	0.0025	0.911	0.0025	0.27%

Duplicate Check: 2104132-BSD1

Analyte	Expected Conc.	Measured Conc.	Std. Dev.	Units	Difference (%)
Ca 317.933	9.114	9.438	0.274	mg/L	3.5
Fe 238.204	0.9389	0.9442	0.010	mg/L	0.6
K 766.490	8.998	9.218	0.259	mg/L	2.4
Mg 279.077	9.180	9.293	0.129	mg/L	1.2
Na 330.237	10.15	9.131	0.593	mg/L	10.5
Y 371.029			0.000	mg/L	Not calculated
Sc 361.383			0.000	mg/L	Not calculated
Ag 328.068	0.04818	0.04857	0.000	mg/L	0.8
Al 308.215	1.885	1.888	0.007	mg/L	0.2
As 188.979	1.924	1.956	0.014	mg/L	1.6
B 249.772	0.9622	0.9553	0.001	mg/L	0.7
Ba 233.527	1.978	1.995	0.002	mg/L	0.8
Be 313.107	0.04664	0.04704	0.000	mg/L	0.9
Cd 214.440	0.04725	0.04798	0.000	mg/L	1.5
Co 228.616	0.4789	0.4868	0.001	mg/L	1.6
Cr 267.716	0.1971	0.1991	0.001	mg/L	1.0
Cu 324.752	0.2275	0.2295	0.001	mg/L	0.9
Mn 257.610	0.4892	0.4899	0.000	mg/L	0.2
Mo 202.031	0.9516	0.9655	0.005	mg/L	1.5
Ni 232.003	0.4473	0.4514	0.003	mg/L	0.9
Pb 220.353	0.4744	0.4827	0.002	mg/L	1.7
Sb 206.836	0.4644	0.4630	0.004	mg/L	0.3
Se 196.026	1.876	1.901	0.015	mg/L	1.3
Tl 190.801	1.753	1.797	0.008	mg/L	2.5
V 292.402	0.4766	0.4799	0.001	mg/L	0.7
Zn 213.857	0.4705	0.4695	0.001	mg/L	0.2

P 178.221	5.006	5.096	0.047	mg/L	1.8
Si 251.611	0.917	0.911	0.002	mg/L	0.7

Sequence No.: 60
 Sample ID: 2104132-BS2
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 44
 Date Collected: 4/13/2021 12:02:50 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Nebulizer Parameters: 2104132-BS2

Analyte	Back Pressure	Flow
All	266.0 kPa	0.75 L/min

Mean Data: 2104132-BS2

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
Y 371.029	3266810.0	1.03	mg/L	0.007			0.66%
Sc 361.383	5499781.3	1.05	mg/L	0.008			0.74%
Ag 328.068†	303.3	0.00081	mg/L	0.000102	0.00081	mg/L	12.59%
Al 308.215†	-89.8	-0.0041	mg/L	0.00410	-0.0041	mg/L	99.85%
As 188.979†	-15.6	-0.0025	mg/L	0.00140	-0.0025	mg/L	56.81%
B 249.772†	10916.4	0.0450	mg/L	0.00052	0.0450	mg/L	1.16%
Ba 233.527†	276.8	0.0012	mg/L	0.00014	0.0012	mg/L	11.27%
Be 313.107†	529.7	0.00026	mg/L	0.000018	0.00026	mg/L	6.84%
Ca 317.933†	1835.7	0.0433	mg/L	0.00136	0.0433	mg/L	3.15%
Cd 214.440†	21.6	0.00001	mg/L	0.000022	0.00001	mg/L	378.56%
Co 228.616†	47.8	0.0004	mg/L	0.00018	0.0004	mg/L	41.31%
Cr 267.716†	36.6	0.0001	mg/L	0.00013	0.0001	mg/L	92.19%
Cu 324.752†	1989.5	0.0044	mg/L	0.00197	0.0044	mg/L	44.63%
Fe 238.204†	16215.4	0.4130	mg/L	0.01201	0.4130	mg/L	2.91%
K 766.490†	143.5	0.0215	mg/L	0.01279	0.0215	mg/L	59.53%
Mg 279.077†	102.5	0.0169	mg/L	0.00445	0.0169	mg/L	26.34%
Mn 257.610†	5933.1	0.0057	mg/L	0.00007	0.0057	mg/L	1.28%
Mo 202.031†	10.5	0.0002	mg/L	0.00022	0.0002	mg/L	123.73%
Na 330.237†	654.0	10.65	mg/L	0.983	10.65	mg/L	9.24%
Ni 232.003†	162.7	0.0027	mg/L	0.00025	0.0027	mg/L	9.31%
Pb 220.353†	-15.5	-0.0004	mg/L	0.00057	-0.0004	mg/L	132.69%
Sb 206.836†	-12.3	-0.0013	mg/L	0.00095	-0.0013	mg/L	75.33%
Se 196.026†	1.0	0.0004	mg/L	0.00322	0.0004	mg/L	850.21%
Tl 190.801†	85.2	0.0108	mg/L	0.00076	0.0108	mg/L	6.99%
V 292.402†	118.8	0.0002	mg/L	0.00014	0.0002	mg/L	67.37%
Zn 213.857†	1152.2	0.0036	mg/L	0.00016	0.0036	mg/L	4.32%
P 178.221†	9.2	0.003	mg/L	0.0024	0.003	mg/L	87.99%
Si 251.611†	463219.1	8.659	mg/L	0.0814	8.659	mg/L	0.94%

Matrix Recovery Check: 2104132-BS2

Analyte	Expected Conc.	Measured Conc.	Std. Dev.	Units	Recovery (%)
Si 251.611	10.01	8.659	0.081	mg/L	86.5

Sequence No.: 61
 Sample ID: 2104132-BSD2
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 45
 Date Collected: 4/13/2021 12:06:32 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Nebulizer Parameters: 2104132-BSD2

Analyte	Back Pressure	Flow
All	266.0 kPa	0.75 L/min

Mean Data: 2104132-BSD2

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
Y 371.029	3299810.3	1.04	mg/L	0.004			0.34%
Sc 361.383	5570183.4	1.06	mg/L	0.005			0.47%

Ag 328.068†	485.2	0.00125 mg/L	0.000444	0.00125 mg/L	0.000444	35.60%
Al 308.215†	-550.0	-0.0192 mg/L	0.00277	-0.0192 mg/L	0.00277	14.40%
As 188.979†	-16.1	-0.0026 mg/L	0.00091	-0.0026 mg/L	0.00091	35.19%
B 249.772†	4449.3	0.0186 mg/L	0.00049	0.0186 mg/L	0.00049	2.61%
Ba 233.527†	115.8	0.0005 mg/L	0.00011	0.0005 mg/L	0.00011	21.17%
Be 313.107†	238.7	0.00024 mg/L	0.000010	0.00024 mg/L	0.000010	4.24%
Ca 317.933†	1040.8	0.0246 mg/L	0.00049	0.0246 mg/L	0.00049	1.98%
Cd 214.440†	8.9	0.00001 mg/L	0.000044	0.00001 mg/L	0.000044	384.60%
Co 228.616†	36.5	0.0003 mg/L	0.00017	0.0003 mg/L	0.00017	51.16%
Cr 267.716†	-34.6	-0.0001 mg/L	0.00009	-0.0001 mg/L	0.00009	64.85%
Cu 324.752†	1079.0	0.0023 mg/L	0.00017	0.0023 mg/L	0.00017	7.07%
Fe 238.204†	399.4	0.0102 mg/L	0.00023	0.0102 mg/L	0.00023	2.30%
K 766.490†	21.0	-0.0024 mg/L	0.00926	-0.0024 mg/L	0.00926	389.28%
Mg 279.077†	69.3	0.0113 mg/L	0.00118	0.0113 mg/L	0.00118	10.43%
Mn 257.610†	2029.5	0.0020 mg/L	0.00004	0.0020 mg/L	0.00004	2.30%
Mo 202.031†	-115.4	-0.0018 mg/L	0.00029	-0.0018 mg/L	0.00029	16.62%
Na 330.237†	648.2	10.55 mg/L	0.511	10.55 mg/L	0.511	4.84%
Ni 232.003†	108.4	0.0018 mg/L	0.00037	0.0018 mg/L	0.00037	20.00%
Pb 220.353†	-37.8	-0.0010 mg/L	0.00013	-0.0010 mg/L	0.00013	12.85%
Sb 206.836†	-31.9	-0.0031 mg/L	0.00183	-0.0031 mg/L	0.00183	58.31%
Se 196.026†	-3.8	-0.0013 mg/L	0.00276	-0.0013 mg/L	0.00276	206.07%
Tl 190.801†	51.5	0.0065 mg/L	0.00176	0.0065 mg/L	0.00176	27.00%
V 292.402†	86.3	0.0002 mg/L	0.00019	0.0002 mg/L	0.00019	124.82%
Zn 213.857†	921.6	0.0029 mg/L	0.00005	0.0029 mg/L	0.00005	1.80%
P 178.221†	2.1	0.001 mg/L	0.0027	0.001 mg/L	0.0027	434.20%
Si 251.611†	458265.6	8.566 mg/L	0.0886	8.566 mg/L	0.0886	1.03%

Duplicate Check: 2104132-BSD2

Analyte	Expected Conc.	Measured Conc.	Std. Dev.	Units	Difference (%)
Ca 317.933	0.0433	0.0246	0.000	mg/L	55.1
Fe 238.204	0.4130	0.0102	0.000	mg/L	190.4
K 766.490	0.0215	-0.0024	0.009	mg/L	249.8
Mg 279.077	0.0169	0.0113	0.001	mg/L	39.4
Na 330.237	10.65	10.55	0.511	mg/L	0.9
Y 371.029			0.000	mg/L	Not calculated
Sc 361.383			0.000	mg/L	Not calculated
Ag 328.068	0.00081	0.00125	0.000	mg/L	42.1
Al 308.215	-0.0041	-0.0192	0.003	mg/L	-129.6
As 188.979	-0.0025	-0.0026	0.001	mg/L	-4.5
B 249.772	0.0450	0.0186	0.000	mg/L	83.0
Ba 233.527	0.0012	0.0005	0.000	mg/L	80.9
Be 313.107	0.00026	0.00024	0.000	mg/L	10.1
Cd 214.440	0.00001	0.00001	0.000	mg/L	65.7
Co 228.616	0.0004	0.0003	0.000	mg/L	26.3
Cr 267.716	0.0001	-0.0001	0.000	mg/L	8531.9
Cu 324.752	0.0044	0.0023	0.000	mg/L	61.2
Mn 257.610	0.0057	0.0020	0.000	mg/L	98.0
Mo 202.031	0.0002	-0.0018	0.000	mg/L	-245.3
Ni 232.003	0.0027	0.0018	0.000	mg/L	38.7
Pb 220.353	-0.0004	-0.0010	0.000	mg/L	-83.0
Sb 206.836	-0.0013	-0.0031	0.002	mg/L	-85.4
Se 196.026	0.0004	-0.0013	0.003	mg/L	-357.9
Tl 190.801	0.0108	0.0065	0.002	mg/L	49.6
V 292.402	0.0002	0.0002	0.000	mg/L	30.0
Zn 213.857	0.0036	0.0029	0.000	mg/L	21.2
P 178.221	0.003	0.001	0.003	mg/L	126.0
Si 251.611	8.659	8.566	0.089	mg/L	1.1

Handwritten signature and date: 4/13/21

Sequence No.: 62
 Sample ID: 21C0684-21
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 46
 Date Collected: 4/13/2021 12:10:38 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Nebulizer Parameters: 21C0684-21
 Analyte Back Pressure Flow
 All 265.0 kPa 0.75 L/min

Cu 324.752†	12786931.5	28.59 mg/L	0.026	1430 mg/L	1.3	0.09%
Fe 238.204†	69635.7	1.775 mg/L	0.0220	88.73 mg/L	1.100	1.24%
K 766.490†	20424.1	4.003 mg/L	0.0341	200.1 mg/L	1.70	0.85%
Mg 279.077†	123930.8	21.03 mg/L	0.224	1051 mg/L	11.2	1.06%
Mn 257.610†	867370.0	0.8353 mg/L	0.01231	41.77 mg/L	0.616	1.47%
Mo 202.031†	-158.9	-0.0026 mg/L	0.00050	-0.1310 mg/L	0.02496	19.06%
Na 330.237†	995.4	15.85 mg/L	0.481	792.4 mg/L	24.07	3.04%
Ni 232.003†	2153.2	0.0323 mg/L	0.00113	1.615 mg/L	0.0565	3.50%
Pb 220.353†	303.0	-0.0122 mg/L	0.00136	-0.6099 mg/L	0.06803	11.15%
Sb 206.836†	-6.7	-0.0020 mg/L	0.00260	-0.0976 mg/L	0.12994	133.20%
Se 196.026†	8.0	0.0047 mg/L	0.00158	0.2365 mg/L	0.07914	33.46%
Tl 190.801†	6.2	0.0010 mg/L	0.00174	0.0476 mg/L	0.08677	182.36%
V 292.402†	1391.7	0.0044 mg/L	0.00025	0.2215 mg/L	0.01229	5.55%
Zn 213.857†	42051.9	0.0656 mg/L	0.00147	3.280 mg/L	0.0734	2.24%
P 178.221†	182.0	0.051 mg/L	0.0031	2.563 mg/L	0.1562	6.09%
Si 251.611†	373201.8	6.982 mg/L	0.0634	349.1 mg/L	3.17	0.91%

Sequence No.: 73

Sample ID: CCB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 1

Date Collected: 4/13/2021 12:52:46 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	265.0 kPa	0.75 L/min

M 4/13/21

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	3219918.1	1.02 mg/L	0.021			2.03%
Sc 361.383	5343716.7	1.02 mg/L	0.021			2.05%
Ag 328.068†	334.7	0.00086 mg/L	0.000499	0.00086 mg/L	0.000499	58.00%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 308.215†	-796.7	-0.0264 mg/L	0.00255	-0.0264 mg/L	0.00255	9.69%
QC value within limits for Al 308.215 Recovery = Not calculated						
As 188.979†	-31.1	-0.0051 mg/L	0.00168	-0.0051 mg/L	0.00168	33.14%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.772†	710.2	0.0028 mg/L	0.00012	0.0028 mg/L	0.00012	4.38%
QC value within limits for B 249.772 Recovery = Not calculated						
Ba 233.527†	20.0	0.0001 mg/L	0.00008	0.0001 mg/L	0.00008	94.34%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	-523.7	0.00017 mg/L	0.000014	0.00017 mg/L	0.000014	8.58%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933†	5278.5	0.1234 mg/L	0.00489	0.1234 mg/L	0.00489	3.97%
QC value within limits for Ca 317.933 Recovery = Not calculated						
Cd 214.440†	29.5	0.00004 mg/L	0.000041	0.00004 mg/L	0.000041	97.40%
QC value within limits for Cd 214.440 Recovery = Not calculated						
Co 228.616†	32.4	0.0003 mg/L	0.00020	0.0003 mg/L	0.00020	70.51%
QC value within limits for Co 228.616 Recovery = Not calculated						
Cr 267.716†	-47.5	-0.0002 mg/L	0.00009	-0.0002 mg/L	0.00009	48.27%
QC value within limits for Cr 267.716 Recovery = Not calculated						
Cu 324.752†	6314.8	0.0141 mg/L	0.00024	0.0141 mg/L	0.00024	1.68%
QC value within limits for Cu 324.752 Recovery = Not calculated						
Fe 238.204†	3020.7	0.0769 mg/L	0.00243	0.0769 mg/L	0.00243	3.16%
QC value within limits for Fe 238.204 Recovery = Not calculated						
K 766.490†	1042.4	0.2044 mg/L	0.01930	0.2044 mg/L	0.01930	9.44%
QC value within limits for K 766.490 Recovery = Not calculated						
Mg 279.077†	111.8	0.0189 mg/L	0.01002	0.0189 mg/L	0.01002	53.00%
QC value within limits for Mg 279.077 Recovery = Not calculated						
Mn 257.610†	2481.7	0.0024 mg/L	0.00009	0.0024 mg/L	0.00009	3.61%
QC value within limits for Mn 257.610 Recovery = Not calculated						
Mo 202.031†	-162.4	-0.0025 mg/L	0.00027	-0.0025 mg/L	0.00027	10.80%
QC value within limits for Mo 202.031 Recovery = Not calculated						
Na 330.237†	57.0	0.9252 mg/L	0.43962	0.9252 mg/L	0.43962	47.52%
QC value within limits for Na 330.237 Recovery = Not calculated						
Ni 232.003†	-116.1	-0.0018 mg/L	0.00091	-0.0018 mg/L	0.00091	50.55%
QC value within limits for Ni 232.003 Recovery = Not calculated						
Pb 220.353†	-92.4	-0.0026 mg/L	0.00046	-0.0026 mg/L	0.00046	18.05%

Sb 206.836†	QC value within limits for Sb 206.836	Recovery = Not calculated	-5.9	-0.0006 mg/L	0.00062	-0.0006 mg/L	0.00062	105.48%
Se 196.026†	QC value within limits for Se 196.026	Recovery = Not calculated	0.5	0.0002 mg/L	0.00340	0.0002 mg/L	0.00340	>999.9%
Tl 190.801†	QC value within limits for Tl 190.801	Recovery = Not calculated	10.7	0.0014 mg/L	0.00095	0.0014 mg/L	0.00095	69.78%
V 292.402†	QC value within limits for V 292.402	Recovery = Not calculated	192.2	0.0003 mg/L	0.00013	0.0003 mg/L	0.00013	37.41%
Zn 213.857†	QC value within limits for Zn 213.857	Recovery = Not calculated	674.8	0.0021 mg/L	0.00019	0.0021 mg/L	0.00019	8.86%
P 178.221†	QC value within limits for P 178.221	Recovery = Not calculated	8.6	0.003 mg/L	0.0041	0.003 mg/L	0.0041	161.34%
Si 251.611†	QC value within limits for Si 251.611	Recovery = Not calculated	3648.7	0.068 mg/L	0.0035	0.068 mg/L	0.0035	5.06%

All analyte(s) passed QC.

Sequence No.: 74
 Sample ID: CCV-1
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 5
 Date Collected: 4/13/2021 12:56:30 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Nebulizer Parameters: CCV-1

Analyte	Back Pressure	Flow
All	264.0 kPa	0.75 L/min

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 4/13/21

Mean Data: CCV-1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	3196691.8	1.01 mg/L	0.008			0.82%
Sc 361.383	5364115.4	1.02 mg/L	0.008			0.77%
Ag 328.068†	-1318.1	-0.00124 mg/L	0.000064	-0.00124 mg/L	0.000064	5.15%
Al 308.215†	-30.5	-0.0319 mg/L	0.00348	-0.0319 mg/L	0.00348	10.90%
As 188.979†	6158.5	1.008 mg/L	0.0130	1.008 mg/L	0.0130	1.29%
	QC value within limits for As 188.979	Recovery = 100.80%				
B 249.772†	2451.0	0.0101 mg/L	0.00024	0.0101 mg/L	0.00024	2.42%
Ba 233.527†	-549.2	-0.0006 mg/L	0.00005	-0.0006 mg/L	0.00005	7.94%
Be 313.107†	11193575.4	0.98002 mg/L	0.007611	0.98002 mg/L	0.007611	0.78%
	QC value within limits for Be 313.107	Recovery = 98.00%				
Ca 317.933†	45215.0	1.067 mg/L	0.0172	1.067 mg/L	0.0172	1.61%
Cd 214.440†	633978.0	1.0344 mg/L	0.00136	1.0344 mg/L	0.00136	0.13%
	QC value within limits for Cd 214.440	Recovery = 103.44%				
Co 228.616†	115788.7	1.043 mg/L	0.0074	1.043 mg/L	0.0074	0.71%
	QC value within limits for Co 228.616	Recovery = 104.28%				
Cr 267.716†	280182.3	1.055 mg/L	0.0069	1.055 mg/L	0.0069	0.65%
	QC value within limits for Cr 267.716	Recovery = 105.52%				
Cu 324.752†	425844.9	0.9527 mg/L	0.00081	0.9527 mg/L	0.00081	0.09%
	QC value within limits for Cu 324.752	Recovery = 95.27%				
Fe 238.204†	39308.5	1.010 mg/L	0.0145	1.010 mg/L	0.0145	1.43%
	QC value within limits for Fe 238.204	Recovery = 100.95%				
K 766.490†	615.9	0.1220 mg/L	0.01738	0.1220 mg/L	0.01738	14.25%
Mg 279.077†	5675.0	0.9699 mg/L	0.01066	0.9699 mg/L	0.01066	1.10%
Mn 257.610†	1072845.4	1.033 mg/L	0.0005	1.033 mg/L	0.0005	0.04%
	QC value within limits for Mn 257.610	Recovery = 103.32%				
Mo 202.031†	64613.8	0.9860 mg/L	0.00631	0.9860 mg/L	0.00631	0.64%
	QC value within limits for Mo 202.031	Recovery = 98.60%				
Na 330.237†	11.6	-0.6241 mg/L	0.66327	-0.6241 mg/L	0.66327	106.28%
Ni 232.003†	64046.2	0.9790 mg/L	0.00822	0.9790 mg/L	0.00822	0.84%
	QC value within limits for Ni 232.003	Recovery = 97.90%				
Pb 220.353†	38099.8	1.053 mg/L	0.0057	1.053 mg/L	0.0057	0.54%
	QC value within limits for Pb 220.353	Recovery = 105.27%				
Sb 206.836†	10750.0	1.033 mg/L	0.0091	1.033 mg/L	0.0091	0.88%
	QC value within limits for Sb 206.836	Recovery = 103.28%				
Se 196.026†	2931.3	0.9819 mg/L	0.01133	0.9819 mg/L	0.01133	1.15%
	QC value within limits for Se 196.026	Recovery = 98.19%				
Tl 190.801†	7798.5	0.9812 mg/L	0.01182	0.9812 mg/L	0.01182	1.20%
	QC value within limits for Tl 190.801	Recovery = 98.12%				
V 292.402†	571636.7	1.013 mg/L	0.0022	1.013 mg/L	0.0022	0.22%

QC value within limits for V 292.402 Recovery = 101.32%
 Zn 213.857† 320562.2 1.011 mg/L 0.0072 1.011 mg/L 0.0072 0.71%
 QC value within limits for Zn 213.857 Recovery = 101.12%
 P 178.221† -0.9 0.004 mg/L 0.0039 0.004 mg/L 0.0039 100.08%
 Si 251.611† 13705.8 0.248 mg/L 0.0060 0.248 mg/L 0.0060 2.41%
 All analyte(s) passed QC.

Sequence No.: 75 Autosampler Location: 6
 Sample ID: CCV-2 Date Collected: 4/13/2021 1:00:21 PM
 Analyst: Data Type: Original
 Initial Sample Wt: Initial Sample Vol:
 Dilution: Sample Prep Vol:

Nebulizer Parameters: CCV-2
 Analyte Back Pressure Flow
 All 264.0 kPa 0.75 L/min

Handwritten signature and date: 4/13/21

Mean Data: CCV-2

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	3253558.3	1.03 mg/L	0.010			0.96%
Sc 361.383	5463847.4	1.04 mg/L	0.009			0.89%
Ag 328.068†	180032.4	0.46038 mg/L	0.006001	0.46038 mg/L	0.006001	1.30%
QC value within limits for Ag 328.068 Recovery = 92.08%						
Al 308.215†	27916.7	0.9179 mg/L	0.01739	0.9179 mg/L	0.01739	1.89%
QC value within limits for Al 308.215 Recovery = 91.79%						
As 188.979†	-24.7	-0.0040 mg/L	0.00291	-0.0040 mg/L	0.00291	73.30%
B 249.772†	236270.7	0.9928 mg/L	0.01480	0.9928 mg/L	0.01480	1.49%
QC value within limits for B 249.772 Recovery = 99.28%						
Ba 233.527†	235086.9	1.061 mg/L	0.0138	1.061 mg/L	0.0138	1.30%
QC value within limits for Ba 233.527 Recovery = 106.07%						
Be 313.107†	2393.8	0.00042 mg/L	0.000010	0.00042 mg/L	0.000010	2.31%
Ca 317.933†	445.0	0.0110 mg/L	0.00095	0.0110 mg/L	0.00095	8.65%
Cd 214.440†	199.4	0.00035 mg/L	0.000025	0.00035 mg/L	0.000025	7.25%
Co 228.616†	-58.3	0.0006 mg/L	0.00022	0.0006 mg/L	0.00022	36.82%
Cr 267.716†	60.3	0.0002 mg/L	0.00008	0.0002 mg/L	0.00008	35.59%
Cu 324.752†	1979.3	0.0044 mg/L	0.00114	0.0044 mg/L	0.00114	26.20%
Fe 238.204†	186.8	0.0048 mg/L	0.00015	0.0048 mg/L	0.00015	3.08%
K 766.490†	51043.9	10.04 mg/L	0.115	10.04 mg/L	0.115	1.15%
Mg 279.077†	-5.3	-0.0009 mg/L	0.00231	-0.0009 mg/L	0.00231	248.58%
Mn 257.610†	820.9	0.0008 mg/L	0.00009	0.0008 mg/L	0.00009	10.98%
Mo 202.031†	11.0	0.0001 mg/L	0.00022	0.0001 mg/L	0.00022	203.42%
Na 330.237†	74.9	1.211 mg/L	0.0930	1.211 mg/L	0.0930	7.67%
Ni 232.003†	-539.4	-0.0084 mg/L	0.00092	-0.0084 mg/L	0.00092	10.90%
Pb 220.353†	-56.2	-0.0014 mg/L	0.00094	-0.0014 mg/L	0.00094	65.64%
Sb 206.836†	28.5	0.0026 mg/L	0.00153	0.0026 mg/L	0.00153	58.16%
Se 196.026†	10.8	0.0036 mg/L	0.00194	0.0036 mg/L	0.00194	53.06%
Tl 190.801†	52.2	0.0069 mg/L	0.00094	0.0069 mg/L	0.00094	13.65%
V 292.402†	165.0	0.0003 mg/L	0.00013	0.0003 mg/L	0.00013	46.81%
Zn 213.857†	505.4	0.0018 mg/L	0.00015	0.0018 mg/L	0.00015	8.26%
P 178.221†	5.3	0.001 mg/L	0.0025	0.001 mg/L	0.0025	175.94%
Si 251.611†	123531.9	2.310 mg/L	0.0333	2.310 mg/L	0.0333	1.44%

All analyte(s) passed QC.

Sequence No.: 76 Autosampler Location: 7
 Sample ID: CCV-3 Date Collected: 4/13/2021 1:04:26 PM
 Analyst: Data Type: Original
 Initial Sample Wt: Initial Sample Vol:
 Dilution: Sample Prep Vol:

Nebulizer Parameters: CCV-3
 Analyte Back Pressure Flow
 All 265.0 kPa 0.75 L/min

Mean Data: CCV-3

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
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Analyte	Intensity	Conc. Units	Std.Dev.	Conc. Units	Std.Dev.	RSD
Y 371.029	3220200.9	1.02 mg/L	0.005			0.47%
Sc 361.383	5443579.6	1.04 mg/L	0.005			0.44%
Ag 328.068†	658.9	0.00141 mg/L	0.000386	0.00141 mg/L	0.000386	27.45%
Al 308.215†	-265.1	-0.0270 mg/L	0.00404	-0.0270 mg/L	0.00404	14.97%
As 188.979†	14.4	-0.0001 mg/L	0.00249	-0.0001 mg/L	0.00249	>999.9%
B 249.772†	244528.3	1.027 mg/L	0.0130	1.027 mg/L	0.0130	1.27%
Ba 233.527†	148.7	0.0006 mg/L	0.00005	0.0006 mg/L	0.00005	8.59%
Be 313.107†	1325.9	0.00034 mg/L	0.000024	0.00034 mg/L	0.000024	7.05%
Ca 317.933†	417277.7	9.754 mg/L	0.0737	9.754 mg/L	0.0737	0.76%
QC value within limits for Ca 317.933 Recovery = 97.54%						
Cd 214.440†	4.2	0.00019 mg/L	0.000030	0.00019 mg/L	0.000030	15.60%
Co 228.616†	-84.8	0.0002 mg/L	0.00012	0.0002 mg/L	0.00012	50.83%
Cr 267.716†	53.6	0.0001 mg/L	0.00007	0.0001 mg/L	0.00007	52.95%
Cu 324.752†	2256.5	0.0042 mg/L	0.00029	0.0042 mg/L	0.00029	6.84%
Fe 238.204†	753.9	0.0194 mg/L	0.00070	0.0194 mg/L	0.00070	3.63%
K 766.490†	49586.6	9.741 mg/L	0.0514	9.741 mg/L	0.0514	0.53%
QC value within limits for K 766.490 Recovery = 97.41%						
Mg 279.077†	56492.9	9.589 mg/L	0.0598	9.589 mg/L	0.0598	0.62%
QC value within limits for Mg 279.077 Recovery = 95.89%						
Mn 257.610†	849.5	0.0008 mg/L	0.00007	0.0008 mg/L	0.00007	9.54%
Mo 202.031†	66316.6	1.012 mg/L	0.0088	1.012 mg/L	0.0088	0.87%
Na 330.237†	614.9	10.06 mg/L	0.230	10.06 mg/L	0.230	2.29%
QC value within limits for Na 330.237 Recovery = 100.58%						
Ni 232.003†	445.9	0.0022 mg/L	0.00056	0.0022 mg/L	0.00056	25.91%
Pb 220.353†	-150.7	-0.0024 mg/L	0.00100	-0.0024 mg/L	0.00100	41.19%
Sb 206.836†	-72.1	-0.0042 mg/L	0.00062	-0.0042 mg/L	0.00062	14.58%
Se 196.026†	-6.1	-0.0016 mg/L	0.00355	-0.0016 mg/L	0.00355	220.02%
Tl 190.801†	12.0	0.0023 mg/L	0.00063	0.0023 mg/L	0.00063	27.11%
V 292.402†	68.7	-0.0003 mg/L	0.00017	-0.0003 mg/L	0.00017	53.71%
Zn 213.857†	-307.4	-0.0005 mg/L	0.00018	-0.0005 mg/L	0.00018	35.10%
P 178.221†	18101.1	5.358 mg/L	0.0709	5.358 mg/L	0.0709	1.32%
QC value within limits for P 178.221 Recovery = 107.15%						
Si 251.611†	14677.4	0.260 mg/L	0.0022	0.260 mg/L	0.0022	0.85%
All analyte(s) passed QC.						

Sequence No.: 77
 Sample ID: CCV-4
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 8
 Date Collected: 4/13/2021 1:08:31 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Nebulizer Parameters: CCV-4

Analyte All
 Back Pressure 265.0 kPa
 Flow 0.75 L/min

W. G. Smith
 4/13/21

Mean Data: CCV-4

Analyte	Mean Corrected Intensity	Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	3348240.1	1.06 mg/L	0.007			0.70%
Sc 361.383	5624091.6	1.07 mg/L	0.008			0.73%
Ag 328.068†	305.1	0.00078 mg/L	0.000303	0.00078 mg/L	0.000303	38.69%
Al 308.215†	-1215.6	-0.0405 mg/L	0.00313	-0.0405 mg/L	0.00313	7.72%
As 188.979†	-20.3	-0.0033 mg/L	0.00245	-0.0033 mg/L	0.00245	74.10%
B 249.772†	3707.4	0.0155 mg/L	0.00066	0.0155 mg/L	0.00066	4.22%
Ba 233.527†	63.9	0.0003 mg/L	0.00005	0.0003 mg/L	0.00005	17.23%
Be 313.107†	580.7	0.00026 mg/L	0.000026	0.00026 mg/L	0.000026	9.91%
Ca 317.933†	601.4	0.0141 mg/L	0.00190	0.0141 mg/L	0.00190	13.40%
Cd 214.440†	36.7	0.00006 mg/L	0.000037	0.00006 mg/L	0.000037	63.34%
Co 228.616†	22.5	0.0002 mg/L	0.00012	0.0002 mg/L	0.00012	60.02%
Cr 267.716†	-51.7	-0.0002 mg/L	0.00011	-0.0002 mg/L	0.00011	56.43%
Cu 324.752†	1066.0	0.0024 mg/L	0.00270	0.0024 mg/L	0.00270	114.58%
Fe 238.204†	76.1	0.0019 mg/L	0.00055	0.0019 mg/L	0.00055	28.05%
K 766.490†	336.7	0.0636 mg/L	0.02579	0.0636 mg/L	0.02579	40.52%
Mg 279.077†	19.3	0.0031 mg/L	0.00184	0.0031 mg/L	0.00184	58.89%
Mn 257.610†	373.7	0.0004 mg/L	0.00003	0.0004 mg/L	0.00003	7.88%
Mo 202.031†	-29.5	-0.0004 mg/L	0.00025	-0.0004 mg/L	0.00025	55.45%
Na 330.237†	255.5	4.162 mg/L	0.2850	4.162 mg/L	0.2850	6.85%
Ni 232.003†	18.6	0.0003 mg/L	0.00050	0.0003 mg/L	0.00050	143.70%

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2770644.0	0.875 mg/L	0.0075			0.86%
Sc 361.383	4772596.6	0.909 mg/L	0.0077			0.84%
Ag 328.068†	-2563.6	0.00279 mg/L	0.000239	0.00279 mg/L	0.000239	8.59%
Al 308.215†	13615.2	0.3891 mg/L	0.01702	0.3891 mg/L	0.01702	4.37%
As 188.979†	-55.8	0.0021 mg/L	0.00390	0.0021 mg/L	0.00390	184.59%
B 249.772†	141225.3	0.3497 mg/L	0.00840	0.3497 mg/L	0.00840	2.40%
Ba 233.527†	19544.7	0.0852 mg/L	0.00173	0.0852 mg/L	0.00173	2.03%
Be 313.107†	-2205.5	0.00004 mg/L	0.000019	0.00004 mg/L	0.000019	41.90%
Ca 317.933†	2239015.0	52.36 mg/L	0.773	52.36 mg/L	0.773	1.48%
Cd 214.440†	2942.8	-0.00327 mg/L	0.000058	-0.00327 mg/L	0.000058	1.79%
Co 228.616†	2165.7	0.0186 mg/L	0.00064	0.0186 mg/L	0.00064	3.42%
Cr 267.716†	-161.9	0.0002 mg/L	0.00022	0.0002 mg/L	0.00022	91.94%
Cu 324.752†	271822.7	0.6169 mg/L	0.05487	0.6169 mg/L	0.05487	8.89%
Fe 238.204†	4684696.7	119.3 mg/L	1.52	119.3 mg/L	1.52	1.27%
K 766.490†	1268717.5	249.3 mg/L	3.64	249.3 mg/L	3.64	1.46%
Mg 279.077†	54633.2	9.231 mg/L	0.2537	9.231 mg/L	0.2537	2.75%
Mn 257.610†	82443.8	0.0786 mg/L	0.00194	0.0786 mg/L	0.00194	2.47%
Mo 202.031†	-266.7	0.0008 mg/L	0.00071	0.0008 mg/L	0.00071	89.04%
Na 330.237†	10648.1	172.8 mg/L	5.15	172.8 mg/L	5.15	2.98%
Ni 232.003†	1715.6	0.0448 mg/L	0.00128	0.0448 mg/L	0.00128	2.86%
Pb 220.353†	169.8	0.0017 mg/L	0.00056	0.0017 mg/L	0.00056	33.25%
Sb 206.836†	2.9	-0.0073 mg/L	0.00210	-0.0073 mg/L	0.00210	29.00%
Se 196.026†	-106.0	-0.0049 mg/L	0.00615	-0.0049 mg/L	0.00615	125.77%
Tl 190.801†	-65.0	0.0180 mg/L	0.00082	0.0180 mg/L	0.00082	4.54%
V 292.402†	128135.8	0.2251 mg/L	0.00237	0.2251 mg/L	0.00237	1.06%
Zn 213.857†	35492.0	0.1034 mg/L	0.00081	0.1034 mg/L	0.00081	0.78%
P 178.221†	82.3	0.030 mg/L	0.0016	0.030 mg/L	0.0016	5.17%
Si 251.611†	855545.0	16.03 mg/L	0.347	16.03 mg/L	0.347	2.17%

Sequence No.: 80
Sample ID: 21D0200-01
Analyst:
Initial Sample Wt:
Dilution:

Autosampler Location: 59
Date Collected: 4/13/2021 1:20:12 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 21D0200-01
Analyte Back Pressure Flow
All 261.0 kPa 0.75 L/min

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Mean Data: 21D0200-01

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	3104279.1	0.980 mg/L	0.0041			0.42%
Sc 361.383	5269023.5	1.00 mg/L	0.005			0.45%
Ag 328.068†	1229.6	0.00270 mg/L	0.000356	0.00270 mg/L	0.000356	13.19%
Al 308.215†	195281.5	6.419 mg/L	0.1054	6.419 mg/L	0.1054	1.64%
As 188.979†	80.4	0.0129 mg/L	0.00041	0.0129 mg/L	0.00041	3.15%
B 249.772†	41657.4	0.1647 mg/L	0.00245	0.1647 mg/L	0.00245	1.49%
Ba 233.527†	20499.8	0.0924 mg/L	0.00121	0.0924 mg/L	0.00121	1.31%
Be 313.107†	2866.6	0.00049 mg/L	0.000016	0.00049 mg/L	0.000016	3.35%
Ca 317.933†	1579533.2	36.92 mg/L	0.690	36.92 mg/L	0.690	1.87%
Cd 214.440†	269.4	0.00027 mg/L	0.000014	0.00027 mg/L	0.000014	5.30%
Co 228.616†	453.5	0.0041 mg/L	0.00014	0.0041 mg/L	0.00014	3.55%
Cr 267.716†	2096.8	0.0078 mg/L	0.00012	0.0078 mg/L	0.00012	1.56%
Cu 324.752†	274371.6	0.6133 mg/L	0.03152	0.6133 mg/L	0.03152	5.14%
Fe 238.204†	170962.8	4.354 mg/L	0.0445	4.354 mg/L	0.0445	1.02%
K 766.490†	16913.8	3.273 mg/L	0.0384	3.273 mg/L	0.0384	1.17%
Mg 279.077†	22750.7	3.856 mg/L	0.0575	3.856 mg/L	0.0575	1.49%
Mn 257.610†	225927.6	0.2176 mg/L	0.00389	0.2176 mg/L	0.00389	1.79%
Mo 202.031†	28.6	0.0005 mg/L	0.00035	0.0005 mg/L	0.00035	64.81%
Na 330.237†	4792.1	77.89 mg/L	1.317	77.89 mg/L	1.317	1.69%
Ni 232.003†	339.0	0.0068 mg/L	0.00038	0.0068 mg/L	0.00038	5.58%
Pb 220.353†	3285.7	0.0915 mg/L	0.00040	0.0915 mg/L	0.00040	0.43%
Sb 206.836†	-7.6	-0.0017 mg/L	0.00164	-0.0017 mg/L	0.00164	96.00%
Se 196.026†	-15.6	-0.0035 mg/L	0.00693	-0.0035 mg/L	0.00693	198.20%
Tl 190.801†	-10.2	0.0005 mg/L	0.00106	0.0005 mg/L	0.00106	235.01%
V 292.402†	7367.6	0.0131 mg/L	0.00029	0.0131 mg/L	0.00029	2.22%

Zn 213.857†	32413.3	0.1014 mg/L	0.00161	0.1014 mg/L	0.00161	1.59%
P 178.221†	751.1	0.222 mg/L	0.0072	0.222 mg/L	0.0072	3.24%
Si 251.611†	2219754.5	41.49 mg/L	0.072	41.49 mg/L	0.072	0.17%

User canceled analysis.

=====
Analysis Begun

Start Time: 4/13/2021 1:25:26 PM Plasma On Time: 4/13/2021 6:12:27 AM
 Logged In Analyst: Optima7300DV Technique: ICP Continuous
 Spectrometer Model: Optima 7300 DV, S/N 077C9102801 Autosampler Model: S10

Sample Information File: C:\pe\Optima7300DV\Sample Information\210413_1.sif
 Batch ID:
 Results Data Set: 210413_1
 Results Library: C:\pe\Optima7300DV\Results\Results.mdb

=====
 Sequence No.: 81 Autosampler Location: 1
 Sample ID: CCB Date Collected: 4/13/2021 1:25:27 PM
 Analyst: Data Type: Original
 Initial Sample Wt: Initial Sample Vol:
 Dilution: Sample Prep Vol:

=====
Nebulizer Parameters: CCB

Analyte	Back Pressure	Flow
All	263.0 kPa	0.75 L/min

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4/13/21

=====
Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	3226420.4	1.02 mg/L	0.003				0.31%
Sc 361.383	5371846.2	1.02 mg/L	0.003				0.27%
Ag 328.068†	405.0	0.00100 mg/L	0.000078	0.00100 mg/L	0.000078		7.79%
QC value within limits for Ag 328.068 Recovery = Not calculated							
Al 308.215†	2801.7	0.0922 mg/L	0.00143	0.0922 mg/L	0.00143		1.55%
QC value within limits for Al 308.215 Recovery = Not calculated							
As 188.979†	-15.5	-0.0026 mg/L	0.00062	-0.0026 mg/L	0.00062		24.12%
QC value within limits for As 188.979 Recovery = Not calculated							
B 249.772†	1009.5	0.0042 mg/L	0.00006	0.0042 mg/L	0.00006		1.41%
QC value within limits for B 249.772 Recovery = Not calculated							
Ba 233.527†	46.6	0.0002 mg/L	0.00007	0.0002 mg/L	0.00007		34.26%
QC value within limits for Ba 233.527 Recovery = Not calculated							
Be 313.107†	664.9	0.00027 mg/L	0.000016	0.00027 mg/L	0.000016		6.08%
QC value within limits for Be 313.107 Recovery = Not calculated							
Ca 317.933†	6558.1	0.1535 mg/L	0.00099	0.1535 mg/L	0.00099		0.64%
QC value within limits for Ca 317.933 Recovery = Not calculated							
Cd 214.440†	96.5	0.00017 mg/L	0.000041	0.00017 mg/L	0.000041		24.81%
QC value within limits for Cd 214.440 Recovery = Not calculated							
Co 228.616†	151.8	0.0014 mg/L	0.00012	0.0014 mg/L	0.00012		8.70%
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	-63.9	-0.0002 mg/L	0.00008	-0.0002 mg/L	0.00008		33.47%
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	182197.2	0.4074 mg/L	0.00986	0.4074 mg/L	0.00986		2.42%
QC value greater than the upper limit for Cu 324.752 Recovery = Not calculated							
Fe 238.204†	1636.6	0.0417 mg/L	0.00028	0.0417 mg/L	0.00028		0.68%
QC value within limits for Fe 238.204 Recovery = Not calculated							
K 766.490†	1625.2	0.3193 mg/L	0.03762	0.3193 mg/L	0.03762		11.78%
QC value within limits for K 766.490 Recovery = Not calculated							
Mg 279.077†	1873.7	0.3179 mg/L	0.00726	0.3179 mg/L	0.00726		2.29%
QC value within limits for Mg 279.077 Recovery = Not calculated							
Mn 257.610†	13143.7	0.0127 mg/L	0.00028	0.0127 mg/L	0.00028		2.23%
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	-152.7	-0.0023 mg/L	0.00028	-0.0023 mg/L	0.00028		11.80%
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 330.237†	22.2	0.3545 mg/L	0.98424	0.3545 mg/L	0.98424		277.65%
QC value within limits for Na 330.237 Recovery = Not calculated							
Ni 232.003†	-10.4	-0.0002 mg/L	0.00075	-0.0002 mg/L	0.00075		455.87%
QC value within limits for Ni 232.003 Recovery = Not calculated							
Pb 220.353†	-73.9	-0.0023 mg/L	0.00054	-0.0023 mg/L	0.00054		23.10%

QC value within limits for V 292.402 Recovery = 100.13%
 Zn 213.857† 319428.4 1.007 mg/L 0.0169 1.007 mg/L 0.0169 1.68%
 QC value within limits for Zn 213.857 Recovery = 100.70%
 P 178.221† -8.6 0.002 mg/L 0.0033 0.002 mg/L 0.0033 216.16%
 Si 251.611† 16533.0 0.301 mg/L 0.0103 0.301 mg/L 0.0103 3.43%
 QC Failed. Continue with analysis.

No Cu IN ICL

Sequence No.: 83
 Sample ID: CCV-2
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 6
 Date Collected: 4/13/2021 1:32:59 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Nebulizer Parameters: CCV-2
 Analyte Back Pressure Flow
 All 264.0 kPa 0.75 L/min

4/13/21

Mean Data: CCV-2

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	3247800.7	1.03 mg/L	✓	0.004			0.40%
Sc 361.383	5477137.0	1.04 mg/L		0.004			0.36%
Ag 328.068†	181546.5	0.46425 mg/L		0.007373	0.46425 mg/L	0.007373	1.59%
QC value within limits for Ag 328.068 Recovery = 92.85%							
Al 308.215†	28734.0	0.9448 mg/L		0.01873	0.9448 mg/L	0.01873	1.98%
QC value within limits for Al 308.215 Recovery = 94.48%							
As 188.979†	-14.7	-0.0023 mg/L		0.00195	-0.0023 mg/L	0.00195	83.61%
B 249.772†	239526.7	1.006 mg/L		0.0196	1.006 mg/L	0.0196	1.95%
QC value within limits for B 249.772 Recovery = 100.65%							
Ba 233.527†	235223.7	1.061 mg/L		0.0156	1.061 mg/L	0.0156	1.47%
QC value within limits for Ba 233.527 Recovery = 106.13%							
Be 313.107†	1635.6	0.00036 mg/L		0.000013	0.00036 mg/L	0.000013	3.77%
Ca 317.933†	-57.2	-0.0008 mg/L		0.00161	-0.0008 mg/L	0.00161	213.65%
Cd 214.440†	134.0	0.00024 mg/L		0.000027	0.00024 mg/L	0.000027	11.37%
Co 228.616†	-71.0	0.0005 mg/L		0.00015	0.0005 mg/L	0.00015	31.04%
Cr 267.716†	34.8	0.0001 mg/L		0.00018	0.0001 mg/L	0.00018	141.54%
Cu 324.752†	13507.6	0.0301 mg/L		0.01291	0.0301 mg/L	0.01291	42.82%
Fe 238.204†	-158.9	-0.0040 mg/L		0.00070	-0.0040 mg/L	0.00070	17.62%
K 766.490†	51867.3	10.20 mg/L		0.248	10.20 mg/L	0.248	2.43%
Mg 279.077†	71.2	0.0120 mg/L		0.00308	0.0120 mg/L	0.00308	25.54%
Mn 257.610†	1056.2	0.0010 mg/L		0.00006	0.0010 mg/L	0.00006	5.55%
Mo 202.031†	9.0	0.0001 mg/L		0.00031	0.0001 mg/L	0.00031	398.59%
Na 330.237†	77.0	1.246 mg/L		0.1666	1.246 mg/L	0.1666	13.37%
Ni 232.003†	-440.0	-0.0068 mg/L		0.00072	-0.0068 mg/L	0.00072	10.53%
Pb 220.353†	-45.3	-0.0012 mg/L		0.00066	-0.0012 mg/L	0.00066	56.95%
Sb 206.836†	24.2	0.0022 mg/L		0.00138	0.0022 mg/L	0.00138	62.16%
Se 196.026†	3.6	0.0013 mg/L		0.00417	0.0013 mg/L	0.00417	329.21%
Tl 190.801†	37.2	0.0050 mg/L		0.00098	0.0050 mg/L	0.00098	19.60%
V 292.402†	92.5	0.0001 mg/L		0.00002	0.0001 mg/L	0.00002	14.39%
Zn 213.857†	476.7	0.0016 mg/L		0.00017	0.0016 mg/L	0.00017	10.10%
P 178.221†	3.7	0.001 mg/L		0.0030	0.001 mg/L	0.0030	322.52%
Si 251.611†	124658.0	2.331 mg/L		0.0381	2.331 mg/L	0.0381	1.64%

Sequence No.: 84
 Sample ID: CCV-3
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 7
 Date Collected: 4/13/2021 1:37:03 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Nebulizer Parameters: CCV-3
 Analyte Back Pressure Flow
 All 262.0 kPa 0.75 L/min

Mean Data: CCV-3

Mean Corrected Calib. Sample

Analyte	Intensity	Conc. Units	Std.Dev.	Conc. Units	Std.Dev.	RSD
Y 371.029	3225987.2	1.02 mg/L	0.010			0.94%
Sc 361.383	5467001.8	1.04 mg/L	0.011			1.03%
Ag 328.068†	789.2	0.00174 mg/L	0.000606	0.00174 mg/L	0.000606	34.90%
Al 308.215†	159.1	-0.0126 mg/L	0.00757	-0.0126 mg/L	0.00757	59.98%
As 188.979†	14.4	0.0000 mg/L	0.00185	0.0000 mg/L	0.00185	>999.9%
B 249.772†	238152.0	1.000 mg/L	0.0310	1.000 mg/L	0.0310	3.10%
Ba 233.527†	168.6	0.0007 mg/L	0.00008	0.0007 mg/L	0.00008	10.42%
Be 313.107†	1362.2	0.00034 mg/L	0.000028	0.00034 mg/L	0.000028	8.15%
Ca 317.933†	414283.7	9.684 mg/L	0.2267	9.684 mg/L	0.2267	2.34%
QC value within limits for Ca 317.933 Recovery = 96.84%						
Cd 214.440†	18.7	0.00021 mg/L	0.000049	0.00021 mg/L	0.000049	23.28%
Co 228.616†	-60.2	0.0004 mg/L	0.00005	0.0004 mg/L	0.00005	12.40%
Cr 267.716†	10.3	0.0000 mg/L	0.00015	0.0000 mg/L	0.00015	394.44%
Cu 324.752†	27685.7	0.0611 mg/L	0.00769	0.0611 mg/L	0.00769	12.59%
Fe 238.204†	-154.4	-0.0037 mg/L	0.00058	-0.0037 mg/L	0.00058	15.47%
K 766.490†	49512.1	9.726 mg/L	0.2372	9.726 mg/L	0.2372	2.44%
QC value within limits for K 766.490 Recovery = 97.26%						
Mg 279.077†	55801.5	9.471 mg/L	0.2368	9.471 mg/L	0.2368	2.50%
QC value within limits for Mg 279.077 Recovery = 94.71%						
Mn 257.610†	2166.3	0.0020 mg/L	0.00016	0.0020 mg/L	0.00016	7.80%
Mo 202.031†	64608.3	0.9860 mg/L	0.02813	0.9860 mg/L	0.02813	2.85%
Na 330.237†	631.1	10.32 mg/L	0.352	10.32 mg/L	0.352	3.42%
QC value within limits for Na 330.237 Recovery = 103.20%						
Ni 232.003†	447.2	0.0023 mg/L	0.00051	0.0023 mg/L	0.00051	21.86%
Pb 220.353†	-139.6	-0.0022 mg/L	0.00047	-0.0022 mg/L	0.00047	21.51%
Sb 206.836†	-76.1	-0.0047 mg/L	0.00080	-0.0047 mg/L	0.00080	17.06%
Se 196.026†	-13.6	-0.0041 mg/L	0.00197	-0.0041 mg/L	0.00197	48.03%
Tl 190.801†	11.3	0.0022 mg/L	0.00100	0.0022 mg/L	0.00100	44.93%
V 292.402†	19.1	-0.0004 mg/L	0.00033	-0.0004 mg/L	0.00033	82.47%
Zn 213.857†	-267.9	-0.0005 mg/L	0.00009	-0.0005 mg/L	0.00009	17.05%
P 178.221†	17526.1	5.187 mg/L	0.1221	5.187 mg/L	0.1221	2.35%
QC value within limits for P 178.221 Recovery = 103.75%						
Si 251.611†	13397.8	0.237 mg/L	0.0073	0.237 mg/L	0.0073	3.08%
All analyte(s) passed QC.						

Sequence No.: 85
 Sample ID: CCV-4
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 8
 Date Collected: 4/13/2021 1:41:08 PM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Nebulizer Parameters: CCV-4

Analyte Back Pressure Flow
 All 261.0 kPa 0.75 L/min

Handwritten signature: W. K. 4/13/21

Mean Data: CCV-4

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	3312447.1	1.05 mg/L		0.018			1.68%
Sc 361.383	5556808.1	1.06 mg/L		0.017			1.62%
Ag 328.068†	464.9	0.00118 mg/L		0.000340	0.00118 mg/L	0.000340	28.72%
Al 308.215†	-275.7	-0.0095 mg/L		0.00474	-0.0095 mg/L	0.00474	49.88%
As 188.979†	-27.0	-0.0044 mg/L		0.00095	-0.0044 mg/L	0.00095	21.58%
B 249.772†	3831.3	0.0161 mg/L		0.00071	0.0161 mg/L	0.00071	4.40%
Ba 233.527†	66.9	0.0003 mg/L		0.00012	0.0003 mg/L	0.00012	39.44%
Be 313.107†	1218.7	0.00032 mg/L		0.000031	0.00032 mg/L	0.000031	9.80%
Ca 317.933†	1210.8	0.0284 mg/L		0.00231	0.0284 mg/L	0.00231	8.14%
Cd 214.440†	62.8	0.00010 mg/L		0.000026	0.00010 mg/L	0.000026	25.22%
Co 228.616†	37.6	0.0003 mg/L		0.00013	0.0003 mg/L	0.00013	38.52%
Cr 267.716†	-38.2	-0.0001 mg/L		0.00017	-0.0001 mg/L	0.00017	118.52%
Cu 324.752†	37151.5	0.0831 mg/L		0.00343	0.0831 mg/L	0.00343	4.13%
Fe 238.204†	150.6	0.0038 mg/L		0.00078	0.0038 mg/L	0.00078	20.40%
K 766.490†	352.5	0.0669 mg/L		0.00947	0.0669 mg/L	0.00947	14.15%
Mg 279.077†	300.2	0.0508 mg/L		0.00371	0.0508 mg/L	0.00371	7.31%
Mn 257.610†	2951.7	0.0028 mg/L		0.00010	0.0028 mg/L	0.00010	3.46%
Mo 202.031†	-0.9	0.0000 mg/L		0.00015	0.0000 mg/L	0.00015	>999.9%
Na 330.237†	238.3	3.880 mg/L		0.3646	3.880 mg/L	0.3646	9.40%
Ni 232.003†	-33.6	-0.0005 mg/L		0.00056	-0.0005 mg/L	0.00056	112.11%

Pb 220.353†	-70.3	-0.0020 mg/L	0.00095	-0.0020 mg/L	0.00095	47.38%
Sb 206.836†	-20.0	-0.0020 mg/L	0.00043	-0.0020 mg/L	0.00043	21.85%
Se 196.026†	-2.0	-0.0007 mg/L	0.00242	-0.0007 mg/L	0.00242	345.04%
Tl 190.801†	4.7	0.0006 mg/L	0.00171	0.0006 mg/L	0.00171	283.20%
V 292.402†	-22.1	0.0000 mg/L	0.00012	0.0000 mg/L	0.00012	364.05%
Zn 213.857†	23.2	-0.0001 mg/L	0.00018	-0.0001 mg/L	0.00018	154.06%
P 178.221†	8.5	0.003 mg/L	0.0020	0.003 mg/L	0.0020	77.82%
Si 251.611†	134142.7	2.507 mg/L	0.0357	2.507 mg/L	0.0357	1.42%

QC value within limits for Si 251.611 Recovery = 100.30%

All analyte(s) passed QC.

Sequence No.: 86

Sample ID: RINSE

Analyst:

Initial Sample Wt.:

Dilution:

Autosampler Location: 60

Date Collected: 4/13/2021 1:45:14 PM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Handwritten signature and date: 4/13/21

Nebulizer Parameters: RINSE

Analyte	Back Pressure	Flow
All	262.0 kPa	0.75 L/min

Mean Data: RINSE

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	3436233.4	1.09 mg/L	0.016			1.43%
Sc 361.383	5694535.2	1.08 mg/L	0.016			1.47%
Ag 328.068†	362.1	0.00092 mg/L	0.000392	0.00092 mg/L	0.000392	42.60%
Al 308.215†	80.0	0.0026 mg/L	0.00712	0.0026 mg/L	0.00712	272.52%
As 188.979†	-21.9	-0.0036 mg/L	0.00117	-0.0036 mg/L	0.00117	32.51%
B 249.772†	5554.9	0.0233 mg/L	0.00055	0.0233 mg/L	0.00055	2.36%
Ba 233.527†	59.2	0.0003 mg/L	0.00005	0.0003 mg/L	0.00005	19.36%
Be 313.107†	1108.8	0.00031 mg/L	0.000031	0.00031 mg/L	0.000031	10.01%
Ca 317.933†	2558.6	0.0599 mg/L	0.00253	0.0599 mg/L	0.00253	4.23%
Cd 214.440†	62.0	0.00010 mg/L	0.000031	0.00010 mg/L	0.000031	30.00%
Co 228.616†	14.1	0.0001 mg/L	0.00015	0.0001 mg/L	0.00015	125.73%
Cr 267.716†	-24.5	-0.0001 mg/L	0.00011	-0.0001 mg/L	0.00011	119.34%
Cu 324.752†	32012.7	0.0716 mg/L	0.00401	0.0716 mg/L	0.00401	5.60%
Fe 238.204†	395.9	0.0101 mg/L	0.00094	0.0101 mg/L	0.00094	9.37%
K 766.490†	603.5	0.1185 mg/L	0.01789	0.1185 mg/L	0.01789	15.09%
Mg 279.077†	315.9	0.0536 mg/L	0.00395	0.0536 mg/L	0.00395	7.37%
Mn 257.610†	2990.4	0.0029 mg/L	0.00005	0.0029 mg/L	0.00005	1.87%
Mo 202.031†	-111.2	-0.0017 mg/L	0.00017	-0.0017 mg/L	0.00017	10.18%
Na 330.237†	15.0	0.2408 mg/L	0.27932	0.2408 mg/L	0.27932	116.02%
Ni 232.003†	5.6	0.0001 mg/L	0.00067	0.0001 mg/L	0.00067	655.78%
Pb 220.353†	-65.0	-0.0019 mg/L	0.00033	-0.0019 mg/L	0.00033	17.56%
Sb 206.836†	-10.9	-0.0011 mg/L	0.00078	-0.0011 mg/L	0.00078	73.12%
Se 196.026†	6.0	0.0020 mg/L	0.00076	0.0020 mg/L	0.00076	37.80%
Tl 190.801†	14.4	0.0018 mg/L	0.00057	0.0018 mg/L	0.00057	31.28%
V 292.402†	4.1	0.0000 mg/L	0.00030	0.0000 mg/L	0.00030	>999.9%
Zn 213.857†	1114.5	0.0034 mg/L	0.00019	0.0034 mg/L	0.00019	5.68%
P 178.221†	-2.3	-0.001 mg/L	0.0048	-0.001 mg/L	0.0048	685.55%
Si 251.611†	2050.3	0.038 mg/L	0.0018	0.038 mg/L	0.0018	4.56%

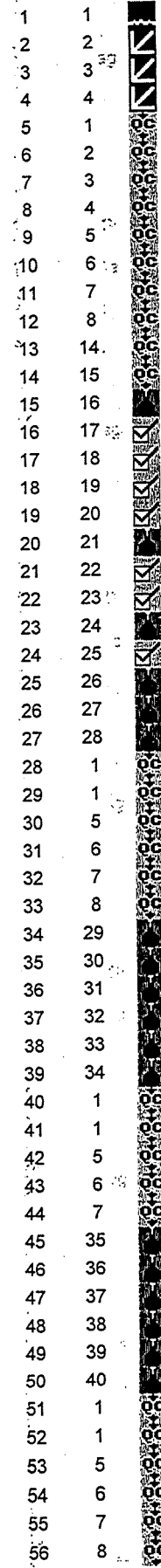
Analytical Sequence

Method: Master 200.7

Seq.	Loc.	ID	Status
1	1	Calib Blank 1	Applied
2	2	Calib Std 1	Applied
3	3	Calib Std 2	Applied
4	4	Calib Std 3	Applied
5	1	ICB	QC Passed
6	2	IPC-1	QC Passed
7	3	IPC-2	QC Passed
8	4	IPC-3	QC Passed
9	5	ICV-1	QC Passed
10	6	ICV-2	QC Passed
11	7	ICV-3	QC Passed
12	8	ICV-4	QC Passed

MRL check 1 = 2104096 MRL1 (200KTS) & (2101209) & MRL check 2:
 2104178 MRL2 (200KTS). spikes = 2100525 & 2100508 or
 2100718. 2104096 is dissolved & 2104178 was
 MH 4/1/21 digested per 200.2

Seq. Loc.



Sample ID

1 Calib Blank 1
 2 Calib Std 1 2101375
 3 Calib Std 2 2101441
 4 Calib Std 3 2101338
 5 ICB
 6 IPC-1 2101375
 7 IPC-2 2101441
 8 IPC-3 2101338
 9 ICV-1 2101382
 10 ICV-2 2101383
 11 ICV-3 2101384
 12 ICV-4 2101440
 13 MRL CHECK 1
 14 MRL CHECK 2
 15 2104096-BLK1
 16 2104096-BS1
 17 2104096-BSD1
 18 2104096-BS2
 19 2104096-BSD2
 20 21D0046-27@5
 21 2104096-MS1
 22 2104096-MS3
 23 21D0046-31@5
 24 2104096-MS2
 25 21D0200-01
 26 21D0047-03@20
 27 21D0047-04@20
 28 CCB
 29 CCB
 30 CCV-1 2101382
 31 CCV-2 2101383
 32 CCV-3 2101384
 33 CCV-4 2101440
 34 21D0047-06@1000
 35 21D0047-07@20
 36 21D0046-26@5
 37 21D0046-28@5
 38 21D0046-29@5
 39 21D0046-30@5
 40 CCB
 41 CCB
 42 CCV-1
 43 CCV-2
 44 CCV-3
 45 21D0046-32@5
 46 21D0046-33@5
 47 21D0046-34@5
 48 21D0046-35@5
 49 21D0046-36@5
 50 21D0047-06@250
 51 CCB
 52 CCB
 53 CCV-1
 54 CCV-2
 55 CCV-3
 56 CCV-4

Set 1: 2104096 BS1/D1/BS2/D2/MS3 pass
 MS1- Al, Ca, Cu, Fe, Mg, Mn M3
 MS2- Al, Ca, Cu M3
 CCB, CWS. pass
 Sets 2 & 3: CCB, CWS pass
 Set 4: 2104178 BS1/D1/BS2/D2/MS2/MS3
 pass
 MS1- Ca, Na & M3
 CCB, CWS pass
 Set 5 & 6: CCB, CWS pass
 Set 7: Pb ↑ in CW, NR
 MH 4/14/21

Set 1

Set 2

Set 3

MH 4/15/21

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 4/16/2021

Analytical Sequence

Method : Master 200.7

Seq.	Loc.	Sample ID
57	41	2104178-BLK1
58	42	2104178-BS1
59	43	2104178-BSD1
60	44	2104178-BS2
61	45	2104178-BSD2
62	46	21D0117-01
63	47	2104178-MS1
64	48	21D0118-01
65	49	2104178-MS2
66	50	2104178-MS3
67	51	21D0047-01@20
68	52	21D0047-02@20
69	53	21D0047-03@20
70	54	21D0047-04@20
71	1	CCB
72	5	CCV-1
73	6	CCV-2
74	7	CCV-3
75	8	CCV-4
76	55	21D0047-05@20
77	56	21D0047-06@1000
78	57	21D0047-07@20
79	58	21D0111-01
80	59	21D0247-01
81	60	21D0231-01@20
82	61	21D0231-02@20
83	1	CCB
84	5	CCV-1
85	6	CCV-2
86	7	CCV-3
87	8	CCV-4
88	62	21D0231-03@20
89	63	21D0231-04@20
90	64	21D0231-05@20
91	65	21D0231-06@1000
92	66	21D0231-07@20
93	67	21D0273-03@50
94	68	21D0335-03@50
95	1	CCB
96	1	CCB
97	5	CCV-1
98	6	CCV-2
99	7	CCV-3
100	8	CCV-4
101	69	21D0273-03
102	70	21D0335-03
103	1	CCB
104	1	CCB
105	5	CCV-1
106	6	CCV-2
107	7	CCV-3
108	71	RINSE

let 4

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lets

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MM
H1570

Analysis Begun

Start Time: 4/15/2021 9:41:53 AM

Plasma On Time: 4/15/2021 6:26:54 AM

Logged In Analyst: Optima7300DV

Technique: ICP Continuous

Spectrometer Model: Optima 7300 DV, S/N No Serial #Autosampler Model: S10

Sample Information File: C:\pe\Optima7300DV\Sample Information\210415_2.sif

Batch ID:

Results Data Set: 210415_2

Results Library: C:\pe\Optima7300DV\Results\Results.mdb

Method Loaded

Method Name: Master 200.7

Method Last Saved: 1/22/2021 7:35:25 AM

IEC File: 2020_IECa.iec

MSF File:

Method Description: 1 Cal point for all analytes

Sequence No.: 1

Autosampler Location: 1

Sample ID: Calib Blank 1

Date Collected: 4/15/2021 9:41:54 AM

Analyst:

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

Nebulizer Parameters: Calib Blank 1

Analyte	Back Pressure	Flow
All	256.0 kPa	0.75 L/min

Mean Data: Calib Blank 1

Analyte	Mean Corrected	Std.Dev.	RSD	Conc. Units	Calib
Y 371.029	2767386.7	58074.00	2.10%	1.00 mg/L	
Sc 361.383	4611571.2	95910.14	2.08%	1.00 mg/L	
Ag 328.068†	-578.9	34.47	5.95%	[0.00] mg/L	
Al 308.215†	6910.4	120.66	1.75%	[0.00] mg/L	
As 188.979†	-60.3	5.44	9.03%	[0.00] mg/L	
B 249.772†	2035.9	53.16	2.61%	[0.00] mg/L	
Ba 233.527†	-222.4	16.54	7.44%	[0.00] mg/L	
Be 313.107†	-12993.2	488.44	3.76%	[0.00] mg/L	
Ca 317.933†	3076.1	45.29	1.47%	[0.00] mg/L	
Cd 214.440†	288.9	31.59	10.93%	[0.00] mg/L	
Co 228.616†	82.9	10.89	13.13%	[0.00] mg/L	
Cr 267.716†	146.5	22.26	15.20%	[0.00] mg/L	
Cu 324.752†	7955.6	194.48	2.44%	[0.00] mg/L	
Fe 238.204†	187.9	11.71	6.23%	[0.00] mg/L	
K 766.490†	855.5	154.99	18.12%	[0.00] mg/L	
Mg 279.077†	122.4	13.24	10.82%	[0.00] mg/L	
Mn 257.610†	347.2	18.43	5.31%	[0.00] mg/L	
Mo 202.031†	-18.9	12.80	67.77%	[0.00] mg/L	
Na 330.237†	21.7	11.31	52.21%	[0.00] mg/L	
Ni 232.003†	-2277.4	51.53	2.26%	[0.00] mg/L	
Pb 220.353†	-199.5	21.38	10.72%	[0.00] mg/L	
Sb 206.836†	118.3	11.57	9.79%	[0.00] mg/L	
Se 196.026†	16.2	1.30	8.04%	[0.00] mg/L	
Tl 190.801†	-108.7	10.95	10.07%	[0.00] mg/L	
V 292.402†	835.4	99.28	11.88%	[0.00] mg/L	
Zn 213.857†	2230.5	66.38	2.98%	[0.00] mg/L	
P 178.221†	54.3	9.50	17.50%	[0.00] mg/L	
Si 251.611†	1155.3	35.08	3.04%	[0.00] mg/L	

Sequence No.: 2

Autosampler Location: 2

Sample ID: Calib Std 1

Date Collected: 4/15/2021 9:45:58 AM

Analyst:

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

Nebulizer Parameters: Calib Std 1

Analyte	Back Pressure	Flow
All	256.0 kPa	0.75 L/min

Mean Data: Calib Std 1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc. Units	Calib
Y 371.029	2756967.5	33361.38	1.21%	0.996	mg/L
Sc 361.383	4625309.9	30140.97	0.65%	1.00	mg/L
Al 308.215†	268845.4	3959.76	1.47%	[10.0]	mg/L
Ba 233.527†	185548.2	2646.05	1.43%	[1.0]	mg/L
Be 313.107†	4731100.1	3167.93	0.07%	[0.5000]	mg/L
Cd 214.440†	695427.3	8077.16	1.16%	[1.50]	mg/L
Co 228.616†	89707.7	1451.11	1.62%	[1.0]	mg/L
Cr 267.716†	232417.1	2947.10	1.27%	[1.0]	mg/L
Cu 324.752†	400204.4	5854.68	1.46%	[1.0]	mg/L
Mn 257.610†	877718.9	11905.02	1.36%	[1.00]	mg/L
Ni 232.003†	54725.7	984.09	1.80%	[1.0]	mg/L
Pb 220.353†	148328.3	2074.91	1.40%	[5.0]	mg/L
Se 196.026†	4772.9	110.22	2.31%	[2.0]	mg/L
V 292.402†	483182.5	6186.55	1.28%	[1.0]	mg/L
Zn 213.857†	366621.7	4685.10	1.28%	[1.5]	mg/L
Si 251.611†	224236.8	3048.29	1.36%	[5.00]	mg/L

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Sequence No.: 3

Sample ID: Calib Std 2

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 3

Date Collected: 4/15/2021 9:49:20 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: Calib Std 2

Analyte	Back Pressure	Flow
All	257.0 kPa	0.75 L/min

Mean Data: Calib Std 2

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc. Units	Calib
Y 371.029	2676232.2	55614.66	2.08%	0.967	mg/L
Sc 361.383	4531710.1	98213.10	2.17%	0.983	mg/L
As 188.979†	24944.0	596.22	2.39%	[5.0]	mg/L
Ca 317.933†	454419.4	9939.93	2.19%	[12.5]	mg/L
Fe 238.204†	673546.8	15018.51	2.23%	[20.0]	mg/L
K 766.490†	58756.5	1214.18	2.07%	[12.5]	mg/L
Mg 279.077†	59690.5	1498.10	2.51%	[12.5]	mg/L
Mo 202.031†	56448.7	1257.83	2.23%	[1.00]	mg/L
Na 330.237†	707.6	47.05	6.65%	[12.5]	mg/L
P 178.221†	27746.2	813.48	2.93%	[10.0]	mg/L

Sequence No.: 4

Sample ID: Calib Std 3

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 4

Date Collected: 4/15/2021 9:52:46 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: Calib Std 3

Analyte	Back Pressure	Flow
All	256.0 kPa	0.75 L/min

Mean Data: Calib Std 3

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc. Units	Calib
Y 371.029	2784484.6	19171.80	0.69%	1.01	mg/L
Sc 361.383	4662960.1	35595.92	0.76%	1.01	mg/L
Ag 328.068†	169357.3	338.92	0.20%	[0.5]	mg/L
B 249.772†	196226.5	443.90	0.23%	[1.0]	mg/L

Be 313.107†	234721.9	387.54	0.17%	[0.025] mg/L
Sb 206.836†	16744.2	224.72	1.34%	[2.0] mg/L
Tl 190.801†	12986.5	194.15	1.50%	[2.0] mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 328.068	1	Lin, Calc Int	0.0	338700	0.00000	1.000000 ✓	
Al 308.215	1	Lin, Calc Int	0.0	26880	0.00000	1.000000	
As 188.979	1	Lin, Calc Int	0.0	4989	0.00000	1.000000	
B 249.772	1	Lin, Calc Int	0.0	196200	0.00000	1.000000	
Ba 233.527	1	Lin, Calc Int	0.0	185500	0.00000	1.000000	
Be 313.107	2	Lin, Calc Int	-914.2	9464000	0.00000	1.000000	
Ca 317.933	1	Lin, Calc Int	-0.0	36350	0.00000	1.000000	
Cd 214.440	1	Lin, Calc Int	0.0	463600	0.00000	1.000000	
Co 228.616	1	Lin, Calc Int	0.0	89710	0.00000	1.000000	
Cr 267.716	1	Lin, Calc Int	0.0	232400	0.00000	1.000000	
Cu 324.752	1	Lin, Calc Int	0.0	400200	0.00000	1.000000	
Fe 238.204	1	Lin, Calc Int	0.0	33680	0.00000	1.000000	
K 766.490	1	Lin, Calc Int	-0.0	4701	0.00000	1.000000	
Mg 279.077	1	Lin, Calc Int	0.0	4775	0.00000	1.000000	
Mn 257.610	1	Lin, Calc Int	0.0	877700	0.00000	1.000000	
Mo 202.031	1	Lin, Calc Int	0.0	56450	0.00000	1.000000	
Na 330.237	1	Lin, Calc Int	0.0	56.61	0.00000	1.000000	
Ni 232.003	1	Lin, Calc Int	0.0	54730	0.00000	1.000000	
Pb 220.353	1	Lin, Calc Int	0.0	29670	0.00000	1.000000	
Sb 206.836	1	Lin, Calc Int	0.0	8372	0.00000	1.000000	
Se 196.026	1	Lin, Calc Int	0.0	2386	0.00000	1.000000	
Tl 190.801	1	Lin, Calc Int	0.0	6493	0.00000	1.000000	
V 292.402	1	Lin, Calc Int	0.0	483200	0.00000	1.000000	
Zn 213.857	1	Lin, Calc Int	0.0	244400	0.00000	1.000000	
P 178.221	1	Lin, Calc Int	0.0	2775	0.00000	1.000000	
Si 251.611	1	Lin, Calc Int	0.0	44850	0.00000	1.000000	

Sequence No.: 5

Sample ID: ICB

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 1

Date Collected: 4/15/2021 9:56:04 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: ICB

Analyte	Back Pressure	Flow
All	254.0 kPa	0.75 L/min

W. J. H. / 4/15/21

Mean Data: ICB

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2736559.6	0.989 mg/L ✓	0.0119			1.21%
Sc 361.383	4547311.0	0.986 mg/L	0.0106			1.08%
Ag 328.068†	-239.4	-0.00071 mg/L	0.000482	-0.00071 mg/L	0.000482	68.05%
QC value within limits for Ag 328.068 Recovery = Not calculated						
Al 308.215†	1.7	0.0000 mg/L	0.00461	0.0000 mg/L	0.00461	>999.9%
QC value within limits for Al 308.215 Recovery = Not calculated						
As 188.979†	7.3	0.0015 mg/L	0.00072	0.0015 mg/L	0.00072	49.59%
QC value within limits for As 188.979 Recovery = Not calculated						
B 249.772†	777.0	0.0040 mg/L	0.00033	0.0040 mg/L	0.00033	8.42%
QC value within limits for B 249.772 Recovery = Not calculated						
Ba 233.527†	22.9	0.0001 mg/L	0.00009	0.0001 mg/L	0.00009	76.63%
QC value within limits for Ba 233.527 Recovery = Not calculated						
Be 313.107†	699.4	0.00017 mg/L	0.000023	0.00017 mg/L	0.000023	13.23%
QC value within limits for Be 313.107 Recovery = Not calculated						
Ca 317.933†	924.4	0.0254 mg/L	0.00244	0.0254 mg/L	0.00244	9.60%
QC value within limits for Ca 317.933 Recovery = Not calculated						
Cd 214.440†	70.9	0.00015 mg/L	0.000047	0.00015 mg/L	0.000047	30.44%
QC value within limits for Cd 214.440 Recovery = Not calculated						
Co 228.616†	11.6	0.0001 mg/L	0.00016	0.0001 mg/L	0.00016	122.16%
QC value within limits for Co 228.616 Recovery = Not calculated						
Cr 267.716†	40.7	0.0002 mg/L	0.00017	0.0002 mg/L	0.00017	99.36%

Cu 324.752†	QC value within limits for Cr 267.716	Recovery = Not calculated	918.3	0.0023 mg/L	0.00040	0.0023 mg/L	0.00040	17.26%
Fe 238.204†	QC value within limits for Cu 324.752	Recovery = Not calculated	45.7	0.0014 mg/L	0.00035	0.0014 mg/L	0.00035	25.48%
K 766.490†	QC value within limits for Fe 238.204	Recovery = Not calculated	191.4	0.0406 mg/L	0.01717	0.0406 mg/L	0.01717	42.24%
Mg 279.077†	QC value within limits for K 766.490	Recovery = Not calculated	35.9	0.0075 mg/L	0.00314	0.0075 mg/L	0.00314	41.73%
Mn 257.610†	QC value within limits for Mg 279.077	Recovery = Not calculated	714.2	0.0008 mg/L	0.00008	0.0008 mg/L	0.00008	9.93%
Mo 202.031†	QC value within limits for Mn 257.610	Recovery = Not calculated	38.8	0.0007 mg/L	0.00023	0.0007 mg/L	0.00023	33.91%
Na 330.237†	QC value within limits for Mo 202.031	Recovery = Not calculated	7.2	0.1256 mg/L	0.25868	0.1256 mg/L	0.25868	205.90%
Ni 232.003†	QC value within limits for Na 330.237	Recovery = Not calculated	138.8	0.0025 mg/L	0.00090	0.0025 mg/L	0.00090	35.60%
Pb 220.353†	QC value within limits for Ni 232.003	Recovery = Not calculated	25.9	0.0009 mg/L	0.00081	0.0009 mg/L	0.00081	93.77%
Sb 206.836†	QC value within limits for Pb 220.353	Recovery = Not calculated	45.4	0.0054 mg/L	0.00090	0.0054 mg/L	0.00090	16.51%
Se 196.026†	QC value within limits for Sb 206.836	Recovery = Not calculated	2.6	0.0011 mg/L	0.00113	0.0011 mg/L	0.00113	105.62%
Tl 190.801†	QC value within limits for Se 196.026	Recovery = Not calculated	3.6	0.0006 mg/L	0.00123	0.0006 mg/L	0.00123	218.54%
V 292.402†	QC value within limits for Tl 190.801	Recovery = Not calculated	21.8	0.0000 mg/L	0.00017	0.0000 mg/L	0.00017	365.02%
Zn 213.857†	QC value within limits for V 292.402	Recovery = Not calculated	625.9	0.0025 mg/L	0.00025	0.0025 mg/L	0.00025	9.89%
P 178.221†	QC value within limits for Zn 213.857	Recovery = Not calculated	0.4	0.000 mg/L	0.0025	0.000 mg/L	0.0025	>999.9%
Si 251.611†	QC value within limits for P 178.221	Recovery = Not calculated	153.4	0.003 mg/L	0.0006	0.003 mg/L	0.0006	17.80%
	QC value within limits for Si 251.611	Recovery = Not calculated						

All analyte(s) passed QC.

Sequence No.: 6
 Sample ID: IPC-1
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 2
 Date Collected: 4/15/2021 10:00:08 AM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Nebulizer Parameters: IPC-1

Analyte	Back Pressure	Flow
All	254.0 kPa	0.75 L/min

Mean Data: IPC-1

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2648166.0	0.957 mg/L		0.0149			1.56%
Sc 361.383	4538175.8	0.984 mg/L		0.0077			0.78%
Ag 328.068†	-867.6	-0.00153 mg/L		0.000585	-0.00153 mg/L	0.000585	38.33%
Al 308.215†	272382.6	10.11 mg/L		0.148	10.11 mg/L	0.148	1.46%
	QC value within limits for Al 308.215	Recovery = 101.05%					
As 188.979†	5.0	0.0008 mg/L		0.00242	0.0008 mg/L	0.00242	321.19%
B 249.772†	-562.2	-0.0028 mg/L		0.00027	-0.0028 mg/L	0.00027	9.39%
Ba 233.527†	185315.4	1.001 mg/L		0.0123	1.001 mg/L	0.0123	1.23%
	QC value within limits for Ba 233.527	Recovery = 100.06%					
Be 313.107†	4696719.5	0.49638 mg/L		0.000374	0.49638 mg/L	0.000374	0.08%
	QC value within limits for Be 313.107	Recovery = 99.28%					
Ca 317.933†	1794726.8	49.38 mg/L		0.622	49.38 mg/L	0.622	1.26%
Cd 214.440†	663433.8	1.4313 mg/L		0.02812	1.4313 mg/L	0.02812	1.96%
	QC value within limits for Cd 214.440	Recovery = 95.42%					
Co 228.616†	89200.9	0.9939 mg/L		0.01327	0.9939 mg/L	0.01327	1.34%
	QC value within limits for Co 228.616	Recovery = 99.39%					
Cr 267.716†	233796.4	1.007 mg/L		0.0113	1.007 mg/L	0.0113	1.12%
	QC value within limits for Cr 267.716	Recovery = 100.66%					
Cu 324.752†	390618.2	0.9766 mg/L		0.01994	0.9766 mg/L	0.01994	2.04%
	QC value within limits for Cu 324.752	Recovery = 97.66%					
Fe 238.204†	-263.4	0.0004 mg/L		0.00039	0.0004 mg/L	0.00039	92.45%

K 766.490†	95980.3	20.41 mg/L	0.263	20.41 mg/L	0.263	1.29%
Mg 279.077†	-4.0	0.0000 mg/L	0.00308	0.0000 mg/L	0.00308	>999.9%
Mn 257.610†	848967.5	0.9673 mg/L	0.01826	0.9673 mg/L	0.01826	1.89%
QC value within limits for Mn 257.610 Recovery = 96.73%						
Mo 202.031†	34.4	0.0002 mg/L	0.00021	0.0002 mg/L	0.00021	136.56%
Na 330.237†	1056.1	17.35 mg/L	0.626	17.35 mg/L	0.626	3.61%
Ni 232.003†	54494.3	0.9641 mg/L	0.01352	0.9641 mg/L	0.01352	1.40%
QC value within limits for Ni 232.003 Recovery = 96.41%						
Pb 220.353†	146598.7	4.941 mg/L	0.0754	4.941 mg/L	0.0754	1.53%
QC value within limits for Pb 220.353 Recovery = 98.81%						
Sb 206.836†	160.7	0.0091 mg/L	0.00153	0.0091 mg/L	0.00153	16.78%
Se 196.026†	4861.5	2.039 mg/L	0.0341	2.039 mg/L	0.0341	1.67%
QC value within limits for Se 196.026 Recovery = 101.97%						
Tl 190.801†	-6.5	0.0015 mg/L	0.00236	0.0015 mg/L	0.00236	155.36%
V 292.402†	471112.6	0.9783 mg/L	0.01737	0.9783 mg/L	0.01737	1.78%
QC value within limits for V 292.402 Recovery = 97.83%						
Zn 213.857†	356623.9	1.453 mg/L	0.0285	1.453 mg/L	0.0285	1.96%
QC value within limits for Zn 213.857 Recovery = 96.85%						
P 178.221†	25.5	0.011 mg/L	0.0017	0.011 mg/L	0.0017	15.45%
Si 251.611†	225321.4	5.031 mg/L	0.0636	5.031 mg/L	0.0636	1.26%
QC value within limits for Si 251.611 Recovery = 100.62%						
All analyte(s) passed QC.						

Sequence No.: 7
 Sample ID: IPC-2
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 3
 Date Collected: 4/15/2021 10:04:20 AM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Nebulizer Parameters: IPC-2

Analyte Back Pressure Flow
 All 257.0 kPa 0.75 L/min

W. C. Allen

Mean Data: IPC-2

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		Std.Dev.	RSD
	Intensity	Conc.			Conc.	Units		
Y 371.029	2646190.7	0.956 mg/L	0.0060					0.63%
Sc 361.383	4472412.5	0.970 mg/L	0.0057					0.59%
Ag 328.068†	-527.6	-0.00031 mg/L	0.000259	-0.00031 mg/L	0.000259	84.04%		
Al 308.215†	763.7	0.0102 mg/L	0.00268	0.0102 mg/L	0.00268	26.37%		
As 188.979†	24552.7	4.921 mg/L	0.0520	4.921 mg/L	0.0520	1.06%		
QC value within limits for As 188.979 Recovery = 98.42%								
B 249.772†	15408.5	0.0386 mg/L	0.00100	0.0386 mg/L	0.00100	2.58%		
Ba 233.527†	239.6	0.0000 mg/L	0.00007	0.0000 mg/L	0.00007	207.41%		
Be 313.107†	1536.5	0.00024 mg/L	0.000022	0.00024 mg/L	0.000022	9.07%		
Ca 317.933†	452501.4	12.45 mg/L	0.097	12.45 mg/L	0.097	0.77%		
QC value within limits for Ca 317.933 Recovery = 99.63%								
Cd 214.440†	412.6	0.00006 mg/L	0.000019	0.00006 mg/L	0.000019	32.45%		
Co 228.616†	-9.6	0.0003 mg/L	0.00026	0.0003 mg/L	0.00026	93.54%		
Cr 267.716†	72.8	0.0003 mg/L	0.00005	0.0003 mg/L	0.00005	15.08%		
Cu 324.752†	-343.3	0.0002 mg/L	0.00021	0.0002 mg/L	0.00021	96.97%		
Fe 238.204†	672158.8	19.96 mg/L	0.169	19.96 mg/L	0.169	0.85%		
QC value within limits for Fe 238.204 Recovery = 99.80%								
K 766.490†	58901.2	12.51 mg/L	0.114	12.51 mg/L	0.114	0.91%		
QC value within limits for K 766.490 Recovery = 100.08%								
Mg 279.077†	59349.6	12.43 mg/L	0.346	12.43 mg/L	0.346	2.78%		
QC value within limits for Mg 279.077 Recovery = 99.43%								
Mn 257.610†	260.4	-0.0001 mg/L	0.00003	-0.0001 mg/L	0.00003	26.25%		
Mo 202.031†	55624.1	0.9862 mg/L	0.00773	0.9862 mg/L	0.00773	0.78%		
QC value within limits for Mo 202.031 Recovery = 98.62%								
Na 330.237†	682.7	12.00 mg/L	0.289	12.00 mg/L	0.289	2.41%		
QC value within limits for Na 330.237 Recovery = 96.00%								
Ni 232.003†	750.9	0.0110 mg/L	0.00095	0.0110 mg/L	0.00095	8.63%		
Pb 220.353†	46.7	0.0027 mg/L	0.00063	0.0027 mg/L	0.00063	23.47%		
Sb 206.836†	-39.1	-0.0032 mg/L	0.00035	-0.0032 mg/L	0.00035	10.82%		
Se 196.026†	-16.4	-0.0013 mg/L	0.00366	-0.0013 mg/L	0.00366	292.06%		
Tl 190.801†	-9.3	0.0032 mg/L	0.00187	0.0032 mg/L	0.00187	57.77%		
V 292.402†	-112.8	-0.0009 mg/L	0.00013	-0.0009 mg/L	0.00013	14.48%		
Zn 213.857†	-45.6	-0.0021 mg/L	0.00020	-0.0021 mg/L	0.00020	9.57%		

P 178.221† 26544.3 9.571 mg/L 0.0887 9.571 mg/L 0.0887 0.93%
 QC value within limits for P 178.221 Recovery = 95.71%
 Si 251.611† 3173.7 0.064 mg/L 0.0014 0.064 mg/L 0.0014 2.11%
 All analyte(s) passed QC.

Sequence No.: 8

Sample ID: IPC-3

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 4

Date Collected: 4/15/2021 10:08:07 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: IPC-3

Analyte	Back Pressure	Flow
All	256.0 kPa	0.75 L/min

Mean Data: IPC-3

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2775898.1	1.00 mg/L	0.021			2.06%
Sc 361.383	4646055.0	1.01 mg/L	0.022			2.22%
Ag 328.068†	174620.7	0.51554 mg/L	0.016882	0.51554 mg/L	0.016882	3.27%
QC value within limits for Ag 328.068 Recovery = 103.11%						
Al 308.215†	109.4	0.0040 mg/L	0.00784	0.0040 mg/L	0.00784	195.45%
As 188.979†	19.5	0.0039 mg/L	0.00182	0.0039 mg/L	0.00182	46.46%
B 249.772†	199525.5	1.017 mg/L	0.0365	1.017 mg/L	0.0365	3.59%
QC value within limits for B 249.772 Recovery = 101.68%						
Ba 233.527†	26.5	0.0001 mg/L	0.00015	0.0001 mg/L	0.00015	107.97%
Be 313.107†	235065.5	0.02493 mg/L	0.000083	0.02493 mg/L	0.000083	0.33%
Ca 317.933†	122.4	0.0034 mg/L	0.00313	0.0034 mg/L	0.00313	91.72%
Cd 214.440†	-865.1	-0.00187 mg/L	0.000029	-0.00187 mg/L	0.000029	1.56%
Co 228.616†	4.1	0.0000 mg/L	0.00016	0.0000 mg/L	0.00016	344.98%
Cr 267.716†	58.9	0.0003 mg/L	0.00014	0.0003 mg/L	0.00014	55.36%
Cu 324.752†	1187.6	0.0030 mg/L	0.00086	0.0030 mg/L	0.00086	28.82%
Fe 238.204†	526.8	0.0156 mg/L	0.00199	0.0156 mg/L	0.00199	12.74%
K 766.490†	210.8	0.0447 mg/L	0.03062	0.0447 mg/L	0.03062	68.47%
Mg 279.077†	41.2	0.0086 mg/L	0.00422	0.0086 mg/L	0.00422	48.84%
Mn 257.610†	418.3	0.0005 mg/L	0.00004	0.0005 mg/L	0.00004	7.73%
Mo 202.031†	143.8	0.0025 mg/L	0.00052	0.0025 mg/L	0.00052	20.40%
Na 330.237†	11.7	0.2027 mg/L	0.43732	0.2027 mg/L	0.43732	215.76%
Ni 232.003†	-81.3	-0.0015 mg/L	0.00144	-0.0015 mg/L	0.00144	96.00%
Pb 220.353†	46.3	0.0016 mg/L	0.00071	0.0016 mg/L	0.00071	45.64%
Sb 206.836†	16632.5	1.987 mg/L	0.0740	1.987 mg/L	0.0740	3.72%
QC value within limits for Sb 206.836 Recovery = 99.33%						
Se 196.026†	4.0	0.0017 mg/L	0.00487	0.0017 mg/L	0.00487	286.65%
Tl 190.801†	12649.3	1.948 mg/L	0.0534	1.948 mg/L	0.0534	2.74%
QC value within limits for Tl 190.801 Recovery = 97.40%						
V 292.402†	-21.6	0.0000 mg/L	0.00013	0.0000 mg/L	0.00013	299.60%
Zn 213.857†	1027.9	0.0042 mg/L	0.00042	0.0042 mg/L	0.00042	10.09%
P 178.221†	11.0	0.004 mg/L	0.0031	0.004 mg/L	0.0031	77.91%
Si 251.611†	36826.3	0.821 mg/L	0.0275	0.821 mg/L	0.0275	3.35%
All analyte(s) passed QC.						

Sequence No.: 9

Sample ID: ICV-1

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 5

Date Collected: 4/15/2021 10:12:14 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: ICV-1

Analyte	Back Pressure	Flow
All	257.0 kPa	0.75 L/min

Mean Data: ICV-1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2782751.6	1.01 mg/L	0.010			0.97%

Sc 361.383	4676069.2	1.01 mg/L	0.009			0.87%
Ag 328.068†	-1714.0	-0.00299 mg/L	0.000679	-0.00299 mg/L	0.000679	22.66%
Al 308.215†	589.5	-0.0081 mg/L	0.00403	-0.0081 mg/L	0.00403	49.73%
As 188.979†	4991.4	1.000 mg/L	0.0043	1.000 mg/L	0.0043	0.43%
QC value within limits for As 188.979 Recovery = 100.04%						
B 249.772†	5355.4	0.0271 mg/L	0.00135	0.0271 mg/L	0.00135	4.99%
Ba 233.527†	-455.1	-0.0007 mg/L	0.00014	-0.0007 mg/L	0.00014	21.31%
Be 313.107†	9188865.6	0.97105 mg/L	0.010521	0.97105 mg/L	0.010521	1.08%
QC value within limits for Be 313.107 Recovery = 97.11%						
Ca 317.933†	36000.6	1.000 mg/L	0.0292	1.000 mg/L	0.0292	2.92%
Cd 214.440†	434092.3	0.93657 mg/L	0.016619	0.93657 mg/L	0.016619	1.77%
QC value within limits for Cd 214.440 Recovery = 93.66%						
Co 228.616†	92888.6	1.035 mg/L	0.0292	1.035 mg/L	0.0292	2.82%
QC value within limits for Co 228.616 Recovery = 103.52%						
Cr 267.716†	239485.1	1.031 mg/L	0.0273	1.031 mg/L	0.0273	2.64%
QC value within limits for Cr 267.716 Recovery = 103.11%						
Cu 324.752†	376545.5	0.9413 mg/L	0.02645	0.9413 mg/L	0.02645	2.81%
QC value within limits for Cu 324.752 Recovery = 94.13%						
Fe 238.204†	32696.2	0.9792 mg/L	0.02438	0.9792 mg/L	0.02438	2.49%
QC value within limits for Fe 238.204 Recovery = 97.92%						
K 766.490†	-32.9	-0.0061 mg/L	0.02302	-0.0061 mg/L	0.02302	376.88%
Mg 279.077†	4515.8	0.9526 mg/L	0.02950	0.9526 mg/L	0.02950	3.10%
Mn 257.610†	889471.8	1.013 mg/L	0.0014	1.013 mg/L	0.0014	0.14%
QC value within limits for Mn 257.610 Recovery = 101.33%						
Mo 202.031†	54195.3	0.9600 mg/L	0.02402	0.9600 mg/L	0.02402	2.50%
QC value within limits for Mo 202.031 Recovery = 96.00%						
Na 330.237†	3.4	-0.7311 mg/L	0.86972	-0.7311 mg/L	0.86972	118.96%
Ni 232.003†	55596.7	0.9773 mg/L	0.02843	0.9773 mg/L	0.02843	2.91%
QC value within limits for Ni 232.003 Recovery = 97.73%						
Pb 220.353†	30204.3	1.017 mg/L	0.0310	1.017 mg/L	0.0310	3.05%
QC value within limits for Pb 220.353 Recovery = 101.75%						
Sb 206.836†	8877.9	1.054 mg/L	0.0044	1.054 mg/L	0.0044	0.42%
QC value within limits for Sb 206.836 Recovery = 105.36%						
Se 196.026†	2355.6	0.9883 mg/L	0.00526	0.9883 mg/L	0.00526	0.53%
QC value within limits for Se 196.026 Recovery = 98.83%						
Tl 190.801†	6160.7	0.9497 mg/L	0.00906	0.9497 mg/L	0.00906	0.95%
QC value within limits for Tl 190.801 Recovery = 94.97%						
V 292.402†	473447.6	0.9829 mg/L	0.00205	0.9829 mg/L	0.00205	0.21%
QC value within limits for V 292.402 Recovery = 98.29%						
Zn 213.857†	241678.0	0.9819 mg/L	0.02477	0.9819 mg/L	0.02477	2.52%
QC value within limits for Zn 213.857 Recovery = 98.19%						
P 178.221†	-6.6	0.002 mg/L	0.0014	0.002 mg/L	0.0014	87.68%
Si 251.611†	20529.4	0.450 mg/L	0.0126	0.450 mg/L	0.0126	2.80%

All analyte(s) passed QC.
User canceled analysis.

Analysis Begun

Start Time: 4/15/2021 10:15:55 AM Plasma On Time: 4/15/2021 6:26:54 AM
Logged In Analyst: Optima7300DV Technique: ICP Continuous
Spectrometer Model: Optima 7300 DV, S/N No Serial #Autosampler Model: S10

Sample Information File: C:\pe\Optima7300DV\Sample Information\210415_2.sif
Batch ID:
Results Data Set: 210415_2
Results Library: C:\pe\Optima7300DV\Results\Results.mdb

Sequence No.: 8 Autosampler Location: 4
Sample ID: IPC-3 Date Collected: 4/15/2021 10:15:56 AM
Analyst: Data Type: Original
Initial Sample Wt: Initial Sample Vol:
Dilution: Sample Prep Vol:

Nebulizer Parameters: IPC-3
Analyte Back Pressure Flow
All 256.0 kPa 0.75 L/min

Mean Data: IPC-3

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2785765.9	1.01 mg/L	0.023			2.27%
Sc 361.383	4661138.3	1.01 mg/L	0.023			2.28%
Ag 328.068†	176354.5	0.52066 mg/L	0.014556	0.52066 mg/L	0.014556	2.80%
QC value within limits for Ag 328.068 Recovery = 104.13%						
Al 308.215†	206.9	0.0076 mg/L	0.00486	0.0076 mg/L	0.00486	63.69%
As 188.979†	15.4	0.0031 mg/L	0.00220	0.0031 mg/L	0.00220	71.57%
B 249.772†	203499.6	1.037 mg/L	0.0330	1.037 mg/L	0.0330	3.18%
QC value within limits for B 249.772 Recovery = 103.71%						
Ba 233.527†	-4.5	0.0000 mg/L	0.00009	0.0000 mg/L	0.00009	348.98%
Be 313.107†	235916.9	0.02502 mg/L	0.000043	0.02502 mg/L	0.000043	0.17%
Ca 317.933†	-174.9	-0.0048 mg/L	0.00267	-0.0048 mg/L	0.00267	55.88%
Cd 214.440†	-936.3	-0.00202 mg/L	0.000044	-0.00202 mg/L	0.000044	2.17%
Co 228.616†	9.1	0.0001 mg/L	0.00007	0.0001 mg/L	0.00007	71.34%
Cr 267.716†	30.4	0.0001 mg/L	0.00014	0.0001 mg/L	0.00014	110.73%
Cu 324.752†	1148.3	0.0029 mg/L	0.00060	0.0029 mg/L	0.00060	20.83%
Fe 238.204†	151.0	0.0045 mg/L	0.00026	0.0045 mg/L	0.00026	5.85%
K 766.490†	65.9	0.0139 mg/L	0.03893	0.0139 mg/L	0.03893	280.35%
Mg 279.077†	30.3	0.0063 mg/L	0.00165	0.0063 mg/L	0.00165	26.08%
Mn 257.610†	498.3	0.0006 mg/L	0.00003	0.0006 mg/L	0.00003	4.63%
Mo 202.031†	149.0	0.0026 mg/L	0.00032	0.0026 mg/L	0.00032	12.28%
Na 330.237†	13.2	0.2298 mg/L	0.36054	0.2298 mg/L	0.36054	156.91%
Ni 232.003†	-220.5	-0.0040 mg/L	0.00095	-0.0040 mg/L	0.00095	23.50%
Pb 220.353†	32.2	0.0011 mg/L	0.00042	0.0011 mg/L	0.00042	38.54%
Sb 206.836†	17021.9	2.033 mg/L	0.0582	2.033 mg/L	0.0582	2.86%
QC value within limits for Sb 206.836 Recovery = 101.66%						
Se 196.026†	8.3	0.0035 mg/L	0.00190	0.0035 mg/L	0.00190	54.43%
Tl 190.801†	12936.9	1.992 mg/L	0.0420	1.992 mg/L	0.0420	2.11%
QC value within limits for Tl 190.801 Recovery = 99.62%						
V 292.402†	34.6	0.0001 mg/L	0.00025	0.0001 mg/L	0.00025	354.11%
Zn 213.857†	1072.4	0.0044 mg/L	0.00041	0.0044 mg/L	0.00041	9.28%
P 178.221†	-0.9	0.000 mg/L	0.0031	0.000 mg/L	0.0031	974.20%
Si 251.611†	37308.0	0.832 mg/L	0.0238	0.832 mg/L	0.0238	2.86%

All analyte(s) passed QC.
User canceled analysis.

(ND) Report & Results

=====
Analysis Begun

Start Time: 4/15/2021 10:19:42 AM Plasma On Time: 4/15/2021 6:26:54 AM
Logged In Analyst: Optima7300DV Technique: ICP Continuous
Spectrometer Model: Optima 7300 DV, S/N No Serial #Autosampler Model: S10

Sample Information File: C:\pe\Optima7300DV\Sample Information\210415_2.sif
Batch ID:
Results Data Set: 210415_2
Results Library: C:\pe\Optima7300DV\Results\Results.mdb

=====
Sequence No.: 8 Autosampler Location: 4
Sample ID: IPC-3 Date Collected: 4/15/2021 10:19:43 AM
Analyst: Data Type: Original
Initial Sample Wt: Initial Sample Vol:
Dilution: Sample Prep Vol:

=====
Nebulizer Parameters: IPC-3
Analyte Back Pressure Flow
All 256.0 kPa 0.75 L/min

=====
Mean Data: IPC-3

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2816762.9	1.02 mg/L	0.016			1.60%
Sc 361.383	4703356.6	1.02 mg/L	0.016			1.58%
Ag 328.068†	173561.8	0.51241 mg/L	0.012567	0.51241 mg/L	0.012567	2.45%
QC value within limits for Ag 328.068 Recovery = 102.48%						
Al 308.215†	-16.7	-0.0007 mg/L	0.00489	-0.0007 mg/L	0.00489	721.45%
As 188.979†	13.1	0.0026 mg/L	0.00096	0.0026 mg/L	0.00096	36.47%
B 249.772†	201883.4	1.029 mg/L	0.0266	1.029 mg/L	0.0266	2.59%

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QC value within limits for B 249.772 Recovery = 102.88%

Ba 233.527†	0.7	0.0000 mg/L	0.00010	0.0000 mg/L	0.00010	>999.9%
Be 313.107†	235559.6	0.02499 mg/L	0.000034	0.02499 mg/L	0.000034	0.14%
Ca 317.933†	-276.5	-0.0076 mg/L	0.000054	-0.0076 mg/L	0.000054	7.13%
Cd 214.440†	-978.0	-0.00211 mg/L	0.000056	-0.00211 mg/L	0.000056	2.67%
Co 228.616†	3.0	0.0000 mg/L	0.00015	0.0000 mg/L	0.00015	452.79%
Cr 267.716†	45.6	0.0002 mg/L	0.00016	0.0002 mg/L	0.00016	80.04%
Cu 324.752†	644.4	0.0016 mg/L	0.00030	0.0016 mg/L	0.00030	18.75%
Fe 238.204†	121.4	0.0036 mg/L	0.00018	0.0036 mg/L	0.00018	4.86%
K 766.490†	0.6	-0.0002 mg/L	0.02595	-0.0002 mg/L	0.02595	>999.9%
Mg 279.077†	13.6	0.0028 mg/L	0.00186	0.0028 mg/L	0.00186	65.45%
Mn 257.610†	199.6	0.0002 mg/L	0.00003	0.0002 mg/L	0.00003	13.01%
Mo 202.031†	52.3	0.0009 mg/L	0.00005	0.0009 mg/L	0.00005	4.89%
Na 330.237†	26.8	0.4702 mg/L	0.46874	0.4702 mg/L	0.46874	99.70%
Ni 232.003†	-143.9	-0.0026 mg/L	0.00109	-0.0026 mg/L	0.00109	41.52%
Pb 220.353†	29.2	0.0010 mg/L	0.00088	0.0010 mg/L	0.00088	89.63%
Sb 206.836†	16719.1	1.997 mg/L	0.0453	1.997 mg/L	0.0453	2.27%

QC value within limits for Sb 206.836 Recovery = 99.85%

Se 196.026†	-0.5	-0.0002 mg/L	0.00599	-0.0002 mg/L	0.00599	>999.9%
Tl 190.801†	12740.4	1.962 mg/L	0.0448	1.962 mg/L	0.0448	2.28%

QC value within limits for Tl 190.801 Recovery = 98.11%

V 292.402†	-5.0	0.0000 mg/L	0.00015	0.0000 mg/L	0.00015	>999.9%
Zn 213.857†	776.3	0.0032 mg/L	0.00037	0.0032 mg/L	0.00037	11.47%
P 178.221†	0.8	0.000 mg/L	0.0038	0.000 mg/L	0.0038	>999.9%
Si 251.611†	36600.9	0.816 mg/L	0.0209	0.816 mg/L	0.0209	2.57%

All analyte(s) passed QC. ✓

Sequence No.: 9
 Sample ID: ICV-1
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 5
 Date Collected: 4/15/2021 10:23:50 AM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Nebulizer Parameters: ICV-1

Analyte	Back Pressure	Flow
All	254.0 kPa	0.75 L/min

4/16/21

Mean Data: ICV-1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	2754003.6	0.995	mg/L	0.0190				1.91%
Sc 361.383	4612118.2	1.00	mg/L	0.019				1.89%
Ag 328.068†	-1718.3	-0.00300	mg/L	0.000696	-0.00300	mg/L	0.000696	23.19%
Al 308.215†	629.5	-0.0067	mg/L	0.00720	-0.0067	mg/L	0.00720	107.50%
As 188.979†	4925.4	0.9871	mg/L	0.02158	0.9871	mg/L	0.02158	2.19%
QC value within limits for As 188.979 Recovery = 98.71%								
B 249.772†	7067.5	0.0358	mg/L	0.00084	0.0358	mg/L	0.00084	2.34%
Ba 233.527†	-467.2	-0.0007	mg/L	0.00007	-0.0007	mg/L	0.00007	9.38%
Be 313.107†	9231211.1	0.97552	mg/L	0.013432	0.97552	mg/L	0.013432	1.38%
QC value within limits for Be 313.107 Recovery = 97.55%								
Ca 317.933†	36433.2	1.012	mg/L	0.0273	1.012	mg/L	0.0273	2.70%
Cd 214.440†	432626.7	0.93341	mg/L	0.019070	0.93341	mg/L	0.019070	2.04%
QC value within limits for Cd 214.440 Recovery = 93.34%								
Co 228.616†	92202.0	1.028	mg/L	0.0281	1.028	mg/L	0.0281	2.73%
QC value within limits for Co 228.616 Recovery = 102.76%								
Cr 267.716†	239208.9	1.030	mg/L	0.0257	1.030	mg/L	0.0257	2.49%
QC value within limits for Cr 267.716 Recovery = 102.99%								
Cu 324.752†	378510.5	0.9462	mg/L	0.02417	0.9462	mg/L	0.02417	2.55%
QC value within limits for Cu 324.752 Recovery = 94.62%								
Fe 238.204†	32974.5	0.9874	mg/L	0.02575	0.9874	mg/L	0.02575	2.61%
QC value within limits for Fe 238.204 Recovery = 98.74%								
K 766.490†	-34.1	-0.0063	mg/L	0.04822	-0.0063	mg/L	0.04822	761.91%
Mg 279.077†	4561.3	0.9621	mg/L	0.02390	0.9621	mg/L	0.02390	2.48%
Mn 257.610†	885041.6	1.008	mg/L	0.0015	1.008	mg/L	0.0015	0.15%
QC value within limits for Mn 257.610 Recovery = 100.83%								
Mo 202.031†	54395.2	0.9635	mg/L	0.02588	0.9635	mg/L	0.02588	2.69%
QC value within limits for Mo 202.031 Recovery = 96.35%								
Na 330.237†	1.6	-0.7600	mg/L	0.27145	-0.7600	mg/L	0.27145	35.72%
Ni 232.003†	55469.4	0.9750	mg/L	0.02785	0.9750	mg/L	0.02785	2.86%

Analyte	QC value within limits	Concentration	Recovery (%)	Concentration	Std. Dev.	RSD (%)
Pb 220.353†	30023.0	1.011 mg/L	97.50%	1.011 mg/L	0.0268	2.65%
Sb 206.836†	8831.9	1.048 mg/L	101.14%	1.048 mg/L	0.0203	1.94%
Se 196.026†	2339.1	0.9813 mg/L	104.81%	0.9813 mg/L	0.02316	2.36%
Tl 190.801†	6171.4	0.9514 mg/L	98.13%	0.9514 mg/L	0.01852	1.95%
V 292.402†	474451.5	0.9849 mg/L	95.14%	0.9849 mg/L	0.00123	0.12%
Zn 213.857†	241180.4	0.9799 mg/L	98.49%	0.9799 mg/L	0.02645	2.70%
P 178.221†	-19.0	-0.003 mg/L	97.99%	-0.003 mg/L	0.0045	157.99%
Si 251.611†	20319.9	0.445 mg/L		0.445 mg/L	0.0096	2.16%

All analyte(s) passed QC. ✓

Sequence No.: 10
 Sample ID: ICV-2
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 6
 Date Collected: 4/15/2021 10:27:41 AM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Nebulizer Parameters: ICV-2

Analyte Back Pressure Flow
 All 255.0 kPa 0.75 L/min

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 4/16/21

Mean Data: ICV-2

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std. Dev.	Sample Conc. Units	Std. Dev.	RSD (%)
Y 371.029	2807461.4	1.01 mg/L		0.006			0.60%
Sc 361.383	4711153.1	1.02 mg/L		0.006			0.61%
Ag 328.068†	162512.2	0.47977 mg/L		0.009416	0.47977 mg/L	0.009416	1.96%
Al 308.215†	24566.7	0.9120 mg/L		0.02058	0.9120 mg/L	0.02058	2.26%
As 188.979†	15.5	0.0032 mg/L		0.00113	0.0032 mg/L	0.00113	35.49%
B 249.772†	190711.8	0.9718 mg/L		0.02107	0.9718 mg/L	0.02107	2.17%
Ba 233.527†	189962.5	1.024 mg/L		0.0196	1.024 mg/L	0.0196	1.92%
Be 313.107†	4069.8	0.00053 mg/L		0.000057	0.00053 mg/L	0.000057	10.74%
Ca 317.933†	-490.5	-0.0129 mg/L		0.00027	-0.0129 mg/L	0.00027	2.10%
Cd 214.440†	188.3	0.00043 mg/L		0.000033	0.00043 mg/L	0.000033	7.69%
Co 228.616†	-60.8	0.0004 mg/L		0.00010	0.0004 mg/L	0.00010	25.24%
Cr 267.716†	128.5	0.0006 mg/L		0.00007	0.0006 mg/L	0.00007	12.46%
Cu 324.752†	911.7	0.0022 mg/L		0.00035	0.0022 mg/L	0.00035	15.59%
Fe 238.204†	31.5	0.0010 mg/L		0.00012	0.0010 mg/L	0.00012	12.01%
K 766.490†	47838.4	10.18 mg/L		0.148	10.18 mg/L	0.148	1.45%
Mg 279.077†	2.1	0.0004 mg/L		0.00328	0.0004 mg/L	0.00328	764.22%
Mn 257.610†	577.3	0.0007 mg/L		0.00007	0.0007 mg/L	0.00007	11.07%
Mo 202.031†	161.9	0.0028 mg/L		0.00052	0.0028 mg/L	0.00052	18.35%
Na 330.237†	54.0	0.9465 mg/L		0.46618	0.9465 mg/L	0.46618	49.25%
Ni 232.003†	-11.6	-0.0001 mg/L		0.00063	-0.0001 mg/L	0.00063	692.75%
Pb 220.353†	51.7	0.0019 mg/L		0.00036	0.0019 mg/L	0.00036	19.56%
Sb 206.836†	117.1	0.0139 mg/L		0.00187	0.0139 mg/L	0.00187	13.49%
Se 196.026†	3.8	0.0016 mg/L		0.00476	0.0016 mg/L	0.00476	289.22%
Tl 190.801†	23.5	0.0039 mg/L		0.00203	0.0039 mg/L	0.00203	51.46%
V 292.402†	152.2	0.0003 mg/L		0.00017	0.0003 mg/L	0.00017	56.54%
Zn 213.857†	537.5	0.0024 mg/L		0.00024	0.0024 mg/L	0.00024	9.99%
P 178.221†	-9.5	-0.004 mg/L		0.0016	-0.004 mg/L	0.0016	44.52%
Si 251.611†	98548.4	2.198 mg/L		0.0424	2.198 mg/L	0.0424	1.93%

All analyte(s) passed QC. ✓

Sequence No.: 11
 Sample ID: ICV-3
 Analyst:
 Initial Sample Wt:

Autosampler Location: 7
 Date Collected: 4/15/2021 10:31:44 AM
 Data Type: Original
 Initial Sample Vol:

Dilution:

Sample Prep Vol:

Nebulizer Parameters: ICV-3

Analyte	Back Pressure	Flow
All	256.0 kPa	0.75 L/min

Mean Data: ICV-3

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2753402.0	0.995 mg/L	mg/L	0.0073			0.73%
Sc 361.383	4636179.9	1.01 mg/L	mg/L	0.008			0.80%
Ag 328.068†	28.9	-0.00019 mg/L	mg/L	0.000248	-0.00019 mg/L	0.000248	127.59%
Al 308.215†	493.2	0.0004 mg/L	mg/L	0.00438	0.0004 mg/L	0.00438	>999.9%
As 188.979†	49.1	0.0075 mg/L	mg/L	0.00159	0.0075 mg/L	0.00159	21.36%
B 249.772†	196639.3	1.002 mg/L	mg/L	0.0079	1.002 mg/L	0.0079	0.79%
Ba 233.527†	78.1	0.0004 mg/L	mg/L	0.00011	0.0004 mg/L	0.00011	28.01%
Be 313.107†	278.2	0.00014 mg/L	mg/L	0.000022	0.00014 mg/L	0.000022	16.25%
Ca 317.933†	356529.6	9.808 mg/L	mg/L	0.1201	9.808 mg/L	0.1201	1.22%
QC value within limits for Ca 317.933 Recovery = 98.08%							
Cd 214.440†	-78.8	0.00001 mg/L	mg/L	0.000035	0.00001 mg/L	0.000035	300.83%
Co 228.616†	-88.1	0.0000 mg/L	mg/L	0.00019	0.0000 mg/L	0.00019	>999.9%
Cr 267.716†	30.8	0.0001 mg/L	mg/L	0.00011	0.0001 mg/L	0.00011	188.67%
Cu 324.752†	645.0	0.0008 mg/L	mg/L	0.00031	0.0008 mg/L	0.00031	39.16%
Fe 238.204†	-42.6	-0.0011 mg/L	mg/L	0.00021	-0.0011 mg/L	0.00021	19.33%
K 766.490†	46768.6	9.941 mg/L	mg/L	0.1224	9.941 mg/L	0.1224	1.23%
QC value within limits for K 766.490 Recovery = 99.41%							
Mg 279.077†	45496.4	9.532 mg/L	mg/L	0.1171	9.532 mg/L	0.1171	1.23%
QC value within limits for Mg 279.077 Recovery = 95.32%							
Mn 257.610†	-110.1	-0.0002 mg/L	mg/L	0.00002	-0.0002 mg/L	0.00002	13.51%
Mo 202.031†	56040.3	0.9927 mg/L	mg/L	0.00691	0.9927 mg/L	0.00691	0.70%
Na 330.237†	575.6	10.21 mg/L	mg/L	0.274	10.21 mg/L	0.274	2.68%
QC value within limits for Na 330.237 Recovery = 102.12%							
Ni 232.003†	819.6	0.0102 mg/L	mg/L	0.00108	0.0102 mg/L	0.00108	10.66%
Pb 220.353†	-44.6	0.0002 mg/L	mg/L	0.00014	0.0002 mg/L	0.00014	63.91%
Sb 206.836†	-57.9	-0.0042 mg/L	mg/L	0.00164	-0.0042 mg/L	0.00164	38.81%
Se 196.026†	-2.1	-0.0005 mg/L	mg/L	0.00321	-0.0005 mg/L	0.00321	677.23%
Tl 190.801†	1.2	0.0010 mg/L	mg/L	0.00238	0.0010 mg/L	0.00238	238.87%
V 292.402†	-169.0	-0.0008 mg/L	mg/L	0.00007	-0.0008 mg/L	0.00007	8.65%
Zn 213.857†	-645.8	-0.0022 mg/L	mg/L	0.00029	-0.0022 mg/L	0.00029	13.21%
P 178.221†	13652.5	4.923 mg/L	mg/L	0.0326	4.923 mg/L	0.0326	0.66%
QC value within limits for P 178.221 Recovery = 98.46%							
Si 251.611†	7257.7	0.148 mg/L	mg/L	0.0013	0.148 mg/L	0.0013	0.88%
All analyte(s) passed QC.							

Sequence No.: 12

Autosampler Location: 8

Sample ID: ICV-4

Date Collected: 4/15/2021 10:35:50 AM

Analyst:

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

Nebulizer Parameters: ICV-4

Analyte	Back Pressure	Flow
All	256.0 kPa	0.75 L/min

Mean Data: ICV-4

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2830303.3	1.02 mg/L	mg/L	0.018			1.76%
Sc 361.383	4732523.8	1.03 mg/L	mg/L	0.018			1.75%
Ag 328.068†	-343.8	-0.00101 mg/L	mg/L	0.000296	-0.00101 mg/L	0.000296	29.16%
Al 308.215†	-361.7	-0.0139 mg/L	mg/L	0.00518	-0.0139 mg/L	0.00518	37.38%
As 188.979†	30.6	0.0061 mg/L	mg/L	0.00104	0.0061 mg/L	0.00104	16.94%
B 249.772†	3522.3	0.0179 mg/L	mg/L	0.00066	0.0179 mg/L	0.00066	3.67%
Ba 233.527†	44.9	0.0002 mg/L	mg/L	0.00004	0.0002 mg/L	0.00004	16.29%
Be 313.107†	794.2	0.00018 mg/L	mg/L	0.000018	0.00018 mg/L	0.000018	10.13%
Ca 317.933†	-455.8	-0.0125 mg/L	mg/L	0.00097	-0.0125 mg/L	0.00097	7.78%
Cd 214.440†	-47.3	-0.00010 mg/L	mg/L	0.000032	-0.00010 mg/L	0.000032	31.32%

Co 228.616†	30.9	0.0003 mg/L	0.00008	0.0003 mg/L	0.00008	22.42%
Cr 267.716†	-41.0	-0.0002 mg/L	0.00005	-0.0002 mg/L	0.00005	27.80%
Cu 324.752†	-187.6	-0.0005 mg/L	0.00027	-0.0005 mg/L	0.00027	55.55%
Fe 238.204†	39.6	0.0012 mg/L	0.00029	0.0012 mg/L	0.00029	24.31%
K 766.490†	-50.6	-0.0130 mg/L	0.01946	-0.0130 mg/L	0.01946	149.73%
Mg 279.077†	11.4	0.0023 mg/L	0.00294	0.0023 mg/L	0.00294	129.61%
Mn 257.610†	-162.0	-0.0002 mg/L	0.00002	-0.0002 mg/L	0.00002	11.44%
Mo 202.031†	115.9	0.0021 mg/L	0.00022	0.0021 mg/L	0.00022	10.94%
Na 330.237†	204.4	3.613 mg/L	0.0502	3.613 mg/L	0.0502	1.39%
Ni 232.003†	642.0	0.0118 mg/L	0.00035	0.0118 mg/L	0.00035	2.98%
Pb 220.353†	39.2	0.0013 mg/L	0.00063	0.0013 mg/L	0.00063	47.07%
Sb 206.836†	-19.1	-0.0023 mg/L	0.00202	-0.0023 mg/L	0.00202	88.17%
Se 196.026†	-7.1	-0.0030 mg/L	0.00176	-0.0030 mg/L	0.00176	59.06%
Tl 190.801†	18.5	0.0029 mg/L	0.00167	0.0029 mg/L	0.00167	58.53%
V 292.402†	-171.6	-0.0004 mg/L	0.00011	-0.0004 mg/L	0.00011	29.85%
Zn 213.857†	-728.7	-0.0030 mg/L	0.00018	-0.0030 mg/L	0.00018	5.87%
P 178.221†	-11.5	-0.004 mg/L	0.0023	-0.004 mg/L	0.0023	56.06%
Si 251.611†	110280.4	2.459 mg/L	0.0645	2.459 mg/L	0.0645	2.62%

QC value within limits for Si 251.611 Recovery = 98.36%
 All analyte(s) passed QC.

Sequence No.: 13
 Sample ID: MRL CHECK 1
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 14
 Date Collected: 4/15/2021 10:39:56 AM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Nebulizer Parameters: MRL CHECK 1

Analyte Back Pressure Flow
 All 257.0 kPa 0.75 L/min

2104094-MRLS

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 4/16/21

Mean Data: MRL CHECK 1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2779555.8	1.00 mg/L	0.009			0.93%
Sc 361.383	4672303.4	1.01 mg/L	0.010			1.00%
Ag 328.068†	3307.5	0.00994 mg/L	0.000143	0.00994 mg/L	0.000143	1.44%
QC value within limits for Ag 328.068 Recovery = 99.43%						
Al 308.215†	50191.0	1.863 mg/L	0.0567	1.863 mg/L	0.0567	3.04%
QC value within limits for Al 308.215 Recovery = 93.16%						
As 188.979†	215.8	0.0432 mg/L	0.00099	0.0432 mg/L	0.00099	2.29%
QC value within limits for As 188.979 Recovery = 108.06%						
B 249.772†	24745.2	0.1253 mg/L	0.00328	0.1253 mg/L	0.00328	2.62%
QC value within limits for B 249.772 Recovery = 125.34%						
Ba 233.527†	9440.0	0.0511 mg/L	0.00053	0.0511 mg/L	0.00053	1.05%
QC value within limits for Ba 233.527 Recovery = 102.12%						
Be 313.107†	19557.9	0.00217 mg/L	0.000032	0.00217 mg/L	0.000032	1.49%
QC value within limits for Be 313.107 Recovery = 108.45%						
Ca 317.933†	139801.2	3.846 mg/L	0.0821	3.846 mg/L	0.0821	2.13%
QC value within limits for Ca 317.933 Recovery = 96.15%						
Cd 214.440†	804.1	0.00176 mg/L	0.000058	0.00176 mg/L	0.000058	3.29%
QC value within limits for Cd 214.440 Recovery = 87.93%						
Co 228.616†	8970.8	0.1000 mg/L	0.00132	0.1000 mg/L	0.00132	1.32%
QC value within limits for Co 228.616 Recovery = 100.02%						
Cr 267.716†	6942.8	0.0300 mg/L	0.00040	0.0300 mg/L	0.00040	1.33%
QC value within limits for Cr 267.716 Recovery = 99.86%						
Cu 324.752†	7434.8	0.0186 mg/L	0.00102	0.0186 mg/L	0.00102	5.49%
QC value within limits for Cu 324.752 Recovery = 92.92%						
Fe 238.204†	9488.1	0.2826 mg/L	0.00701	0.2826 mg/L	0.00701	2.48%
QC value within limits for Fe 238.204 Recovery = 94.19%						
K 766.490†	22565.7	4.796 mg/L	0.0816	4.796 mg/L	0.0816	1.70%
QC value within limits for K 766.490 Recovery = 95.92%						
Mg 279.077†	13607.5	2.849 mg/L	0.0655	2.849 mg/L	0.0655	2.30%
QC value within limits for Mg 279.077 Recovery = 94.98%						
Mn 257.610†	17293.9	0.0197 mg/L	0.00049	0.0197 mg/L	0.00049	2.47%
QC value within limits for Mn 257.610 Recovery = 98.49%						
Mo 202.031†	578.2	0.0102 mg/L	0.00034	0.0102 mg/L	0.00034	3.29%
QC value within limits for Mo 202.031 Recovery = 102.42%						
Na 330.237†	328.4	5.758 mg/L	0.6813	5.758 mg/L	0.6813	11.83%

QC value within limits for Na 330.237	Recovery = 115.16%					
Ni 232.003†	3152.7	0.0569 mg/L	0.00084	0.0569 mg/L	0.00084	1.47%
QC value within limits for Ni 232.003	Recovery = 113.76%					
Pb 220.353†	1194.7	0.0405 mg/L	0.00058	0.0405 mg/L	0.00058	1.43%
QC value within limits for Pb 220.353	Recovery = 101.31%					
Sb 206.836†	1607.5	0.1918 mg/L	0.00201	0.1918 mg/L	0.00201	1.05%
QC value within limits for Sb 206.836	Recovery = 95.88%					
Se 196.026†	75.6	0.0319 mg/L	0.00530	0.0319 mg/L	0.00530	16.59%
QC value within limits for Se 196.026	Recovery = 79.82%					
Tl 190.801†	300.8	0.0467 mg/L	0.00142	0.0467 mg/L	0.00142	3.04%
QC value within limits for Tl 190.801	Recovery = 93.30%					
V 292.402†	47118.0	0.0976 mg/L	0.00257	0.0976 mg/L	0.00257	2.63%
QC value within limits for V 292.402	Recovery = 97.60%					
Zn 213.857†	8843.8	0.0359 mg/L	0.00069	0.0359 mg/L	0.00069	1.92%
QC value within limits for Zn 213.857	Recovery = 89.78%					
P 178.221†	1249.1	0.450 mg/L	0.0121	0.450 mg/L	0.0121	2.68%
QC value within limits for P 178.221	Recovery = 90.05%					
Si 251.611†	10215.4	0.228 mg/L	0.0048	0.228 mg/L	0.0048	2.09%
QC value within limits for Si 251.611	Recovery = 113.93%					

All analyte(s) passed QC.

Sequence No.: 14
 Sample ID: MRL CHECK 2
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 15
 Date Collected: 4/15/2021 10:43:41 AM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Handwritten signature
 4/16/21

Nebulizer Parameters: MRL CHECK 2

Analyte Back Pressure Flow
 All 257.0 kPa 0.75 L/min

2104178-MRL2

Mean Data: MRL CHECK 2

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	3043400.8	1.10 mg/L	0.004			0.39%
Sc 361.383	5110967.9	1.11 mg/L	0.004			0.37%
Ag 328.068†	2961.5	0.00891 mg/L	0.000193	0.00891 mg/L	0.000193	2.17%
QC value within limits for Ag 328.068	Recovery = 89.06%					
Al 308.215†	46093.2	1.711 mg/L	0.0212	1.711 mg/L	0.0212	1.24%
QC value within limits for Al 308.215	Recovery = 85.55%					
As 188.979†	218.3	0.0437 mg/L	0.00143	0.0437 mg/L	0.00143	3.26%
QC value within limits for As 188.979	Recovery = 109.32%					
B 249.772†	25331.8	0.1284 mg/L	0.00214	0.1284 mg/L	0.00214	1.67%
QC value within limits for B 249.772	Recovery = 128.35%					
Ba 233.527†	8844.5	0.0478 mg/L	0.00042	0.0478 mg/L	0.00042	0.87%
QC value within limits for Ba 233.527	Recovery = 95.67%					
Be 313.107†	18545.8	0.00206 mg/L	0.000026	0.00206 mg/L	0.000026	1.26%
QC value within limits for Be 313.107	Recovery = 103.08%					
Ca 317.933†	134572.1	3.702 mg/L	0.1015	3.702 mg/L	0.1015	2.74%
QC value within limits for Ca 317.933	Recovery = 92.55%					
Cd 214.440†	682.4	0.00149 mg/L	0.000031	0.00149 mg/L	0.000031	2.05%
QC value within limits for Cd 214.440	Recovery = 74.65%					
Co 228.616†	8478.3	0.0945 mg/L	0.00047	0.0945 mg/L	0.00047	0.50%
QC value within limits for Co 228.616	Recovery = 94.53%					
Cr 267.716†	6510.9	0.0281 mg/L	0.00021	0.0281 mg/L	0.00021	0.76%
QC value within limits for Cr 267.716	Recovery = 93.65%					
Cu 324.752†	6135.8	0.0153 mg/L	0.00032	0.0153 mg/L	0.00032	2.09%
QC value within limits for Cu 324.752	Recovery = 76.69%					
Fe 238.204†	9297.7	0.2769 mg/L	0.00686	0.2769 mg/L	0.00686	2.48%
QC value within limits for Fe 238.204	Recovery = 92.29%					
K 766.490†	21212.4	4.508 mg/L	0.0932	4.508 mg/L	0.0932	2.07%
QC value within limits for K 766.490	Recovery = 90.17%					
Mg 279.077†	12994.7	2.721 mg/L	0.0595	2.721 mg/L	0.0595	2.19%
QC value within limits for Mg 279.077	Recovery = 90.70%					
Mn 257.610†	15959.7	0.0182 mg/L	0.00021	0.0182 mg/L	0.00021	1.17%
QC value within limits for Mn 257.610	Recovery = 90.88%					
Mo 202.031†	532.9	0.0094 mg/L	0.00020	0.0094 mg/L	0.00020	2.11%
QC value within limits for Mo 202.031	Recovery = 94.40%					
Na 330.237†	304.2	5.334 mg/L	0.5266	5.334 mg/L	0.5266	9.87%

QC value within limits for Na 330.237 Recovery = 106.68%						
Ni 232.003†	3175.5	0.0573 mg/L	0.00052	0.0573 mg/L	0.00052	0.91%
QC value within limits for Ni 232.003 Recovery = 114.69%						
Pb 220.353†	1135.3	0.0385 mg/L	0.00052	0.0385 mg/L	0.00052	1.35%
QC value within limits for Pb 220.353 Recovery = 96.26%						
Sb 206.836†	1498.3	0.1787 mg/L	0.00181	0.1787 mg/L	0.00181	1.01%
QC value within limits for Sb 206.836 Recovery = 89.36%						
Se 196.026†	71.2	0.0301 mg/L	0.00109	0.0301 mg/L	0.00109	3.61%
QC value within limits for Se 196.026 Recovery = 75.14%						
Tl 190.801†	276.5	0.0429 mg/L	0.00089	0.0429 mg/L	0.00089	2.08%
QC value within limits for Tl 190.801 Recovery = 85.76%						
V 292.402†	43454.5	0.0900 mg/L	0.00116	0.0900 mg/L	0.00116	1.28%
QC value within limits for V 292.402 Recovery = 90.01%						
Zn 213.857†	7910.0	0.0321 mg/L	0.00035	0.0321 mg/L	0.00035	1.10%
QC value within limits for Zn 213.857 Recovery = 80.23%						
P 178.221†	1161.0	0.418 mg/L	0.0044	0.418 mg/L	0.0044	1.05%
QC value within limits for P 178.221 Recovery = 83.70%						
Si 251.611†	2317.9	0.052 mg/L	0.0013	0.052 mg/L	0.0013	2.49%
QC value less than the lower limit for Si 251.611 Recovery = 25.88%						
QC Failed. Continue with analysis.						

NO DW SiO2 IN WATER

Sequence No.: 15
 Sample ID: 2104096-BLK1
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 16
 Date Collected: 4/15/2021 10:47:26 AM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Nebulizer Parameters: 2104096-BLK1

Analyte Back Pressure Flow
 All 255.0 kPa 0.75 L/min

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Mean Data: 2104096-BLK1

Analyte	Mean Corrected Intensity	Conc.	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	3064927.8	1.11	mg/L	0.055			4.99%
Sc 361.383	5112378.0	1.11	mg/L	0.055			4.94%
Ag 328.068†	-259.4	-0.00077	mg/L	0.000374	-0.00077 mg/L	0.000374	48.79%
Al 308.215†	-805.2	-0.0300	mg/L	0.00851	-0.0300 mg/L	0.00851	28.37%
As 188.979†	22.1	0.0044	mg/L	0.00100	0.0044 mg/L	0.00100	22.54%
B 249.772†	1478.1	0.0075	mg/L	0.00136	0.0075 mg/L	0.00136	18.05%
Ba 233.527†	43.2	0.0002	mg/L	0.00007	0.0002 mg/L	0.00007	29.83%
Be 313.107†	1791.4	0.00029	mg/L	0.000037	0.00029 mg/L	0.000037	12.94%
Ca 317.933†	42.2	0.0011	mg/L	0.00376	0.0011 mg/L	0.00376	329.15%
Cd 214.440†	-64.3	-0.00014	mg/L	0.000078	-0.00014 mg/L	0.000078	55.97%
Co 228.616†	-2.7	0.0000	mg/L	0.00015	0.0000 mg/L	0.00015	469.27%
Cr 267.716†	-46.2	-0.0002	mg/L	0.00004	-0.0002 mg/L	0.00004	20.13%
Cu 324.752†	-715.7	-0.0018	mg/L	0.00048	-0.0018 mg/L	0.00048	27.00%
Fe 238.204†	-70.2	-0.0021	mg/L	0.00019	-0.0021 mg/L	0.00019	8.89%
K 766.490†	76.8	0.0162	mg/L	0.02829	0.0162 mg/L	0.02829	174.90%
Mg 279.077†	-2.4	-0.0005	mg/L	0.00228	-0.0005 mg/L	0.00228	452.23%
Mn 257.610†	-136.2	-0.0002	mg/L	0.00003	-0.0002 mg/L	0.00003	21.32%
Mo 202.031†	1.0	0.0000	mg/L	0.00018	0.0000 mg/L	0.00018	>999.9%
Na 330.237†	14.1	0.2511	mg/L	0.40607	0.2511 mg/L	0.40607	161.73%
Ni 232.003†	778.2	0.0142	mg/L	0.00155	0.0142 mg/L	0.00155	10.89%
Pb 220.353†	40.9	0.0014	mg/L	0.00135	0.0014 mg/L	0.00135	97.46%
Sb 206.836†	-24.6	-0.0029	mg/L	0.00068	-0.0029 mg/L	0.00068	23.06%
Se 196.026†	-13.1	-0.0055	mg/L	0.00148	-0.0055 mg/L	0.00148	26.96%
Tl 190.801†	26.9	0.0041	mg/L	0.00100	0.0041 mg/L	0.00100	24.26%
V 292.402†	-162.9	-0.0003	mg/L	0.00026	-0.0003 mg/L	0.00026	76.33%
Zn 213.857†	-849.1	-0.0035	mg/L	0.00032	-0.0035 mg/L	0.00032	9.17%
P 178.221†	-9.1	-0.003	mg/L	0.0025	-0.003 mg/L	0.0025	75.72%
Si 251.611†	41.7	0.001	mg/L	0.0019	0.001 mg/L	0.0019	210.08%

Sequence No.: 16
 Sample ID: 2104096-BS1
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 17
 Date Collected: 4/15/2021 10:51:31 AM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Nebulizer Parameters: 2104096-BS1

Analyte Back Pressure Flow
 All 255.0 kPa 0.75 L/min

m 4/16/21

Mean Data: 2104096-BS1

Analyte	Mean Corrected Intensity	Calib. Conc. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2746237.6	0.992 mg/L	0.0147			1.48%
Sc 361.383	4635066.5	1.01 mg/L	0.015			1.48%
Ag 328.068	17696.8	0.05312 mg/L	0.001194	0.05312 mg/L	0.001194	2.25%
Al 308.215	55892.4	2.052 mg/L	0.0462	2.052 mg/L	0.0462	2.25%
As 188.979	10224.7	2.047 mg/L	0.0429	2.047 mg/L	0.0429	2.10%
B 249.772	186347.4	0.9481 mg/L	0.00155	0.9481 mg/L	0.00155	0.16%
Ba 233.527	395685.1	2.133 mg/L	0.0037	2.133 mg/L	0.0037	0.17%
Be 313.107	478103.4	0.05063 mg/L	0.000092	0.05063 mg/L	0.000092	0.18%
Ca 317.933	363985.2	10.02 mg/L	0.187	10.02 mg/L	0.187	1.87%
Cd 214.440	23589.4	0.05119 mg/L	0.000858	0.05119 mg/L	0.000858	1.68%
Co 228.616	46719.8	0.5233 mg/L	0.01126	0.5233 mg/L	0.01126	2.15%
Cr 267.716	49766.3	0.2144 mg/L	0.00385	0.2144 mg/L	0.00385	1.79%
Cu 324.752	95553.7	0.2385 mg/L	0.00038	0.2385 mg/L	0.00038	0.16%
Fe 238.204	35862.0	1.069 mg/L	0.0329	1.069 mg/L	0.0329	3.08%
K 766.490	47507.5	10.10 mg/L	0.150	10.10 mg/L	0.150	1.48%
Mg 279.077	46727.5	9.791 mg/L	0.3081	9.791 mg/L	0.3081	3.15%
Mn 257.610	461880.5	0.5261 mg/L	0.00059	0.5261 mg/L	0.00059	0.11%
Mo 202.031	54773.0	0.9702 mg/L	0.01911	0.9702 mg/L	0.01911	1.97%
Na 330.237	625.0	10.63 mg/L	1.169	10.63 mg/L	1.169	10.99%
Ni 232.003	27693.4	0.4952 mg/L	0.01091	0.4952 mg/L	0.01091	2.20%
Pb 220.353	15347.3	0.5182 mg/L	0.00905	0.5182 mg/L	0.00905	1.75%
Sb 206.836	4250.3	0.5087 mg/L	0.00990	0.5087 mg/L	0.00990	1.95%
Se 196.026	4773.4	2.001 mg/L	0.0414	2.001 mg/L	0.0414	2.07%
Tl 190.801	11889.5	1.833 mg/L	0.0332	1.833 mg/L	0.0332	1.81%
V 292.402	249680.6	0.5170 mg/L	0.00114	0.5170 mg/L	0.00114	0.22%
Zn 213.857	124221.6	0.5056 mg/L	0.00120	0.5056 mg/L	0.00120	0.24%
P 178.221	12960.0	4.674 mg/L	0.0536	4.674 mg/L	0.0536	1.15%
Si 251.611	8832.3	0.187 mg/L	0.0039	0.187 mg/L	0.0039	2.09%

Matrix Recovery Check: 2104096-BS1

Analyte	Expected Conc.	Measured Conc.	Std. Dev.	Units	Recovery (%)
Ca 317.933	10.00	10.02	0.187	mg/L	100.2
Fe 238.204	0.9979	1.069	0.033	mg/L	107.1
K 766.490	10.02	10.10	0.150	mg/L	100.8
Mg 279.077	9.999	9.791	0.308	mg/L	97.9
Na 330.237	10.25	10.63	1.169	mg/L	103.8
Ag 328.068	0.04923	0.05312	0.001	mg/L	107.8
Al 308.215	1.970	2.052	0.046	mg/L	104.1
As 188.979	2.004	2.047	0.043	mg/L	102.1
B 249.772	1.008	0.9481	0.002	mg/L	94.1
Ba 233.527	2.000	2.133	0.004	mg/L	106.7
Be 313.107	0.05029	0.05063	0.000	mg/L	100.7
Cd 214.440	0.04986	0.05119	0.001	mg/L	102.7
Co 228.616	0.5000	0.5233	0.011	mg/L	104.7
Cr 267.716	0.1998	0.2144	0.004	mg/L	107.3
Cu 324.752	0.2482	0.2385	0.000	mg/L	96.1
Mn 257.610	0.4998	0.5261	0.001	mg/L	105.3
Mo 202.031	1.000	0.9702	0.019	mg/L	97.0
Ni 232.003	0.5142	0.4952	0.011	mg/L	96.2
Pb 220.353	0.5014	0.5182	0.009	mg/L	103.4
Sb 206.836	0.4971	0.5087	0.010	mg/L	102.3
Se 196.026	1.995	2.001	0.041	mg/L	100.3
Tl 190.801	2.004	1.833	0.033	mg/L	91.4
V 292.402	0.4997	0.5170	0.001	mg/L	103.5
Zn 213.857	0.4965	0.5056	0.001	mg/L	101.8
P 178.221	4.997	4.674	0.054	mg/L	93.5

Analyst:
Initial Sample Wt:
Dilution:

Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Nebulizer Parameters: 2104096-BSD1

Analyte Back Pressure Flow
All 256.0 kPa 0.75 L/min

Mean Data: 2104096-BSD1

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2702845.5	0.977	mg/L	0.0113			1.15%
Sc 361.383	4560501.2	0.989	mg/L	0.0119			1.21%
Ag 328.068†	17537.4	0.05265	mg/L	0.001628	0.05265 mg/L	0.001628	3.09%
Al 308.215†	54896.1	2.015	mg/L	0.0367	2.015 mg/L	0.0367	1.82%
As 188.979†	10156.0	2.034	mg/L	0.0275	2.034 mg/L	0.0275	1.35%
B 249.772†	184304.8	0.9378	mg/L	0.00356	0.9378 mg/L	0.00356	0.38%
Ba 233.527†	393859.8	2.123	mg/L	0.0032	2.123 mg/L	0.0032	0.15%
Be 313.107†	479173.5	0.05074	mg/L	0.000074	0.05074 mg/L	0.000074	0.15%
Ca 317.933†	349892.8	9.632	mg/L	0.1721	9.632 mg/L	0.1721	1.79%
Cd 214.440†	23555.5	0.05111	mg/L	0.000886	0.05111 mg/L	0.000886	1.73%
Co 228.616†	46313.3	0.5187	mg/L	0.00792	0.5187 mg/L	0.00792	1.53%
Cr 267.716†	49103.2	0.2116	mg/L	0.00335	0.2116 mg/L	0.00335	1.59%
Cu 324.752†	94489.6	0.2359	mg/L	0.00027	0.2359 mg/L	0.00027	0.11%
Fe 238.204†	34720.8	1.035	mg/L	0.0325	1.035 mg/L	0.0325	3.13%
K 766.490†	45580.7	9.688	mg/L	0.1627	9.688 mg/L	0.1627	1.68%
Mg 279.077†	45261.8	9.484	mg/L	0.3065	9.484 mg/L	0.3065	3.23%
Mn 257.610†	460182.6	0.5242	mg/L	0.00043	0.5242 mg/L	0.00043	0.08%
Mo 202.031†	53618.9	0.9497	mg/L	0.01210	0.9497 mg/L	0.01210	1.27%
Na 330.237†	647.7	11.03	mg/L	0.785	11.03 mg/L	0.785	7.11%
Ni 232.003†	27443.7	0.4908	mg/L	0.00884	0.4908 mg/L	0.00884	1.80%
Pb 220.353†	15311.8	0.5170	mg/L	0.00826	0.5170 mg/L	0.00826	1.60%
Sb 206.836†	4259.4	0.5097	mg/L	0.01239	0.5097 mg/L	0.01239	2.43%
Se 196.026†	4852.9	2.035	mg/L	0.0478	2.035 mg/L	0.0478	2.35%
Tl 190.801†	11573.4	1.784	mg/L	0.0156	1.784 mg/L	0.0156	0.87%
V 292.402†	248529.1	0.5146	mg/L	0.00066	0.5146 mg/L	0.00066	0.13%
Zn 213.857†	124766.8	0.5079	mg/L	0.00099	0.5079 mg/L	0.00099	0.20%
P 178.221†	12588.4	4.540	mg/L	0.0521	4.540 mg/L	0.0521	1.15%
Si 251.611†	7184.1	0.151	mg/L	0.0036	0.151 mg/L	0.0036	2.41%

Duplicate Check: 2104096-BSD1

Analyte	Expected Conc.	Measured Conc.	Std. Dev.	Units	Difference (%)
Ca 317.933	10.02	9.632	0.172	mg/L	3.9
Fe 238.204	1.069	1.035	0.032	mg/L	3.2
K 766.490	10.10	9.688	0.163	mg/L	4.1
Mg 279.077	9.791	9.484	0.306	mg/L	3.2
Na 330.237	10.63	11.03	0.785	mg/L	3.7
Y 371.029			0.000	mg/L	Not calculated
Sc 361.383			0.000	mg/L	Not calculated
Ag 328.068	0.05312	0.05265	0.002	mg/L	0.9
Al 308.215	2.052	2.015	0.037	mg/L	1.8
As 188.979	2.047	2.034	0.028	mg/L	0.7
B 249.772	0.9481	0.9378	0.004	mg/L	1.1
Ba 233.527	2.133	2.123	0.003	mg/L	0.5
Be 313.107	0.05063	0.05074	0.000	mg/L	0.2
Cd 214.440	0.05119	0.05111	0.001	mg/L	0.1
Co 228.616	0.5233	0.5187	0.008	mg/L	0.9
Cr 267.716	0.2144	0.2116	0.003	mg/L	1.3
Cu 324.752	0.2385	0.2359	0.000	mg/L	1.1
Mn 257.610	0.5261	0.5242	0.000	mg/L	0.4
Mo 202.031	0.9702	0.9497	0.012	mg/L	2.1
Ni 232.003	0.4952	0.4908	0.009	mg/L	0.9
Pb 220.353	0.5182	0.5170	0.008	mg/L	0.2
Sb 206.836	0.5087	0.5097	0.012	mg/L	0.2
Se 196.026	2.001	2.035	0.048	mg/L	1.6
Tl 190.801	1.833	1.784	0.016	mg/L	2.7
V 292.402	0.5170	0.5146	0.001	mg/L	0.5
Zn 213.857	0.5056	0.5079	0.001	mg/L	0.4

P 178.221	4.674	4.540	0.052	mg/L	2.9
Si 251.611	0.187	0.151	0.004	mg/L	21.6

Sequence No.: 18	Autosampler Location: 19
Sample ID: 2104096-BS2	Date Collected: 4/15/2021 10:58:25 AM
Analyst:	Data Type: Original
Initial Sample Wt:	Initial Sample Vol:
Dilution:	Sample Prep Vol:

Nebulizer Parameters: 2104096-BS2

Analyte	Back Pressure	Flow
All	256.0 kPa	0.75 L/min

W. Smith

Mean Data: 2104096-BS2

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Conc.	Units			
Y 371.029	2766866.6	1.000	mg/L	0.0015			0.15%	
Sc 361.383	4647239.4	1.01	mg/L	0.002			0.17%	
Ag 328.068†	-249.0	-0.00073	mg/L	0.000246	-0.00073	mg/L	33.69%	
Al 308.215†	-243.0	-0.0102	mg/L	0.00408	-0.0102	mg/L	40.06%	
As 188.979†	14.2	0.0029	mg/L	0.00142	0.0029	mg/L	49.02%	
B 249.772†	1769.6	0.0089	mg/L	0.00059	0.0089	mg/L	6.59%	
Ba 233.527†	141.6	0.0008	mg/L	0.00006	0.0008	mg/L	7.47%	
Be 313.107†	313.3	0.00013	mg/L	0.000011	0.00013	mg/L	8.42%	
Ca 317.933†	-328.7	-0.0088	mg/L	0.00146	-0.0088	mg/L	16.56%	
Cd 214.440†	-4.6	-0.00001	mg/L	0.000056	-0.00001	mg/L	491.87%	
Co 228.616†	39.6	0.0004	mg/L	0.00022	0.0004	mg/L	50.18%	
Cr 267.716†	-2.5	0.0000	mg/L	0.00018	0.0000	mg/L	>999.9%	
Cu 324.752†	280.7	0.0006	mg/L	0.00027	0.0006	mg/L	42.43%	
Fe 238.204†	-28.7	-0.0008	mg/L	0.00019	-0.0008	mg/L	23.45%	
K 766.490†	-15.9	-0.0099	mg/L	0.03317	-0.0099	mg/L	335.23%	
Mg 279.077†	36.6	0.0073	mg/L	0.00394	0.0073	mg/L	54.23%	
Mn 257.610†	50.8	0.0001	mg/L	0.00003	0.0001	mg/L	50.95%	
Mo 202.031†	108.7	0.0019	mg/L	0.00019	0.0019	mg/L	10.07%	
Na 330.237†	596.5	10.54	mg/L	0.818	10.54	mg/L	7.77%	
Ni 232.003†	429.3	0.0079	mg/L	0.00182	0.0079	mg/L	22.97%	
Pb 220.353†	-6.0	-0.0002	mg/L	0.00030	-0.0002	mg/L	172.50%	
Sb 206.836†	-15.3	-0.0019	mg/L	0.00074	-0.0019	mg/L	39.78%	
Se 196.026†	0.5	0.0001	mg/L	0.00869	0.0001	mg/L	>999.9%	
Tl 190.801†	16.7	0.0026	mg/L	0.00130	0.0026	mg/L	49.92%	
V 292.402†	4.8	0.0000	mg/L	0.00015	0.0000	mg/L	>999.9%	
Zn 213.857†	-562.9	-0.0023	mg/L	0.00034	-0.0023	mg/L	14.47%	
P 178.221†	-0.6	0.000	mg/L	0.0032	0.000	mg/L	>999.9%	
Si 251.611†	427625.0	9.535	mg/L	0.0729	9.535	mg/L	0.76%	

Matrix Recovery Check: 2104096-BS2

Analyte	Expected Conc.	Measured Conc.	Std. Dev.	Units	Recovery (%)
Si 251.611	10.00	9.535	0.073	mg/L	95.3

Sequence No.: 19	Autosampler Location: 20
Sample ID: 2104096-BSD2	Date Collected: 4/15/2021 11:02:31 AM
Analyst:	Data Type: Original
Initial Sample Wt:	Initial Sample Vol:
Dilution:	Sample Prep Vol:

Nebulizer Parameters: 2104096-BSD2

Analyte	Back Pressure	Flow
All	257.0 kPa	0.75 L/min

Mean Data: 2104096-BSD2

Analyte	Mean Corrected		Calib.		Sample		Std.Dev.	RSD
	Intensity	Conc.	Units	Conc.	Units			
Y 371.029	2788972.1	1.01	mg/L	0.019			1.86%	
Sc 361.383	4683814.5	1.02	mg/L	0.019			1.90%	

Ag 328.068†	-340.5	-0.00100 mg/L	0.000063	-0.00100 mg/L	0.000063	6.27%
Al 308.215†	-208.9	-0.0089 mg/L	0.00412	-0.0089 mg/L	0.00412	46.30%
As 188.979†	24.1	0.0049 mg/L	0.00101	0.0049 mg/L	0.00101	20.74%
B 249.772†	610.4	0.0030 mg/L	0.00038	0.0030 mg/L	0.00038	12.62%
Ba 233.527†	505.9	0.0027 mg/L	0.00030	0.0027 mg/L	0.00030	10.94%
Be 313.107†	1062.0	0.00021 mg/L	0.000024	0.00021 mg/L	0.000024	11.07%
Ca 317.933†	335.3	0.0094 mg/L	0.00183	0.0094 mg/L	0.00183	19.37%
Cd 214.440†	-4.0	-0.00001 mg/L	0.000048	-0.00001 mg/L	0.000048	474.53%
Co 228.616†	71.4	0.0008 mg/L	0.00015	0.0008 mg/L	0.00015	18.41%
Cr 267.716†	46.3	0.0002 mg/L	0.00012	0.0002 mg/L	0.00012	59.86%
Cu 324.752†	-89.2	-0.0003 mg/L	0.00055	-0.0003 mg/L	0.00055	191.42%
Fe 238.204†	6.2	0.0002 mg/L	0.00018	0.0002 mg/L	0.00018	87.31%
K 766.490†	73.7	0.0093 mg/L	0.01390	0.0093 mg/L	0.01390	150.15%
Mg 279.077†	81.1	0.0166 mg/L	0.00108	0.0166 mg/L	0.00108	6.53%
Mn 257.610†	517.4	0.0006 mg/L	0.00007	0.0006 mg/L	0.00007	12.30%
Mo 202.031†	90.9	0.0016 mg/L	0.00020	0.0016 mg/L	0.00020	12.37%
Na 330.237†	587.4	10.38 mg/L	0.294	10.38 mg/L	0.294	2.83%
Ni 232.003†	458.8	0.0085 mg/L	0.00114	0.0085 mg/L	0.00114	13.40%
Pb 220.353†	39.6	0.0014 mg/L	0.00029	0.0014 mg/L	0.00029	21.01%
Sb 206.836†	-6.3	-0.0008 mg/L	0.00028	-0.0008 mg/L	0.00028	34.31%
Se 196.026†	9.0	0.0037 mg/L	0.00324	0.0037 mg/L	0.00324	87.00%
Tl 190.801†	34.3	0.0053 mg/L	0.00202	0.0053 mg/L	0.00202	38.01%
V 292.402†	167.6	0.0003 mg/L	0.00012	0.0003 mg/L	0.00012	34.89%
Zn 213.857†	-398.9	-0.0017 mg/L	0.00020	-0.0017 mg/L	0.00020	12.00%
P 178.221†	13.8	0.005 mg/L	0.0010	0.005 mg/L	0.0010	20.94%
Si 251.611†	432167.7	9.636 mg/L	0.2646	9.636 mg/L	0.2646	2.75%

Duplicate Check: 2104096-BSD2

Analyte	Expected Conc.	Measured Conc.	Std. Dev.	Units	Difference (%)
Ca 317.933	-0.0088	0.0094	0.002	mg/L	6015.1
Fe 238.204	-0.0008	0.0002	0.000	mg/L	-336.8
K 766.490	-0.0099	0.0093	0.014	mg/L	-6035.1
Mg 279.077	0.0073	0.0166	0.001	mg/L	78.1
Na 330.237	10.54	10.38	0.294	mg/L	1.6
Y 371.029			0.000	mg/L	Not calculated
Sc 361.383			0.000	mg/L	Not calculated
Ag 328.068	-0.00073	-0.00100	0.000	mg/L	-31.2
Al 308.215	-0.0102	-0.0089	0.004	mg/L	-13.4
As 188.979	0.0029	0.0049	0.001	mg/L	50.9
B 249.772	0.0089	0.0030	0.000	mg/L	99.1
Ba 233.527	0.0008	0.0027	0.000	mg/L	112.4
Be 313.107	0.00013	0.00021	0.000	mg/L	45.5
Cd 214.440	-0.00001	-0.00001	0.000	mg/L	-12.4
Co 228.616	0.0004	0.0008	0.000	mg/L	57.0
Cr 267.716	0.0000	0.0002	0.000	mg/L	224.9
Cu 324.752	0.0006	-0.0003	0.001	mg/L	536.2
Mn 257.610	0.0001	0.0006	0.000	mg/L	164.0
Mo 202.031	0.0019	0.0016	0.000	mg/L	17.8
Ni 232.003	0.0079	0.0085	0.001	mg/L	6.5
Pb 220.353	-0.0002	0.0014	0.000	mg/L	257.8
Sb 206.836	-0.0019	-0.0008	0.000	mg/L	-79.8
Se 196.026	0.0001	0.0037	0.003	mg/L	187.1
Tl 190.801	0.0026	0.0053	0.002	mg/L	68.5
V 292.402	0.0000	0.0003	0.000	mg/L	191.2
Zn 213.857	-0.0023	-0.0017	0.000	mg/L	-33.4
P 178.221	0.000	0.005	0.001	mg/L	217.8
Si 251.611	9.535	9.636	0.265	mg/L	1.1

Sequence No.: 20
 Sample ID: 21D0046-27@5
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 21
 Date Collected: 4/15/2021 11:06:37 AM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Nebulizer Parameters: 21D0046-27@5
 Analyte Back Pressure Flow
 All 257.0 kPa 0.75 L/min

Mo 202.031	1.008	1.000	0.019	mg/L	99.2
Ni 232.003	0.5252	0.5408	0.014	mg/L	103.1
Pb 220.353	0.4920	0.5498	0.012	mg/L	111.6
Sb 206.836	0.4978	0.5351	0.018	mg/L	107.5
Se 196.026	2.006	2.171	0.050	mg/L	108.2
Tl 190.801	2.005	2.077	0.037	mg/L	103.6
V 292.402	0.5022	0.5178	0.001	mg/L	103.1
Zn 213.857	2.385	2.348	0.001	mg/L	92.5
P 178.221	5.126	5.345	0.090	mg/L	104.4

Sequence No.: 25

Sample ID: 21D0200-01

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 26

Date Collected: 4/15/2021 11:27:37 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: 21D0200-01

Analyte	Back Pressure	Flow
All	265.0 kPa	0.75 L/min

Mean Data: 21D0200-01

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2717583.6	0.982 mg/L	✓	0.0250			2.54%
Sc 361.383	4605309.0	0.999 mg/L		0.0253			2.54%
Ag 328.068†	218.3	0.00003 mg/L		0.000210	0.00003 mg/L	0.000210	816.97%
Al 308.215†	526.6	0.0078 mg/L		0.00465	0.0078 mg/L	0.00465	59.95%
As 188.979†	85.6	0.0169 mg/L		0.00323	0.0169 mg/L	0.00323	19.11%
B 249.772†	33253.4	0.1680 mg/L	✓	0.00566	0.1680 mg/L	0.00566	3.37%
Ba 233.527†	3484.1	0.0188 mg/L		0.00035	0.0188 mg/L	0.00035	1.85%
Be 313.107†	506.7	0.00018 mg/L		0.000040	0.00018 mg/L	0.000040	22.15%
Ca 317.933†	1104230.8	30.38 mg/L	✓	0.270	30.38 mg/L	0.270	0.89%
Cd 214.440†	-27.8	-0.00009 mg/L		0.000051	-0.00009 mg/L	0.000051	57.59%
Co 228.616†	70.2	0.0008 mg/L		0.00014	0.0008 mg/L	0.00014	17.27%
Cr 267.716†	95.0	0.0003 mg/L		0.00011	0.0003 mg/L	0.00011	34.17%
Cu 324.752†	1189.7	0.0024 mg/L		0.00089	0.0024 mg/L	0.00089	37.29%
Fe 238.204†	2974.5	0.0884 mg/L	✓	0.00297	0.0884 mg/L	0.00297	3.36%
K 766.490†	4785.1	0.9725 mg/L	✓	0.04610	0.9725 mg/L	0.04610	4.74%
Mg 279.077†	4913.0	1.026 mg/L	✓	0.0224	1.026 mg/L	0.0224	2.19%
Mn 257.610†	120159.5	0.1369 mg/L		0.00459	0.1369 mg/L	0.00459	3.35%
Mo 202.031†	304.7	0.0053 mg/L		0.00045	0.0053 mg/L	0.00045	8.44%
Na 330.237†	3984.8	70.36 mg/L	✓	1.752	70.36 mg/L	1.752	2.49%
Ni 232.003†	195.0	0.0045 mg/L		0.00242	0.0045 mg/L	0.00242	53.34%
Pb 220.353†	-13.5	0.0002 mg/L		0.00083	0.0002 mg/L	0.00083	518.59%
Sb 206.836†	-17.8	-0.0025 mg/L		0.00053	-0.0025 mg/L	0.00053	21.03%
Se 196.026†	26.0	0.0111 mg/L		0.00407	0.0111 mg/L	0.00407	36.81%
Tl 190.801†	11.2	0.0024 mg/L		0.00187	0.0024 mg/L	0.00187	78.90%
V 292.402†	622.8	0.0013 mg/L		0.00029	0.0013 mg/L	0.00029	22.56%
Zn 213.857†	467.8	0.0021 mg/L		0.00042	0.0021 mg/L	0.00042	20.44%
P 178.221†	155.1	0.056 mg/L		0.0050	0.056 mg/L	0.0050	8.98%
Si 251.611†	842390.7	18.78 mg/L	✓	0.036	18.78 mg/L	0.036	0.19%

Sequence No.: 26

Sample ID: 21D0047-03@20

Analyst:

Initial Sample Wt:

Dilution: 20X

Autosampler Location: 27

Date Collected: 4/15/2021 11:31:23 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: 21D0047-03@20

Analyte	Back Pressure	Flow
All	265.0 kPa	0.75 L/min

Mean Data: 21D0047-03@20

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2906074.5	1.05 mg/L		0.026			2.46%

Sequence No.: 28
 Sample ID: CCB
 Analyst:
 Initial Sample Wt:
 Dilution:

Autosampler Location: 1
 Date Collected: 4/15/2021 11:38:57 AM
 Data Type: Original
 Initial Sample Vol:
 Sample Prep Vol:

Nebulizer Parameters: CCB

Analyte Back Pressure Flow
 All 262.0 kPa 0.75 L/min

Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Units	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2653683.0	0.959 mg/L	mg/L	0.0152			1.58%
Sc 361.383	4392131.1	0.952 mg/L	mg/L	0.0147			1.54%
Ag 328.068†	-447.4	-0.00132 mg/L	mg/L	0.000283	-0.00132 mg/L	0.000283	21.47%
QC value within limits for Ag 328.068 Recovery = Not calculated							
Al 308.215†	-349.8	-0.0131 mg/L	mg/L	0.00317	-0.0131 mg/L	0.00317	24.22%
QC value within limits for Al 308.215 Recovery = Not calculated							
As 188.979†	4.2	0.0008 mg/L	mg/L	0.00181	0.0008 mg/L	0.00181	217.74%
QC value within limits for As 188.979 Recovery = Not calculated							
B 249.772†	49.4	0.0002 mg/L	mg/L	0.00016	0.0002 mg/L	0.00016	64.36%
QC value within limits for B 249.772 Recovery = Not calculated							
Ba 233.527†	-10.2	-0.0001 mg/L	mg/L	0.00016	-0.0001 mg/L	0.00016	285.47%
QC value within limits for Ba 233.527 Recovery = Not calculated							
Be 313.107†	349.1	0.00013 mg/L	mg/L	0.000032	0.00013 mg/L	0.000032	23.93%
QC value within limits for Be 313.107 Recovery = Not calculated							
Ca 317.933†	617.7	0.0170 mg/L	mg/L	0.00205	0.0170 mg/L	0.00205	12.06%
QC value within limits for Ca 317.933 Recovery = Not calculated							
Cd 214.440†	14.5	0.00003 mg/L	mg/L	0.000028	0.00003 mg/L	0.000028	90.05%
QC value within limits for Cd 214.440 Recovery = Not calculated							
Co 228.616†	58.3	0.0006 mg/L	mg/L	0.00006	0.0006 mg/L	0.00006	9.87%
QC value within limits for Co 228.616 Recovery = Not calculated							
Cr 267.716†	-14.1	-0.0001 mg/L	mg/L	0.00003	-0.0001 mg/L	0.00003	44.46%
QC value within limits for Cr 267.716 Recovery = Not calculated							
Cu 324.752†	-42.5	-0.0001 mg/L	mg/L	0.00039	-0.0001 mg/L	0.00039	357.29%
QC value within limits for Cu 324.752 Recovery = Not calculated							
Fe 238.204†	61.8	0.0018 mg/L	mg/L	0.00020	0.0018 mg/L	0.00020	10.66%
QC value within limits for Fe 238.204 Recovery = Not calculated							
K 766.490†	350.6	0.0744 mg/L	mg/L	0.04023	0.0744 mg/L	0.04023	54.11%
QC value within limits for K 766.490 Recovery = Not calculated							
Mg 279.077†	72.4	0.0152 mg/L	mg/L	0.00346	0.0152 mg/L	0.00346	22.83%
QC value within limits for Mg 279.077 Recovery = Not calculated							
Mn 257.610†	846.5	0.0010 mg/L	mg/L	0.00012	0.0010 mg/L	0.00012	12.09%
QC value within limits for Mn 257.610 Recovery = Not calculated							
Mo 202.031†	5.2	0.0001 mg/L	mg/L	0.00029	0.0001 mg/L	0.00029	313.10%
QC value within limits for Mo 202.031 Recovery = Not calculated							
Na 330.237†	20.6	0.3612 mg/L	mg/L	0.55855	0.3612 mg/L	0.55855	154.63%
QC value within limits for Na 330.237 Recovery = Not calculated							
Ni 232.003†	230.3	0.0042 mg/L	mg/L	0.00096	0.0042 mg/L	0.00096	22.73%
QC value within limits for Ni 232.003 Recovery = Not calculated							
Pb 220.353†	12.4	0.0004 mg/L	mg/L	0.00056	0.0004 mg/L	0.00056	135.08%
QC value within limits for Pb 220.353 Recovery = Not calculated							
Sb 206.836†	-10.1	-0.0012 mg/L	mg/L	0.00099	-0.0012 mg/L	0.00099	81.82%
QC value within limits for Sb 206.836 Recovery = Not calculated							
Se 196.026†	-9.3	-0.0039 mg/L	mg/L	0.00340	-0.0039 mg/L	0.00340	86.84%
QC value within limits for Se 196.026 Recovery = Not calculated							
Tl 190.801†	4.8	0.0007 mg/L	mg/L	0.00149	0.0007 mg/L	0.00149	201.17%
QC value within limits for Tl 190.801 Recovery = Not calculated							
V 292.402†	138.7	0.0003 mg/L	mg/L	0.00030	0.0003 mg/L	0.00030	104.31%
QC value within limits for V 292.402 Recovery = Not calculated							
Zn 213.857†	675.7	0.0027 mg/L	mg/L	0.00020	0.0027 mg/L	0.00020	7.32%
QC value within limits for Zn 213.857 Recovery = Not calculated							
P 178.221†	12.9	0.005 mg/L	mg/L	0.0014	0.005 mg/L	0.0014	30.51%
QC value within limits for P 178.221 Recovery = Not calculated							
Si 251.611†	451.9	0.010 mg/L	mg/L	0.0005	0.010 mg/L	0.0005	5.05%
QC value within limits for Si 251.611 Recovery = Not calculated							

All analyte(s) passed QC.

User canceled analysis.

=====
Analysis Begun

Start Time: 4/15/2021 11:42:30 AM Plasma On Time: 4/15/2021 6:26:54 AM
Logged In Analyst: Optima7300DV Technique: ICP Continuous
Spectrometer Model: Optima 7300 DV, S/N No Serial #Autosampler Model: S10

Sample Information File: C:\pe\Optima7300DV\Sample Information\210415_2.sif
Batch ID:
Results Data Set: 210415_2
Results Library: C:\pe\Optima7300DV\Results\Results.mdb

=====
Sequence No.: 30 Autosampler Location: 5
Sample ID: CCV-1 Date Collected: 4/15/2021 11:42:31 AM
Analyst: Data Type: Original
Initial Sample Wt: Initial Sample Vol:
Dilution: Sample Prep Vol:

=====
Nebulizer Parameters: CCV-1

Analyte Back Pressure Flow
All 255.0 kPa 0.75 L/min

=====
Mean Data: CCV-1

Analyte	Mean Corrected Intensity	Conc. Units	Calib. Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2772097.2	1.00 mg/L	0.005			0.52%
Sc 361.383	4648880.4	1.01 mg/L	0.005			0.53%
Ag 328.068+	-1897.5	-0.00353 mg/L	0.000496	-0.00353 mg/L	0.000496	14.06%
Al 308.215+	492.6	-0.0119 mg/L	0.00507	-0.0119 mg/L	0.00507	42.70%
As 188.979+	4997.3	1.002 mg/L	0.0057	1.002 mg/L	0.0057	0.57%
QC value within limits for As 188.979 Recovery = 100.15%						
B 249.772+	3890.1	0.0196 mg/L	0.00028	0.0196 mg/L	0.00028	1.42%
Ba 233.527+	-411.9	-0.0004 mg/L	0.00008	-0.0004 mg/L	0.00008	17.78%
Be 313.107+	9432453.4	0.99679 mg/L	0.015415	0.99679 mg/L	0.015415	1.55%
QC value within limits for Be 313.107 Recovery = 99.68%						
Ca 317.933+	37286.6	1.036 mg/L	0.0104	1.036 mg/L	0.0104	1.01%
Cd 214.440+	438384.7	0.94583 mg/L	0.016983	0.94583 mg/L	0.016983	1.80%
QC value within limits for Cd 214.440 Recovery = 94.58%						
Co 228.616+	93635.6	1.044 mg/L	0.0306	1.044 mg/L	0.0306	2.93%
QC value within limits for Co 228.616 Recovery = 104.36%						
Cr 267.716+	241586.3	1.040 mg/L	0.0291	1.040 mg/L	0.0291	2.80%
QC value within limits for Cr 267.716 Recovery = 104.02%						
Cu 324.752+	378791.6	0.9469 mg/L	0.02834	0.9469 mg/L	0.02834	2.99%
QC value within limits for Cu 324.752 Recovery = 94.69%						
Fe 238.204+	33720.1	1.010 mg/L	0.0070	1.010 mg/L	0.0070	0.69%
QC value within limits for Fe 238.204 Recovery = 100.97%						
K 766.490+	-71.3	-0.0139 mg/L	0.01099	-0.0139 mg/L	0.01099	79.18%
Mg 279.077+	4674.9	0.9860 mg/L	0.01237	0.9860 mg/L	0.01237	1.25%
Mn 257.610+	893333.5	1.018 mg/L	0.0006	1.018 mg/L	0.0006	0.06%
QC value within limits for Mn 257.610 Recovery = 101.77%						
Mo 202.031+	54829.1	0.9712 mg/L	0.02925	0.9712 mg/L	0.02925	3.01%
QC value within limits for Mo 202.031 Recovery = 97.12%						
Na 330.237+	-30.8	-1.354 mg/L	1.0507	-1.354 mg/L	1.0507	77.61%
Ni 232.003+	56105.3	0.9862 mg/L	0.03147	0.9862 mg/L	0.03147	3.19%
QC value within limits for Ni 232.003 Recovery = 98.62%						
Pb 220.353+	30505.0	1.028 mg/L	0.0292	1.028 mg/L	0.0292	2.84%
QC value within limits for Pb 220.353 Recovery = 102.76%						
Sb 206.836+	8918.5	1.058 mg/L	0.0040	1.058 mg/L	0.0040	0.38%
QC value within limits for Sb 206.836 Recovery = 105.84%						
Se 196.026+	2372.5	0.9954 mg/L	0.01206	0.9954 mg/L	0.01206	1.21%
QC value within limits for Se 196.026 Recovery = 99.54%						
Tl 190.801+	6166.0	0.9505 mg/L	0.00987	0.9505 mg/L	0.00987	1.04%
QC value within limits for Tl 190.801 Recovery = 95.05%						
V 292.402+	475749.7	0.9876 mg/L	0.00216	0.9876 mg/L	0.00216	0.22%
QC value within limits for V 292.402 Recovery = 98.76%						
Zn 213.857+	247447.1	1.005 mg/L	0.0294	1.005 mg/L	0.0294	2.92%
QC value within limits for Zn 213.857 Recovery = 100.55%						

P 178.221† -8.2 0.001 mg/L 0.0016 0.001 mg/L 0.0016 140.38%
 Si 251.611† 21240.5 0.466 mg/L 0.0135 0.466 mg/L 0.0135 2.90%
 All analyte(s) passed QC. ✓

Sequence No.: 31 Autosampler Location: 6
 Sample ID: CCV-2 Date Collected: 4/15/2021 11:46:21 AM
 Analyst: Data Type: Original
 Initial Sample Wt: Initial Sample Vol:
 Dilution: Sample Prep Vol:

Nebulizer Parameters: CCV-2
 Analyte Back Pressure Flow
 All 257.0 kPa 0.75 L/min

Mean Data: CCV-2

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2848924.7	1.03 mg/L	✓	0.013			1.29%
Sc 361.383	4784731.7	1.04 mg/L		0.014			1.33%
Ag 328.068†	163770.2	0.48349 mg/L		0.011132	0.48349 mg/L	0.011132	2.30%
QC value within limits for Ag 328.068 Recovery = 96.70%							
Al 308.215†	25209.8	0.9358 mg/L		0.03087	0.9358 mg/L	0.03087	3.30%
QC value within limits for Al 308.215 Recovery = 93.58%							
As 188.979†	28.2	0.0057 mg/L		0.00218	0.0057 mg/L	0.00218	38.12%
B 249.772†	193851.5	0.9877 mg/L		0.02438	0.9877 mg/L	0.02438	2.47%
QC value within limits for B 249.772 Recovery = 98.77%							
Ba 233.527†	194689.1	1.049 mg/L		0.0255	1.049 mg/L	0.0255	2.44%
QC value within limits for Ba 233.527 Recovery = 104.93%							
Be 313.107†	1347.5	0.00024 mg/L		0.000024	0.00024 mg/L	0.000024	10.15%
Ca 317.933†	438.5	0.0127 mg/L		0.00156	0.0127 mg/L	0.00156	12.35%
Cd 214.440†	53.2	0.00014 mg/L		0.000026	0.00014 mg/L	0.000026	18.67%
Co 228.616†	-52.2	0.0005 mg/L		0.00007	0.0005 mg/L	0.00007	13.24%
Cr 267.716†	9.6	0.0000 mg/L		0.00005	0.0000 mg/L	0.00005	120.33%
Cu 324.752†	1623.9	0.0040 mg/L		0.00039	0.0040 mg/L	0.00039	9.74%
Fe 238.204†	94.4	0.0029 mg/L		0.00004	0.0029 mg/L	0.00004	1.52%
K 766.490†	48350.7	10.29 mg/L		0.132	10.29 mg/L	0.132	1.28%
Mg 279.077†	88.8	0.0186 mg/L		0.00046	0.0186 mg/L	0.00046	2.50%
Mn 257.610†	1804.4	0.0021 mg/L		0.00006	0.0021 mg/L	0.00006	3.11%
Mo 202.031†	145.3	0.0025 mg/L		0.00054	0.0025 mg/L	0.00054	21.54%
Na 330.237†	90.4	1.586 mg/L		0.2982	1.586 mg/L	0.2982	18.80%
Ni 232.003†	103.6	0.0020 mg/L		0.00096	0.0020 mg/L	0.00096	47.00%
Pb 220.353†	37.2	0.0014 mg/L		0.00046	0.0014 mg/L	0.00046	33.72%
Sb 206.836†	42.4	0.0049 mg/L		0.00076	0.0049 mg/L	0.00076	15.33%
Se 196.026†	12.3	0.0052 mg/L		0.00434	0.0052 mg/L	0.00434	83.76%
Tl 190.801†	39.6	0.0064 mg/L		0.00215	0.0064 mg/L	0.00215	33.35%
V 292.402†	50.6	0.0001 mg/L		0.00030	0.0001 mg/L	0.00030	350.05%
Zn 213.857†	1092.0	0.0046 mg/L		0.00041	0.0046 mg/L	0.00041	8.81%
P 178.221†	3.7	0.001 mg/L		0.0019	0.001 mg/L	0.0019	164.52%
Si 251.611†	100391.0	2.239 mg/L		0.0552	2.239 mg/L	0.0552	2.46%
All analyte(s) passed QC. ✓							

Sequence No.: 32 Autosampler Location: 7
 Sample ID: CCV-3 Date Collected: 4/15/2021 11:50:25 AM
 Analyst: Data Type: Original
 Initial Sample Wt: Initial Sample Vol:
 Dilution: Sample Prep Vol:

Nebulizer Parameters: CCV-3
 Analyte Back Pressure Flow
 All 256.0 kPa 0.75 L/min

Mean Data: CCV-3

Analyte	Mean Corrected Intensity	Conc. Units	Calib.	Std.Dev.	Sample Conc. Units	Std.Dev.	RSD
Y 371.029	2764328.6	0.999 mg/L	✓	0.0072			0.72%
Sc 361.383	4668486.2	1.01 mg/L		0.007			0.69%

Ag 328.068†	-31.3	-0.00038 mg/L	0.000468	-0.00038 mg/L	0.000468	123.81%
Al 308.215†	233.6	-0.0095 mg/L	0.00153	-0.0095 mg/L	0.00153	16.17%
As 188.979†	53.6	0.0084 mg/L	0.00084	0.0084 mg/L	0.00084	10.02%
B 249.772†	197970.5	1.008 mg/L	0.0193	1.008 mg/L	0.0193	1.92%
Ba 233.527†	122.7	0.0006 mg/L	0.00009	0.0006 mg/L	0.00009	13.94%
Be 313.107†	352.7	0.00014 mg/L	0.000018	0.00014 mg/L	0.000018	12.31%
Ca 317.933†	367105.8	10.10 mg/L	0.091	10.10 mg/L	0.091	0.91%
QC value within limits for Ca 317.933 Recovery = 100.99%						
Cd 214.440†	-103.1	-0.00004 mg/L	0.000023	-0.00004 mg/L	0.000023	56.52%
Co 228.616†	-85.5	0.0000 mg/L	0.00017	0.0000 mg/L	0.00017	508.55%
Cr 267.716†	52.8	0.0001 mg/L	0.00011	0.0001 mg/L	0.00011	73.30%
Cu 324.752†	335.6	0.0000 mg/L	0.00039	0.0000 mg/L	0.00039	>999.9%
Fe 238.204†	-33.5	-0.0008 mg/L	0.00022	-0.0008 mg/L	0.00022	27.41%
K 766.490†	47570.7	10.11 mg/L	0.097	10.11 mg/L	0.097	0.96%
QC value within limits for K 766.490 Recovery = 101.11%						
Mg 279.077†	46971.2	9.840 mg/L	0.0789	9.840 mg/L	0.0789	0.80%
QC value within limits for Mg 279.077 Recovery = 98.40%						
Mn 257.610†	55.8	0.0000 mg/L	0.00004	0.0000 mg/L	0.00004	157.83%
Mo 202.031†	56332.0	0.9979 mg/L	0.01761	0.9979 mg/L	0.01761	1.76%
Na 330.237†	579.3	10.28 mg/L	0.422	10.28 mg/L	0.422	4.11%
QC value within limits for Na 330.237 Recovery = 102.76%						
Ni 232.003†	909.0	0.0118 mg/L	0.00032	0.0118 mg/L	0.00032	2.68%
Pb 220.353†	-52.3	0.0000 mg/L	0.00062	0.0000 mg/L	0.00062	>999.9%
Sb 206.836†	-74.1	-0.0062 mg/L	0.00082	-0.0062 mg/L	0.00082	13.29%
Se 196.026†	-7.7	-0.0028 mg/L	0.00068	-0.0028 mg/L	0.00068	24.42%
Tl 190.801†	-1.2	0.0006 mg/L	0.00053	0.0006 mg/L	0.00053	82.82%
V 292.402†	-68.8	-0.0006 mg/L	0.00023	-0.0006 mg/L	0.00023	40.21%
Zn 213.857†	-641.3	-0.0022 mg/L	0.00011	-0.0022 mg/L	0.00011	5.18%
P 178.221†	13475.2	4.859 mg/L	0.0451	4.859 mg/L	0.0451	0.93%
QC value within limits for P 178.221 Recovery = 97.18%						
Si 251.611†	7615.1	0.156 mg/L	0.0009	0.156 mg/L	0.0009	0.58%
All analyte(s) passed QC.						

Sequence No.: 33

Sample ID: CCV-4

Analyst:

Initial Sample Wt:

Dilution:

Autosampler Location: 8

Date Collected: 4/15/2021 11:54:31 AM

Data Type: Original

Initial Sample Vol:

Sample Prep Vol:

Nebulizer Parameters: CCV-4

Analyte Back Pressure Flow
All 257.0 kPa 0.75 L/min

Handwritten signature

Mean Data: CCV-4

Analyte	Mean Corrected		Calib. Units	Std.Dev.	Sample		RSD
	Intensity	Conc.			Conc.	Units	
Y 371.029	2854513.9	1.03 mg/L	mg/L	0.015			1.49%
Sc 361.383	4787956.1	1.04 mg/L	mg/L	0.016			1.53%
Ag 328.068†	-413.4	-0.00122 mg/L	mg/L	0.000264	-0.00122 mg/L	0.000264	21.65%
Al 308.215†	-483.6	-0.0184 mg/L	mg/L	0.00515	-0.0184 mg/L	0.00515	27.99%
As 188.979†	15.0	0.0030 mg/L	mg/L	0.00235	0.0030 mg/L	0.00235	77.72%
B 249.772†	3043.7	0.0155 mg/L	mg/L	0.00111	0.0155 mg/L	0.00111	7.18%
Ba 233.527†	47.9	0.0003 mg/L	mg/L	0.00009	0.0003 mg/L	0.00009	33.19%
Be 313.107†	657.0	0.00017 mg/L	mg/L	0.000028	0.00017 mg/L	0.000028	16.82%
Ca 317.933†	-286.2	-0.0078 mg/L	mg/L	0.00248	-0.0078 mg/L	0.00248	31.83%
Cd 214.440†	-4.2	-0.00001 mg/L	mg/L	0.000050	-0.00001 mg/L	0.000050	496.18%
Co 228.616†	14.1	0.0002 mg/L	mg/L	0.00001	0.0002 mg/L	0.00001	9.01%
Cr 267.716†	-17.3	-0.0001 mg/L	mg/L	0.00005	-0.0001 mg/L	0.00005	70.80%
Cu 324.752†	-178.1	-0.0005 mg/L	mg/L	0.00028	-0.0005 mg/L	0.00028	59.20%
Fe 238.204†	59.1	0.0018 mg/L	mg/L	0.00066	0.0018 mg/L	0.00066	37.45%
K 766.490†	89.9	0.0168 mg/L	mg/L	0.02351	0.0168 mg/L	0.02351	140.01%
Mg 279.077†	13.6	0.0027 mg/L	mg/L	0.00346	0.0027 mg/L	0.00346	127.33%
Mn 257.610†	51.4	0.0001 mg/L	mg/L	0.00007	0.0001 mg/L	0.00007	122.60%
Mo 202.031†	114.0	0.0020 mg/L	mg/L	0.00029	0.0020 mg/L	0.00029	14.34%
Na 330.237†	213.8	3.779 mg/L	mg/L	0.9123	3.779 mg/L	0.9123	24.14%
Ni 232.003†	530.7	0.0097 mg/L	mg/L	0.00074	0.0097 mg/L	0.00074	7.62%
Pb 220.353†	11.2	0.0004 mg/L	mg/L	0.00102	0.0004 mg/L	0.00102	258.23%
Sb 206.836†	-16.1	-0.0019 mg/L	mg/L	0.00133	-0.0019 mg/L	0.00133	68.84%
Se 196.026†	-13.2	-0.0056 mg/L	mg/L	0.00216	-0.0056 mg/L	0.00216	38.85%

Analytical Standard Record

Turner Laboratories, Inc.

2101375

Description: ICP Cal Standard #1
 Standard Type: Calibration Standard
 Solvent: 1% HNO3
 Final Volume (mls): 100
 Vials: 1

Expires: 01/31/2022
 Prepared: 04/10/2021
 Prepared By: Marissa Huff
 Department: EXPIRED STANDARDS
 Last Edit: 04/16/2021 09:56 by MH

ICP Calib Standard #1 with SiO2

Analyte	CAS Number	Concentration	Units
Nickel	7440-02-0	1	ug/mL
Barium	7440-39-3	1	ug/mL
Beryllium	7440-41-7	0.5	ug/mL
Cadmium	7440-43-9	1.5	ug/mL
Calcium	7440-70-2	50	ug/mL
Chromium	7440-47-3	1	ug/mL
Cobalt	7440-48-4	1	ug/mL
Copper	7440-50-8	1	ug/mL
Aluminum	7429-90-5	10	ug/mL
Manganese	7439-96-5	1	ug/mL
Zinc	7440-66-6	1.5	ug/mL
Potassium	7440-09-7	20	ug/mL
Scandium		0.02	ug/mL
Selenium	7782-49-2	2	ug/mL
Silica	7631-86-9	5	ug/mL
Sodium	7440-23-5	10	ug/mL
Vanadium	7440-62-2	1	ug/mL
Yttrium		0.02	ug/mL
Lead	7439-92-1	5	ug/mL

Lot #: n/a
 Vendor: CPI

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2004492	ICP Stock Calibration Standard #1	10/19/2020	** Vendor **	04/30/2022	11/13/2020 08:44 by MH	1
2100713	Silica Standard Solution 1000ppm	02/25/2021	** Vendor **	01/31/2022	04/05/2021 08:01 by MH	0.5
2101000	ICP Internal Standard	03/17/2021	Marissa Huff	07/31/2022	04/13/2021 08:52 by MH	0.5

Analytical Standard Record

Turner Laboratories, Inc.

2004492

Description: ICP Stock Calibration Standard #1
Standard Type: Calibration Standard
Solvent: 5% HNO3
Final Volume (mls): 100
Vials: 1

Expires: 04/30/2022
Prepared: 10/19/2020
Prepared By: ** Vendor **
Department: ICP
Last Edit: 11/13/2020 08:44 by MH

1ml/100ml DI for ICP Calibration Standard #1
P/N 4400-150924AM02-Vol

Analyte	CAS Number	Concentration	Units
Lead	7439-92-1	500	ug/mL
Barium	7440-39-3	100	ug/mL
Beryllium	7440-41-7	50	ug/mL
Cadmium	7440-43-9	150	ug/mL
Calcium	7440-70-2	5000	ug/mL
Chromium	7440-47-3	100	ug/mL
Aluminum	7429-90-5	1000	ug/mL
Copper	7440-50-8	100	ug/mL
Zinc	7440-66-6	150	ug/mL
Manganese	7439-96-5	100	ug/mL
Nickel	7440-02-0	100	ug/mL
Potassium	7440-09-7	2000	ug/mL
Selenium	7782-49-2	200	ug/mL
Sodium	7440-23-5	1000	ug/mL
Vanadium	7440-62-2	100	ug/mL
Cobalt	7440-48-4	100	ug/mL

Lot #: 10082634-3
Vendor: CPI

Analytical Standard Record

Turner Laboratories, Inc.

2100713

Description: Silica Standard Solution 1000ppm
Standard Type: Analyte Spike
Solvent: n/a
Final Volume (mls): 500
Vials: 1

Expires: 01/31/2022
Prepared: 02/25/2021
Prepared By: ** Vendor **
Department: SPECTRO
Last Edit: 04/05/2021 08:01 by MH

Cat# 194-49

Analyte	CAS Number	Concentration	Units
Silica	7631-86-9	1000	mg/L

Lot #: A1011
Vendor: Hach

Analytical Standard Record

Turner Laboratories, Inc.

2101000

Description: ICP Internal Standard
Standard Type: Internal Standard
Solvent: 2% HNO3
Final Volume (mls): 250
Vials: 1

Expires: 07/31/2022
Prepared: 03/17/2021
Prepared By: Marissa Huff
Department: ICP
Last Edit: 04/13/2021 08:52 by MH

200 PPM Yttrium & Scandium Internal Standard

Analyte	CAS Number	Concentration	Units
Yttrium		4	ug/mL
Scandium		4	ug/mL

Lot #: 2011112-100/2029324-100
Vendor: ESI

Parent Standards used in this standard:

Standard	Description:	Prepared	Prepared By	Expires	Last Edit	(mls)
2100263	ICP Scandium Standard	01/21/2021	** Vendor **	07/31/2022	04/12/2021 07:56 by MH	1
2100264	ICP Yttrium Standard	01/21/2021	** Vendor **	07/31/2022	04/13/2021 08:52 by MH	1

Analytical Standard Record

Turner Laboratories, Inc.

2100263

Description: ICP Scandium Standard
Standard Type: Internal Standard
Solvent: 2% HNO3
Final Volume (mls): 100
Vials: 1

Expires: 07/31/2022
Prepared: 01/21/2021
Prepared By: ** Vendor **
Department: EXPIRED STANDARDS
Last Edit: 04/12/2021 07:56 by MH

1000 ppm Scandium Standard
P/N S1-Sc-1000-Vol

Analyte	CAS Number	Concentration	Units
Scandium		1000	ug/mL

Lot #: 2011112-100

Vendor: ESI

Analytical Standard Record

Turner Laboratories, Inc.

2100264

Description: ICP Yttrium Standard
Standard Type: Internal Standard
Solvent: 2% HNO3
Final Volume (mls): 100
Vials: 1

Expires: 07/31/2022
Prepared: 01/21/2021
Prepared By: ** Vendor **
Department: EXPIRED STANDARDS
Last Edit: 04/13/2021 08:52 by MH

1000 ppm Yttrium Standard
P/N S1-Y-100-Vol

Analyte	CAS Number	Concentration	Units
Yttrium		1000	ug/mL

Lot #: 2029324-100
Vendor: ESI

Analytical Standard Record

Turner Laboratories, Inc.

2101333

Description: ICP Cal Standard #2
 Standard Type: Calibration Standard
 Solvent: 1% HNO3
 Final Volume (mls): 100
 Vials: 1

Expires: 02/28/2022
 Prepared: 04/08/2021
 Prepared By: Marissa Huff
 Department: EXPIRED STANDARDS
 Last Edit: 04/15/2021 11:18 by MH

Analyte	CAS Number	Concentration	Units
Yttrium		0.02	ug/mL
Sodium	7440-23-5	12.5	ug/mL
Scandium		0.02	ug/mL
Potassium	7440-09-7	12.5	ug/mL
Phosphorus		10	ug/mL
Molybdenum	7439-98-7	1	ug/mL
Magnesium	7439-95-4	12.5	ug/mL
Iron	7439-89-6	20	ug/mL
Calcium	7440-70-2	12.5	ug/mL
Arsenic	7440-38-2	5	ug/mL

Lot #: 10087093-3
 Vendor: CPI

Parent Standards used in this standard:						
Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2003534	ICP Stock Calibration Standard #2	08/14/2020	** Vendor **	02/28/2022	04/07/2021 10:38 by MH	1
2101000	ICP Internal Standard	03/17/2021	Marissa Huff	07/31/2022	04/13/2021 08:52 by MH	0.5

Analytical Standard Record

Turner Laboratories, Inc.

2003534

Description: ICP Stock Calibration Standard #2 Expires: 02/28/2022
Standard Type: Calibration Standard Prepared: 08/14/2020
Solvent: 5% HNO3 Prepared By: ** Vendor **
Final Volume (mls):100 Department: ICP
Vials: 1 Last Edit: 04/07/2021 10:38 by MH

1ml/100 ml DI for ICP 7300DV Calibration Standard #2
P/N 4400-150924AM03

Analyte	CAS Number	Concentration	Units
Sodium	7440-23-5	1250	ug/mL
Potassium	7440-09-7	1250	ug/mL
Phosphorus		1000	ug/mL
Molybdenum	7439-98-7	100	ug/mL
Magnesium	7439-95-4	1250	ug/mL
Iron	7439-89-6	2000	ug/mL
Calcium	7440-70-2	1250	ug/mL
Arsenic	7440-38-2	500	ug/mL

Lot #: 10087093-3
Vendor: CPI

Analytical Standard Record

Turner Laboratories, Inc.

2101338

Description: ICP Cal Standard #3
 Standard Type: Calibration Standard
 Solvent: 1% HNO3/ 2% HCl
 Final Volume (mls): 100
 Vials: 1

Expires: 11/30/2021
 Prepared: 04/08/2021
 Prepared By: Marissa Huff
 Department: EXPIRED STANDARDS
 Last Edit: 04/16/2021 07:14 by MH

Analyte	CAS Number	Concentration	Units
Yttrium		0.02	ug/mL
Thallium	7440-28-0	2	ug/mL
Silver	7440-22-4	0.5	ug/mL
Scandium		0.02	ug/mL
Boron	7440-42-8	1	ug/mL
Beryllium	7440-41-7	0.025	ug/mL
Antimony	7440-36-0	2	ug/mL

Lot #: 10079343-4
 Vendor: CPI

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2002097	ICP Stock Calibration Standard #3	05/18/2020	** Vendor **	11/30/2021	05/18/2020 12:46 by MH	1
2101000	ICP Internal Standard	03/17/2021	Marissa Huff	07/31/2022	04/13/2021 08:52 by MH	0.5

Analytical Standard Record

Turner Laboratories, Inc.

2002097

Description: ICP Stock Calibration Standard #3
Standard Type: Calibration Standard
Solvent: 5% HNO3 trace HF
Final Volume (mls): 100
Vials: 1

Expires: 11/30/2021
Prepared: 05/18/2020
Prepared By: ** Vendor **
Department: ICP
Last Edit: 05/18/2020 12:46 by MH

1ml/100ml DI for ICP Cal Standard #3
P/N 4400-150924AM04

Analyte	CAS Number	Concentration	Units
Thallium	7440-28-0	200	ug/mL
Silver	7440-22-4	50	ug/mL
Boron	7440-42-8	100	ug/mL
Beryllium	7440-41-7	2.5	ug/mL
Antimony	7440-36-0	200	ug/mL

Lot #: 10079343-4
Vendor: CPI

Analytical Standard Record

Turner Laboratories, Inc.

2101382

Description: ICP ICV/CCV #1
 Standard Type: Calibration Standard
 Solvent: 1% HNO3
 Final Volume (mls): 100
 Vials: 1

Expires: 04/13/2022
 Prepared: 04/13/2021
 Prepared By: Marissa Huff
 Department: EXPIRED STANDARDS
 Last Edit: 04/16/2021 07:20 by MH

Analyte	CAS Number	Concentration	Units
Manganese	7439-96-5	1	ug/mL
Arsenic	7440-38-2	1	ug/mL
Beryllium	7440-41-7	1	ug/mL
Cadmium	7440-43-9	1	ug/mL
Calcium	7440-70-2	1	ug/mL
Chromium	7440-47-3	1	ug/mL
Cobalt	7440-48-4	1	ug/mL
Copper	7440-50-8	1	ug/mL
Iron	7439-89-6	1	ug/mL
Lead	7439-92-1	1	ug/mL
Antimony	7440-36-0	1	ug/mL
Magnesium	7439-95-4	1	ug/mL
Zinc	7440-66-6	1	ug/mL
Molybdenum	7439-98-7	1	ug/mL
Nickel	7440-02-0	1	ug/mL
Scandium		0.02	ug/mL
Selenium	7782-49-2	1	ug/mL
Strontium	7440-24-6	1	ug/mL
Thallium	7440-28-0	1	ug/mL
Titanium	7440-32-6	1	ug/mL
Vanadium	7440-62-2	1	ug/mL
Yttrium		0.02	ug/mL
Lithium	7439-93-2	1	ug/mL

Lot #: 1074729-2
 Vendor: CPI

Analytical Standard Record

Turner Laboratories, Inc.

2101382

Page 2

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2100526	ICP ICV 1 Stock	02/12/2021	** Vendor **	08/30/2022	03/31/2021 07:14 by MH	1
2101000	ICP Internal Standard	03/17/2021	Marissa Huff	07/31/2022	04/13/2021 08:52 by MH	0.5

Page 2

Analytical Standard Record

Turner Laboratories, Inc.

2100526

Description: ICP ICV 1 Stock
 Standard Type: Analyte Spike
 Solvent: 2% HNO3 + Tr HF
 Final Volume (mls): 500
 Vials: 1

Expires: 08/30/2022
 Prepared: 02/12/2021
 Prepared By: ** Vendor **
 Department: ICP
 Last Edit: 03/31/2021 07:14 by MH

100 ppm Stock for ICV 1 and 6010C MS/MSD
 P/N 4400-011
 Quality Control Standard - 21 Elements

Analyte	CAS Number	Concentration	Units
Magnesium	7439-95-4	100	ug/mL
Arsenic	7440-38-2	100	ug/mL
Beryllium	7440-41-7	100	ug/mL
Cadmium	7440-43-9	100	ug/mL
Calcium	7440-70-2	100	ug/mL
Chromium	7440-47-3	100	ug/mL
Cobalt	7440-48-4	100	ug/mL
Copper	7440-50-8	100	ug/mL
Iron	7439-89-6	100	ug/mL
Antimony	7440-36-0	100	ug/mL
Lithium	7439-93-2	100	ug/mL
Zinc	7440-66-6	100	ug/mL
Manganese	7439-96-5	100	ug/mL
Molybdenum	7439-98-7	100	ug/mL
Nickel	7440-02-0	100	ug/mL
Selenium	7782-49-2	100	ug/mL
Strontium	7440-24-6	100	ug/mL
Thallium	7440-28-0	100	ug/mL
Titanium	7440-32-6	100	ug/mL
Vanadium	7440-62-2	100	ug/mL
Lead	7439-92-1	100	ug/mL

Lot #: 1074729-2
 Vendor: CPI

Analytical Standard Record

Turner Laboratories, Inc.

2101383

Description: ICP ICV/CCV #2
 Standard Type: Calibration Standard
 Solvent: 1% HNO3/2%HCl
 Final Volume (mls): 100
 Vials: 1

Expires: 02/28/2022
 Prepared: 04/13/2021
 Prepared By: Marissa Huff
 Department: EXPIRED STANDARDS
 Last Edit: 04/16/2021 07:22 by MH

1 of 1

Analyte	CAS Number	Concentration	Units
Yttrium		0.02	ug/mL
Sodium	7440-23-5	1	ug/mL
Silver	7440-22-4	0.5	ug/mL
Silicon	7440-21-3	1	ug/mL
Scandium		0.02	ug/mL
Potassium	7440-09-7	10	ug/mL
Boron	7440-42-8	1	ug/mL
Barium	7440-39-3	1	ug/mL
Aluminum	7429-90-5	1	ug/mL

Lot #: 1088799-2
 Vendor: CPI

Parent Standards used in this standard:						
Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2003706	ICP ICV 2 Stock	08/27/2020	** Vendor **	02/28/2022	03/26/2021 13:55 by MH	1
2101000	ICP Internal Standard	03/17/2021	Marissa Huff	07/31/2022	04/13/2021 08:52 by MH	0.5

Analytical Standard Record

Turner Laboratories, Inc.

2003706

Description: ICP ICV 2 Stock
Standard Type: Analyte Spike
Solvent: 5% HNO3
Final Volume (mls): 500
Vials: 1

Expires: 02/28/2022
Prepared: 08/27/2020
Prepared By: ** Vendor **
Department: ICP
Last Edit: 03/26/2021 13:55 by MH

P/N 4400-010106
Replacement for 2003533 (all the silver fell out of solution)

Analyte	CAS Number	Concentration	Units
Sodium	7440-23-5	100	ug/mL
Silver	7440-22-4	50	ug/mL
Silicon	7440-21-3	100	ug/mL
Potassium	7440-09-7	1000	ug/mL
Boron	7440-42-8	100	ug/mL
Barium	7440-39-3	100	ug/mL
Aluminum	7429-90-5	100	ug/mL

Lot #: 1088799-2
Vendor: CPI

Analytical Standard Record

Turner Laboratories, Inc.

2101384

Description: ICP ICV/CCV #3
 Standard Type: Calibration Standard
 Solvent: 1% HNO3
 Final Volume (mls): 100
 Vials: 1

Expires: 02/28/2022
 Prepared: 04/13/2021
 Prepared By: Marissa Huff
 Department: EXPIRED STANDARDS
 Last Edit: 04/16/2021 07:25 by MH

Analyte	CAS Number	Concentration	Units
Yttrium		0.02	ug/mL
Sodium	7440-23-5	10	ug/mL
Scandium		0.02	ug/mL
Potassium	7440-09-7	10	ug/mL
Phosphorus		5	ug/mL
Molybdenum	7439-98-7	1	ug/mL
Magnesium	7439-95-4	10	ug/mL
Calcium	7440-70-2	10	ug/mL
Boron	7440-42-8	1	ug/mL

Lot #: 2103403-250
 Vendor: CPI

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2100508	ICP Spike B	02/11/2021	** Vendor **	02/28/2022	02/15/2021 10:39 by MH	1
2101000	ICP Internal Standard	03/17/2021	Marissa Huff	07/31/2022	04/13/2021 08:52 by MH	0.5

Analytical Standard Record

Turner Laboratories, Inc.

2100508

Description: ICP Spike B
Standard Type: Analyte Spike
Solvent: 2% HNO3 + Tr HF
Final Volume (mls): 250
Vials: 1

Expires: 02/28/2022
Prepared: 02/11/2021
Prepared By: ** Vendor **
Department: ICP
Last Edit: 02/15/2021 10:39 by MH

Custom Spike Mix for 200.7 analysis / 200.2 Digestions
P/N C1-160622RH01xVol

Analyte	CAS Number	Concentration	Units
Sodium	7440-23-5	1000	ug/mL
Potassium	7440-09-7	1000	ug/mL
Phosphorus		500	ug/mL
Molybdenum	7439-98-7	100	ug/mL
Magnesium	7439-95-4	1000	ug/mL
Calcium	7440-70-2	1000	ug/mL
Boron	7440-42-8	100	ug/mL

Lot #: 2103403-250
Vendor: ESI

Analytical Standard Record

Turner Laboratories, Inc.

2101376

Description: ICP ICV/CCV #4
Standard Type: Calibration Standard
Solvent: 1% HNO3
Final Volume (mls): 100
Vials: 1

Expires: 04/10/2022
Prepared: 04/10/2021
Prepared By: Marissa Huff
Department: EXPIRED STANDARDS
Last Edit: 04/15/2021 11:17 by MH

Analyte	CAS Number	Concentration	Units
Yttrium		0.02	ug/mL
Silica	7631-86-9	2.5	ug/mL
Scandium		0.02	ug/mL

Lot #: 0006470623
Vendor: CPI

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2005064	Silica QCS Stock Standard 1000ppm	12/01/2020	** Vendor **	07/31/2026	12/08/2020 16:13 by MH	0.25
2101000	ICP Internal Standard	03/17/2021	Marissa Huff	07/31/2022	04/13/2021 08:52 by MH	0.5

Analytical Standard Record

Turner Laboratories, Inc.

2005064

Description: Silica QCS Stock Standard 1000ppm Expires: 07/31/2026
Standard Type: Analyte Spike Prepared: 12/01/2020
Solvent: N/A Prepared By: ** Vendor **
Final Volume (mls): 125 Department: SPECTRO
Vials: 1 Last Edit: 12/08/2020 16:13 by MH

QCS STANDARD
CAT # ICP-014A

Analyte	CAS Number	Concentration	Units
Silica	7631-86-9	1000	ug/mL

Lot #: 0006470623
Vendor: Agilent

Analytical Standard Record

Turner Laboratories, Inc.

2101441

Description: ICP Cal Standard #2
 Standard Type: Calibration Standard
 Solvent: 1% HNO3
 Final Volume (mls): 100
 Vials: 1

Expires: 02/28/2022
 Prepared: 04/15/2021
 Prepared By: Marissa Huff
 Department: ICP
 Last Edit: 04/15/2021 11:18 by MH

Analyte	CAS Number	Concentration	Units
Yttrium		0.02	ug/mL
Sodium	7440-23-5	12.5	ug/mL
Scandium		0.02	ug/mL
Potassium	7440-09-7	12.5	ug/mL
Phosphorus		10	ug/mL
Molybdenum	7439-98-7	1	ug/mL
Magnesium	7439-95-4	12.5	ug/mL
Iron	7439-89-6	20	ug/mL
Calcium	7440-70-2	12.5	ug/mL
Arsenic	7440-38-2	5	ug/mL

Lot #: 10087093-3
 Vendor: CPI

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2003534	ICP Stock Calibration Standard #2	08/14/2020	** Vendor **	02/28/2022	04/07/2021 10:38 by MH	1
2101000	ICP Internal Standard	03/17/2021	Marissa Huff	07/31/2022	04/13/2021 08:52 by MH	0.5

Analytical Standard Record

Turner Laboratories, Inc.

2101440

Description: ICP ICV/CCV #4
 Standard Type: Calibration Standard
 Solvent: 1% HNO3
 Final Volume (mls): 100
 Vials: 1

Expires: 04/15/2022
 Prepared: 04/15/2021
 Prepared By: Marissa Huff
 Department: ICP
 Last Edit: 04/15/2021 11:17 by MH

Analyte	CAS Number	Concentration	Units
Yttrium		0.02	ug/mL
Silica	7631-86-9	2.5	ug/mL
Scandium		0.02	ug/mL

Lot #: 0006470623
 Vendor: CPI

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2005064	Silica QCS Stock Standard 1000ppm	12/01/2020	** Vendor **	07/31/2026	12/08/2020 16:13 by MH	0.25
2101000	ICP Internal Standard	03/17/2021	Marissa Huff	07/31/2022	04/13/2021 08:52 by MH	0.5

Analytical Standard Record

Turner Laboratories, Inc.

2101359

Description: 1:1 Nitric for Metals 200.7 Digestions
Standard Type: Reagent
Solvent: DI H2O
Final Volume (mls): 500
Vials: 1

Expires: 04/09/2022
Prepared: 04/09/2021
Prepared By: Lilian Bodley
Department: ICP
Last Edit: 04/09/2021 13:39 by LB

500 mL HNO3 (2100816) in 500 mL DI H2O

Analyte	CAS Number	Concentration	Units
			NA

Lot #: K0618
Vendor: n/a

Analytical Standard Record

Turner Laboratories, Inc.

2100816

Description: Nitric Acid Trace Metal
Standard Type: Reagent
Solvent: N/A
Final Volume (mls): 2500
Vials: 4

Expires: 09/30/2025
Prepared: 03/05/2021
Prepared By: Lilian Bodley
Department: ICP
Last Edit: 04/13/2021 10:04 by LB

Received in lab 4) 2.5 L
P/N A200C-212

Analyte	CAS Number	Concentration	Units
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Lot #: 198276
Vendor: ACP

Analytical Standard Record

Turner Laboratories, Inc.

2101360

Description: 1:1 HCl for 200.7 Digestions
Standard Type: Reagent
Solvent: DI H2O
Final Volume (mls): 500
Vials: 1

Expires: 04/09/2022
Prepared: 04/09/2021
Prepared By: Lilian Bodley
Department: ICP
Last Edit: 04/09/2021 13:39 by LB

Add 500 mL HCl (2100746) to 500 mL DI water.

Analyte	CAS Number	Concentration	Units
			NA

Lot #: 4119060

Vendor: n/a

Analytical Standard Record

Turner Laboratories, Inc.

2100746

Description: Hydrochloric Acid Trace Metal
Standard Type: Reagent
Solvent: N/A
Final Volume (mls): 2500
Vials: 4

Expires: 10/08/2023
Prepared: 03/01/2021
Prepared By: Lilian Bodley
Department: ICP
Last Edit: 03/01/2021 14:39 by LB

Received in lab: 4) 2.5 L HCl

Analyte	CAS Number	Concentration	Units
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Lot #: 4120020

Vendor: Fisher

Analytical Standard Record

Turner Laboratories, Inc.

2001459

Description: ICP PQL Check
 Standard Type: Analyte Spike
 Solvent: 5% HNO3 + tr HF
 Final Volume (mls): 100
 Vials: 1

Expires: 04/30/2021
 Prepared: 04/08/2020
 Prepared By: ** Vendor **
 Department: ICP
 Last Edit: 09/10/2020 11:18 by MH

P/N 4400-140815NB05

Expiration sticker on bottle differs from C of A (C of A expiry date reflected in LIMS). contacted CPI to confirm validity period.

Analyte	CAS Number	Concentration	Units
Magnesium	7439-95-4	300	ug/mL
Antimony	7440-36-0	20	ug/mL
Arsenic	7440-38-2	4	ug/mL
Barium	7440-39-3	5	ug/mL
Beryllium	7440-41-7	0.2	ug/mL
Boron	7440-42-8	10	ug/mL
Cadmium	7440-43-9	0.2	ug/mL
Calcium	7440-70-2	400	ug/mL
Chromium	7440-47-3	3	ug/mL
Cobalt	7440-48-4	10	ug/mL
Copper	7440-50-8	2	ug/mL
Aluminum	7429-90-5	200	ug/mL
Lead	7439-92-1	4	ug/mL
Zinc	7440-66-6	4	ug/mL
Manganese	7439-96-5	2	ug/mL
Molybdenum	7439-98-7	1	ug/mL
Nickel	7440-02-0	5	ug/mL
Phosphorus		50	ug/mL
Potassium	7440-09-7	500	ug/mL
Selenium	7782-49-2	4	ug/mL
Silver	7440-22-4	1	ug/mL
Sodium	7440-23-5	500	ug/mL
Thallium	7440-28-0	5	ug/mL
Vanadium	7440-62-2	10	ug/mL
Iron	7439-89-6	30	ug/mL

Lot #: 10080053-3

Vendor: CPI

Analytical Standard Record

Turner Laboratories, Inc.

2100525

Description: ICP Spike A
Standard Type: Analyte Spike
Solvent: 5% HNO3/ Tr HF
Final Volume (mls): 250
Vials: 1

Expires: 08/31/2022
Prepared: 02/12/2021
Prepared By: ** Vendor **
Department: ICP
Last Edit: 02/12/2021 15:06 by MH

Spike Solution for 200.7 Analysis / 200.2 Digestions
P/N 4400-SPIKE1-250

Analyte	CAS Number	Concentration	Units
Iron	7439-89-6	100	ug/mL
Antimony	7440-36-0	50	ug/mL
Arsenic	7440-38-2	200	ug/mL
Barium	7440-39-3	200	ug/mL
Beryllium	7440-41-7	5	ug/mL
Cadmium	7440-43-9	5	ug/mL
Chromium	7440-47-3	20	ug/mL
Aluminum	7429-90-5	200	ug/mL
Copper	7440-50-8	25	ug/mL
Zinc	7440-66-6	50	ug/mL
Lead	7439-92-1	50	ug/mL
Manganese	7439-96-5	50	ug/mL
Nickel	7440-02-0	50	ug/mL
Selenium	7782-49-2	200	ug/mL
Silver	7440-22-4	5	ug/mL
Thallium	7440-28-0	200	ug/mL
Vanadium	7440-62-2	50	ug/mL
Cobalt	7440-48-4	50	ug/mL

Lot #: 10065588-12
Vendor: CPI

Analytical Standard Record

Turner Laboratories, Inc.

2101204

Description: SiO2 PQL check
 Standard Type: Analyte Spike
 Solvent: 1% HNO3
 Final Volume (mls): 50
 Vials: 1

Expires: 01/31/2022
 Prepared: 04/01/2021
 Prepared By: ** Vendor **
 Department: ICP
 Last Edit: 04/05/2021 08:01 by MH

10 ppm SiO2 to make SiO2 pql check

Analyte	CAS Number	Concentration	Units
Silica	7631-86-9	10	ug/mL

Lot #: A1011
 Vendor: Hach

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2100713	Silica Standard Solution 1000ppm	02/25/2021	** Vendor **	01/31/2022	04/05/2021 08:01 by MH	0.5

Analytical Standard Record

Turner Laboratories, Inc.

2003408

Description: Nitric Acid Trace Metal
Standard Type: Reagent
Solvent: N/A
Final Volume (mls): 2500
Vials: 4

Expires: 08/06/2021
Prepared: 08/06/2020
Prepared By: ** Vendor **
Department: ICP
Last Edit: 08/06/2020 08:06 by JG

Received in lab 4) 2.5 L
P/N N-2802

Analyte	CAS Number	Concentration	Units
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Lot #: H2719
Vendor: ACP

ug/mL

TURNER LABORATORIES, INC.

DATA VALIDATION REPORT

LEVEL IV

Work Order No.

21D0200-01

2104129-MS1

2104161-MS1

Dissolved & Total ICPMS Metals

EPA 200.8

Analysis Date – April 13, 14 & 15, 2021

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Date Prepared: 04/15/2021 11:00:00AM

Prep Batch: 2104129 Prep Code: E 200.8 D ICP/MS

Technician: CR

Sample ID	Sample and Source	Matrix	pH	Initial Volume (ml)	Spike 1 Added /uL	Spike 2 Added /uL	Final Vol (ml)	Comments
2104129-BLK	Blank	Non-Potable Water		10	/	/	10	
2104129-BS1	LCS	Non-Potable Water		10	2100198/25	/	10	
2104129-BSD	LCS Dup	Non-Potable Water		10	2100198/25	/	10	
2104129-MS1	Matrix Spike [21D0200-01]	Non-Potable Water		10	2100198/25	/		
21A0441-05	RA3-03	Non-Potable Water		50			50	Report to MDL
21D0185-01	Tribal Herd DW62 Well Id 263	Drinking Water		50			50	
21D0200-01	MW-9-20210407	Drinking Water		50			50	Report samples/MB to MDL
21D0248-01	PLS	Non-Potable Water		50			50	
21D0250-01	Durham	Drinking Water		50			50	
21D0250-02	Hill	Drinking Water		50			50	
21D0250-03	Saddle	Drinking Water		50			50	
21D0342-01	Range Well E1 Well Id #606	Drinking Water		50			50	

lab or field filtered through 0.45um

Number	Reagent Name
2003408	Nitric Acid Trace Metal

Spike ID	Spike Name
2100198	ICP MS Cal Stock w/ Al & Zn (Virtual)

Number	Surrogate Name
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Analysis: U by ICP/MS, Dissolved

Date Prepared: 04/12/2021 12:50:00PM

Prep Batch: 2104161 Prep Code: E 200.8 ICP/MS

Technician: LB

Sample ID	Sample ID and Source	Matrix	pH	Initial Volume (ml)	Spike 1 Added /uL	Spike 2 Added /uL	Final Vol (ml)	Comments
2104161-BLK Blank		Drinking Water		50	/	/	50	
2104161-BS1 LCS		Drinking Water		50	2100198/125	/	50	
2104161-BS1 LCS		Drinking Water		50	2100198/125	/	50	
2104161-MS1 Matrix Spike [21D0184-01]		Drinking Water		50	2100198/125	/	50	
2104161-MS2 Matrix Spike [21D0256-01]		Drinking Water		50	2100198/125	/	50	
21C0733-03 AVRW0112		Drinking Water		50			50	
21D0106-03 Concentrate		Drinking Water		50			50	
21D0111-01 Composite		Non-Potable Water		50			50	Custom limit
21D0115-01 Discharge		Non-Potable Water		50			50	
21D0146-01 Well		Drinking Water		50			50	
21D0148-01 MW19-12-20210405		Drinking Water		50			50	Report samples/MB to MDL
21D0148-02 BW-1-20210405		Drinking Water		50			50	Report samples/MB to MDL
21D0148-03 VW20-16-20210405		Drinking Water		50			50	Report samples/MB to MDL
21D0148-04 VW-20-13-20210405		Drinking Water		50			50	Report samples/MB to MDL
21D0148-05 TSDW19-1RRR-20210405		Drinking Water		50			50	Report samples/MB to MDL
21D0148-06 TS-MW19-13-20210405		Drinking Water		50			50	Report samples/MB to MDL
21D0148-07 TW-542020-20210405		Drinking Water		50			50	Report samples/MB to MDL
21D0184-01 Comp		Non-Potable Water		50			50	Added for BatchQC in: 2104161
21D0200-01 MW-9-20210407		Drinking Water		50			50	Report samples/MB to MDL
21D0215-03 Concentrate		Drinking Water		50			50	
21D0256-01 Effluent		Non-Potable Water		50			50	Added for BatchQC in: 2104161
21D0273-03 Concentrate		Drinking Water		50			50	

Digested at 95 deg C

Turner Report Sample List

4/13/2021 3:27:12 PM



Sample List Summary:

Instrument Name: iCAP RQ
 Filename: 210413_1.imexp

4/13/2021
4/14/2021

Index:	Label:	Main runs:	Survey runs:	Start time:	User name:
1	Blank	3	1	4/13/2021 11:09:01 AM	TURNER\PEService
2	Cal Std 1 <i>2101339</i>	3	1	4/13/2021 11:12:28 AM	TURNER\PEService
3	Cal Std 2 <i>2101340</i>	3	1	4/13/2021 11:15:55 AM	TURNER\PEService
4	Cal Std 3 <i>2101341</i>	3	1	4/13/2021 11:19:22 AM	TURNER\PEService
5	Cal Std 4 <i>2101342</i>	3	1	4/13/2021 11:22:50 AM	TURNER\PEService
6	ICB	3	1	4/13/2021 11:26:19 AM	TURNER\PEService
7	IPC <i>2101341</i>	3	1	4/13/2021 11:29:45 AM	TURNER\PEService
8	ICV	3	1	4/13/2021 11:33:13 AM	TURNER\PEService
9	ICV <i>2101343</i>	3	1	4/13/2021 11:36:43 AM	TURNER\PEService
10	ICV <i>2101402</i>	3	1	4/13/2021 11:45:49 AM	TURNER\PEService
11	0.25 CHK STD	3	1	4/13/2021 11:49:19 AM	TURNER\PEService
12	0.50 CHK STD	3	1	4/13/2021 11:52:45 AM	TURNER\PEService
13	40 CHK STD	3	1	4/13/2021 11:56:12 AM	TURNER\PEService
14	2104105-BLK1	3	1	4/13/2021 11:59:39 AM	TURNER\PEService
15	21C0683-05	3	1	4/13/2021 12:03:06 PM	TURNER\PEService
16	CCB	3	1	4/13/2021 12:06:34 PM	TURNER\PEService
17	CCV <i>2101402</i>	3	1	4/13/2021 12:10:01 PM	TURNER\PEService
18	2104161-BLK1	3	1	4/13/2021 12:13:31 PM	TURNER\PEService
19	2104161-BS1	3	1	4/13/2021 12:16:59 PM	TURNER\PEService
20	2104161-BSD1	3	1	4/13/2021 12:20:27 PM	TURNER\PEService
21	TEST BS (NR)	3	1	4/13/2021 12:23:56 PM	TURNER\PEService
22	TEST BSD (NR)	3	1	4/13/2021 12:27:25 PM	TURNER\PEService
23	21D0184-01	3	1	4/13/2021 12:30:54 PM	TURNER\PEService
24	2104161-MS1	3	1	4/13/2021 12:34:24 PM	TURNER\PEService
25	21D0256-01	3	1	4/13/2021 12:37:55 PM	TURNER\PEService
26	2104161-MS2	3	1	4/13/2021 12:41:20 PM	TURNER\PEService
27	CCB	3	1	4/13/2021 12:44:47 PM	TURNER\PEService
28	CCB	3	1	4/13/2021 12:48:14 PM	TURNER\PEService
29	CCV	3	1	4/13/2021 12:51:41 PM	TURNER\PEService
30	21D0184-01@20	3	1	4/13/2021 12:58:15 PM	TURNER\PEService
31	2104161-MS1@20	3	1	4/13/2021 1:01:42 PM	TURNER\PEService
32	21D0256-01@20	3	1	4/13/2021 1:05:10 PM	TURNER\PEService
33	2104161-MS2@20	3	1	4/13/2021 1:08:37 PM	TURNER\PEService
34	CCB	3	1	4/13/2021 1:12:04 PM	TURNER\PEService
35	CCV	3	1	4/13/2021 1:15:32 PM	TURNER\PEService
36	21D0148-01	3	1	4/13/2021 1:20:06 PM	TURNER\PEService
37	21D0148-02	3	1	4/13/2021 1:23:33 PM	TURNER\PEService
38	21D0148-03	3	1	4/13/2021 1:27:01 PM	TURNER\PEService
39	21D0148-04	3	1	4/13/2021 1:30:28 PM	TURNER\PEService
40	21D0148-05	3	1	4/13/2021 1:33:56 PM	TURNER\PEService
41	21D0148-06	3	1	4/13/2021 1:37:25 PM	TURNER\PEService
42	21D0148-07	3	1	4/13/2021 1:40:54 PM	TURNER\PEService
43	21D0200-01	3	1	4/13/2021 1:44:23 PM	TURNER\PEService
44	CCB	3	1	4/13/2021 1:47:52 PM	TURNER\PEService

OK
4/13/21

0.25 CHK STD = 0.25 mc st 1/3 2100805 diluted to 1mc
0.50 CHK STD = 0.50 mc st 2100805 diluted to 1mc

Turner Report Sample List

4/13/2021 3:27:12 PM



Index:	Label:	Main runs:	Survey runs:	Start time:	User name:
45	CCV	3	1	4/13/2021 1:51:20 PM	TURNER\PEService
46	21D0148-01@5	3	1	4/13/2021 1:55:20 PM	TURNER\PEService
47	21D0148-02@2	3	1	4/13/2021 1:58:48 PM	TURNER\PEService
48	21D0148-03@10	3	1	4/13/2021 2:02:17 PM	TURNER\PEService
49	21D0148-04@2	3	1	4/13/2021 2:05:46 PM	TURNER\PEService
50	21D0148-05@5	3	1	4/13/2021 2:09:15 PM	TURNER\PEService
51	21D0148-06@5	3	1	4/13/2021 2:12:45 PM	TURNER\PEService
52	21D0148-07@5	3	1	4/13/2021 2:16:14 PM	TURNER\PEService
53	21D0200-01@20	3	1	4/13/2021 2:19:45 PM	TURNER\PEService
54	21D0148-01@10	3	1	4/13/2021 2:23:15 PM	TURNER\PEService
55	21D0148-02@5	3	1	4/13/2021 2:26:44 PM	TURNER\PEService
56	CCB	3	1	4/13/2021 2:31:02 PM	TURNER\PEService
57	CCV	3	1	4/13/2021 2:34:30 PM	TURNER\PEService
58	21D0106-03@100	3	1	4/13/2021 2:39:08 PM	TURNER\PEService
59	21D0215-03@100	3	1	4/13/2021 2:42:38 PM	TURNER\PEService
60	21D0273-03@100	3	1	4/13/2021 2:46:09 PM	TURNER\PEService
61	CCB	3	1	4/13/2021 2:49:37 PM	TURNER\PEService
62	CCB	3	1	4/13/2021 2:53:06 PM	TURNER\PEService
63	CCV	3	1	4/13/2021 3:02:37 PM	TURNER\PEService
64	21C0733-03	3	1	4/13/2021 3:06:10 PM	TURNER\PEService
65	21D0115-01	3	1	4/13/2021 3:09:38 PM	TURNER\PEService
66	21D0146-01	3	1	4/13/2021 3:13:06 PM	TURNER\PEService
67	21D0111-01	3	1	4/13/2021 3:16:35 PM	TURNER\PEService
68	CCB	3	1	4/13/2021 3:20:04 PM	TURNER\PEService
69	CCV	3	1	4/13/2021 3:23:33 PM	TURNER\PEService

Turner Report Sample List

4/13/2021 3:27:12 PM



Calibration Summary

Index	5
Label	Cal Std 4
Category	Correlation Coefficient
6Li (STDR)	
9Be (STDR)	.9999939
27Al (STDR)	.9999878
45Sc (STDR)	
45Sc (KEDR)	
51V (STDR)	.9999752
51V (KEDR)	.9997649
52Cr (STDR)	.9999915
52Cr (KEDR)	.9997305
55Mn (STDR)	.9999974
55Mn (KEDR)	.999792
59Co (STDR)	.9999842
59Co (KEDR)	.9997894
60Ni (STDR)	.9999567
60Ni (KEDR)	.9997792
63Cu (STDR)	.9999683
63Cu (KEDR)	.9999985
66Zn (STDR)	.9999957
66Zn (KEDR)	.9999646
74Ge (STDR)	
74Ge (KEDR)	
75As (STDR)	.9999925
75As (KEDR)	.9999615
82Se (STDR)	.9999742
82Se (KEDR)	.9997165
98Mo (STDR)	.9999868
98Mo (KEDR)	.9999984
107Ag (STDR)	.9999377
107Ag (KEDR)	.9999691
111Cd (STDR)	.9999952
111Cd (KEDR)	.9999962
115In (STDR)	
115In (KEDR)	
121Sb (STDR)	.999995
121Sb (KEDR)	.9999935
137Ba (STDR)	.9999952
137Ba (KEDR)	.9999958
205Tl (STDR)	.9999904
205Tl (KEDR)	.9999759
208Pb (STDR)	.9999871
208Pb (KEDR)	.9999949
209Bi (STDR)	
209Bi (KEDR)	
238U (STDR)	.999999
238U (KEDR)	.9999876

Cur 4/13/21

Turner Report Sample Summary

4/13/2021 11:12:27 AM
ICAP RQ ICP-MS



Analysis index: 1
Analysis name: Blank
Analysis started at: 4/13/2021 11:09:01 AM

Category	Intensity average	Raw Intensity average
6Li (STDR) [cps]	65,949	65,949
9Be (STDR) [cps]	97	97
27Al (STDR) [cps]	11,630	11,630
45Sc (STDR) [cps]	173,138	190,519
45Sc (KEDR) [cps]	6,547	6,547
51V (STDR) [cps]	-9,002	223,167
51V (KEDR) [cps]	236	236
55Mn (STDR) [cps]	1,783	1,783
55Mn (KEDR) [cps]	86	86
52Cr (STDR) [cps]	-47,259	13,594
52Cr (KEDR) [cps]	184	184
59Co (STDR) [cps]	187	187
59Co (KEDR) [cps]	27	27
60Ni (STDR) [cps]	427	427
60Ni (KEDR) [cps]	136	136
63Cu (STDR) [cps]	7,471	7,471
63Cu (KEDR) [cps]	174	174
66Zn (STDR) [cps]	5,116	5,116
66Zn (KEDR) [cps]	1,448	1,448
74Ge (STDR) [cps]	345,633	346,001
74Ge (KEDR) [cps]	60,984	60,984
75As (STDR) [cps]	-69	9,197
75As (KEDR) [cps]	7	7
82Se (STDR) [cps]	-155	232
82Se (KEDR) [cps]	12	12
98Mo (STDR) [cps]	137	140
98Mo (KEDR) [cps]	83	83
107Ag (STDR) [cps]	423	423
107Ag (KEDR) [cps]	298	298
111Cd (STDR) [cps]	313	3
111Cd (KEDR) [cps]	1	1
115In (STDR) [cps]	537,918	537,923
115In (KEDR) [cps]	138,349	138,349
121Sb (STDR) [cps]	256	257
121Sb (KEDR) [cps]	88	88
137Ba (STDR) [cps]	1,778	1,778
137Ba (KEDR) [cps]	488	488
205Tl (STDR) [cps]	2,137	2,137
205Tl (KEDR) [cps]	2,327	2,327
208Pb (STDR) [cps]	382	202
208Pb (KEDR) [cps]	224	224
209Bi (STDR) [cps]	761,605	761,605
209Bi (KEDR) [cps]	790,164	790,164
238U (STDR) [cps]	67	67
238U (KEDR) [cps]	105	105

Blank
4/13/21

Turner Report Sample Summary

4/13/2021 11:15:55 AM
ICAP RQ ICP-MS



W. 4/13/21

Analysis index: 2
Analysis name: Cal Std 1
Analysis started at: 4/13/2021 11:12:28 AM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	99.909 %	1.1 %	65,888 cps	65,888 cps
9Be (STDR)	1.000 ppb	2.9 %	3,254 cps	3,254 cps
27Al (STDR)	1.000 ppb	2.7 %	27,251 cps	27,251 cps
45Sc (STDR)	102.233 %	0.4 %	177,004 cps	193,792 cps
45Sc (KEDR)	103.872 %	2.7 %	6,800 cps	6,800 cps
51V (STDR)	1.000 ppb	15.5 %	13,689 cps	271,052 cps
51V (KEDR)	1.000 ppb	3.1 %	4,459 cps	4,459 cps
55Mn (STDR)	1.000 ppb	1.3 %	42,462 cps	42,462 cps
55Mn (KEDR)	1.000 ppb	4.2 %	3,304 cps	3,304 cps
52Cr (STDR)	1.000 ppb	8.1 %	-30,132 cps	40,452 cps
52Cr (KEDR)	1.000 ppb	4.5 %	6,495 cps	6,495 cps
59Co (STDR)	1.000 ppb	1.9 %	30,905 cps	30,905 cps
59Co (KEDR)	1.000 ppb	1.2 %	11,881 cps	11,881 cps
60Ni (STDR)	1.000 ppb	1.3 %	8,014 cps	8,014 cps
60Ni (KEDR)	1.000 ppb	3.6 %	3,590 cps	3,590 cps
63Cu (STDR)	1.000 ppb	1.3 %	24,586 cps	24,586 cps
63Cu (KEDR)	1.000 ppb	1.4 %	9,459 cps	9,459 cps
66Zn (STDR)	1.000 ppb	2.3 %	12,119 cps	12,119 cps
66Zn (KEDR)	1.000 ppb	3.2 %	3,500 cps	3,500 cps
74Ge (STDR)	101.247 %	0.1 %	349,945 cps	350,401 cps
74Ge (KEDR)	101.070 %	1.1 %	61,637 cps	61,637 cps
75As (STDR)	1.000 ppb	1.3 %	5,031 cps	15,051 cps
75As (KEDR)	1.000 ppb	2.2 %	857 cps	857 cps
82Se (STDR)	1.000 ppb	28.5 %	361 cps	867 cps
82Se (KEDR)	1.000 ppb	44.3 %	54 cps	54 cps
98Mo (STDR)	1.000 ppb	0.3 %	17,772 cps	17,776 cps
98Mo (KEDR)	1.000 ppb	0.9 %	11,074 cps	11,074 cps
107Ag (STDR)	1.000 ppb	0.8 %	33,363 cps	33,363 cps
107Ag (KEDR)	1.000 ppb	0.4 %	25,009 cps	25,009 cps
111Cd (STDR)	1.000 ppb	1.8 %	8,699 cps	8,470 cps
111Cd (KEDR)	1.000 ppb	4.4 %	4,474 cps	4,474 cps
115In (STDR)	101.873 %	0.5 %	547,995 cps	547,999 cps
115In (KEDR)	101.428 %	1.2 %	140,324 cps	140,324 cps
121Sb (STDR)	1.000 ppb	2.1 %	29,236 cps	29,238 cps
121Sb (KEDR)	1.000 ppb	0.2 %	9,820 cps	9,820 cps
137Ba (STDR)	1.000 ppb	3.4 %	13,888 cps	13,888 cps
137Ba (KEDR)	1.000 ppb	3.0 %	4,297 cps	4,297 cps
205Tl (STDR)	1.000 ppb	0.5 %	109,387 cps	109,387 cps
205Tl (KEDR)	1.000 ppb	1.2 %	121,154 cps	121,154 cps
208Pb (STDR)	1.000 ppb	0.1 %	149,321 cps	79,172 cps
208Pb (KEDR)	1.000 ppb	0.4 %	88,029 cps	88,029 cps
209Bi (STDR)	99.775 %	0.6 %	759,893 cps	759,893 cps
209Bi (KEDR)	101.201 %	0.2 %	799,652 cps	799,652 cps
238U (STDR)	1.000 ppb	0.5 %	169,235 cps	169,235 cps
238U (KEDR)	1.000 ppb	1.4 %	202,808 cps	202,808 cps

Turner Report Sample Summary

4/13/2021 11:19:22 AM
ICAP RQ ICP-MS



W. J. Smith

Analysis index: 3
Analysis name: Cal Std 2
Analysis started at: 4/13/2021 11:15:55 AM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	100.717 %	1.0 %	66,421 cps	66,421 cps
9Be (STDR)	10.001 ppb	1.9 %	32,143 cps	32,143 cps
27Al (STDR)	10.003 ppb	1.2 %	170,680 cps	170,680 cps
45Sc (STDR)	101.094 %	0.6 %	175,033 cps	191,364 cps
45Sc (KEDR)	101.617 %	2.0 %	6,653 cps	6,653 cps
51V (STDR)	10.013 ppb	0.7 %	251,095 cps	507,604 cps
51V (KEDR)	10.002 ppb	2.4 %	42,260 cps	42,260 cps
55Mn (STDR)	9.999 ppb	0.6 %	401,445 cps	401,445 cps
55Mn (KEDR)	10.001 ppb	3.3 %	31,977 cps	31,977 cps
52Cr (STDR)	10.028 ppb	0.9 %	203,333 cps	273,987 cps
52Cr (KEDR)	10.004 ppb	2.2 %	64,428 cps	64,428 cps
59Co (STDR)	10.003 ppb	0.5 %	312,822 cps	312,822 cps
59Co (KEDR)	10.003 ppb	2.7 %	120,222 cps	120,222 cps
60Ni (STDR)	9.994 ppb	0.7 %	71,140 cps	71,140 cps
60Ni (KEDR)	9.998 ppb	2.8 %	33,495 cps	33,495 cps
63Cu (STDR)	10.002 ppb	0.7 %	179,477 cps	179,477 cps
63Cu (KEDR)	10.000 ppb	1.8 %	92,000 cps	92,000 cps
66Zn (STDR)	9.981 ppb	0.2 %	62,742 cps	62,742 cps
66Zn (KEDR)	9.981 ppb	2.0 %	18,323 cps	18,323 cps
74Ge (STDR)	100.722 %	1.3 %	348,129 cps	348,995 cps
74Ge (KEDR)	100.581 %	1.4 %	61,339 cps	61,339 cps
75As (STDR)	9.998 ppb	1.2 %	49,661 cps	58,693 cps
75As (KEDR)	9.997 ppb	1.2 %	8,185 cps	8,185 cps
82Se (STDR)	10.003 ppb	0.4 %	5,143 cps	5,563 cps
82Se (KEDR)	9.976 ppb	12.7 %	351 cps	351 cps
98Mo (STDR)	10.000 ppb	1.8 %	176,516 cps	176,519 cps
98Mo (KEDR)	10.002 ppb	1.3 %	111,714 cps	111,714 cps
107Ag (STDR)	10.002 ppb	0.6 %	334,836 cps	334,836 cps
107Ag (KEDR)	10.003 ppb	1.1 %	254,822 cps	254,822 cps
111Cd (STDR)	10.001 ppb	0.7 %	84,871 cps	85,010 cps
111Cd (KEDR)	10.000 ppb	1.2 %	44,502 cps	44,502 cps
115In (STDR)	101.892 %	0.3 %	548,093 cps	548,098 cps
115In (KEDR)	101.036 %	0.2 %	139,782 cps	139,782 cps
121Sb (STDR)	10.001 ppb	1.3 %	291,630 cps	291,631 cps
121Sb (KEDR)	10.003 ppb	0.7 %	100,055 cps	100,055 cps
137Ba (STDR)	9.999 ppb	1.0 %	121,387 cps	121,387 cps
137Ba (KEDR)	9.997 ppb	0.6 %	37,442 cps	37,442 cps
205Tl (STDR)	10.003 ppb	0.2 %	1,104,408 cps	1,104,408 cps
205Tl (KEDR)	10.002 ppb	0.5 %	1,216,709 cps	1,216,709 cps
208Pb (STDR)	10.002 ppb	0.3 %	1,518,376 cps	806,742 cps
208Pb (KEDR)	10.001 ppb	0.7 %	892,380 cps	892,380 cps
209Bi (STDR)	99.941 %	0.6 %	761,155 cps	761,155 cps
209Bi (KEDR)	101.437 %	1.0 %	801,516 cps	801,516 cps
238U (STDR)	10.001 ppb	0.9 %	1,720,200 cps	1,720,200 cps
238U (KEDR)	10.001 ppb	1.0 %	2,060,577 cps	2,060,577 cps

Turner Report Sample Summary

4/13/2021 11:22:50 AM
ICAP RQ ICP-MS



Analysis index: 4
Analysis name: Cal Std 3
Analysis started at: 4/13/2021 11:19:22 AM

aw 4/13/21

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	99.411 %	0.3 %	65,560 cps	65,560 cps
9Be (STDR)	50.025 ppb	1.5 %	160,375 cps	160,375 cps
27Al (STDR)	50.009 ppb	1.1 %	803,113 cps	803,113 cps
45Sc (STDR)	100.637 %	0.6 %	174,241 cps	190,152 cps
45Sc (KEDR)	100.166 %	5.8 %	6,558 cps	6,558 cps
51V (STDR)	50.019 ppb	0.9 %	1,293,597 cps	1,532,564 cps
51V (KEDR)	50.019 ppb	4.9 %	209,070 cps	209,070 cps
55Mn (STDR)	49.983 ppb	0.6 %	1,965,130 cps	1,965,130 cps
55Mn (KEDR)	50.017 ppb	4.1 %	158,498 cps	158,498 cps
52Cr (STDR)	50.042 ppb	0.9 %	1,222,778 cps	1,288,375 cps
52Cr (KEDR)	50.001 ppb	3.8 %	316,501 cps	316,501 cps
59Co (STDR)	49.996 ppb	0.8 %	1,543,397 cps	1,543,397 cps
59Co (KEDR)	50.009 ppb	3.1 %	594,717 cps	594,717 cps
60Ni (STDR)	49.989 ppb	0.1 %	348,346 cps	348,346 cps
60Ni (KEDR)	49.994 ppb	3.1 %	164,022 cps	164,022 cps
63Cu (STDR)	49.994 ppb	0.8 %	854,024 cps	854,024 cps
63Cu (KEDR)	50.010 ppb	2.3 %	454,850 cps	454,850 cps
66Zn (STDR)	49.979 ppb	1.1 %	286,621 cps	286,621 cps
66Zn (KEDR)	50.022 ppb	1.7 %	85,655 cps	85,655 cps
74Ge (STDR)	99.046 %	0.7 %	342,335 cps	344,942 cps
74Ge (KEDR)	99.129 %	0.9 %	60,453 cps	60,453 cps
75As (STDR)	50.045 ppb	2.0 %	250,304 cps	252,627 cps
75As (KEDR)	50.054 ppb	0.6 %	41,475 cps	41,475 cps
82Se (STDR)	50.016 ppb	2.8 %	26,095 cps	26,510 cps
82Se (KEDR)	50.149 ppb	3.3 %	1,823 cps	1,823 cps
98Mo (STDR)	50.018 ppb	0.3 %	874,356 cps	874,358 cps
98Mo (KEDR)	49.997 ppb	0.1 %	547,851 cps	547,851 cps
107Ag (STDR)	50.013 ppb	0.6 %	1,651,663 cps	1,651,663 cps
107Ag (KEDR)	50.003 ppb	1.3 %	1,251,880 cps	1,251,880 cps
111Cd (STDR)	50.034 ppb	0.3 %	422,298 cps	423,523 cps
111Cd (KEDR)	50.027 ppb	0.4 %	221,464 cps	221,464 cps
115In (STDR)	99.936 %	1.3 %	537,575 cps	537,581 cps
115In (KEDR)	99.144 %	0.7 %	137,165 cps	137,165 cps
121Sb (STDR)	50.037 ppb	0.6 %	1,458,863 cps	1,458,864 cps
121Sb (KEDR)	50.034 ppb	1.1 %	499,658 cps	499,658 cps
137Ba (STDR)	50.031 ppb	1.6 %	600,579 cps	600,579 cps
137Ba (KEDR)	49.984 ppb	0.7 %	180,975 cps	180,975 cps
205Tl (STDR)	50.011 ppb	1.4 %	5,544,742 cps	5,544,742 cps
205Tl (KEDR)	49.946 ppb	0.7 %	5,883,200 cps	5,883,200 cps
208Pb (STDR)	50.019 ppb	1.1 %	7,671,793 cps	4,104,482 cps
208Pb (KEDR)	49.954 ppb	0.5 %	4,339,419 cps	4,339,419 cps
209Bi (STDR)	100.082 %	1.0 %	762,230 cps	762,230 cps
209Bi (KEDR)	101.049 %	0.4 %	798,453 cps	798,453 cps
238U (STDR)	50.020 ppb	0.9 %	8,702,224 cps	8,702,224 cps
238U (KEDR)	49.918 ppb	0.4 %	9,845,943 cps	9,845,943 cps

Turner Report Sample Summary

4/13/2021 11:26:19 AM
iCAP RQ ICP-MS



WU1314

Analysis index: 5
Analysis name: Cal Std 4
Analysis started at: 4/13/2021 11:22:50 AM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	98.359 %	1.3 %	64,866 cps	64,866 cps
9Be (STDR)	100.124 ppb	0.5 %	319,167 cps	319,167 cps
27Al (STDR)	100.192 ppb	0.1 %	1,597,269 cps	1,597,269 cps
45Sc (STDR)	100.165 %	1.0 %	173,424 cps	189,104 cps
45Sc (KEDR)	102.445 %	1.1 %	6,707 cps	6,707 cps
51V (STDR)	99.735 ppb	0.9 %	2,548,339 cps	2,786,849 cps
51V (KEDR)	99.156 ppb	1.1 %	409,561 cps	409,561 cps
55Mn (STDR)	99.920 ppb	0.8 %	3,891,949 cps	3,891,949 cps
55Mn (KEDR)	99.206 ppb	0.3 %	310,488 cps	310,488 cps
52Cr (STDR)	99.983 ppb	1.3 %	2,475,255 cps	2,538,885 cps
52Cr (KEDR)	99.096 ppb	0.8 %	618,101 cps	618,101 cps
59Co (STDR)	99.781 ppb	1.5 %	3,035,214 cps	3,035,214 cps
59Co (KEDR)	99.201 ppb	0.5 %	1,162,080 cps	1,162,080 cps
60Ni (STDR)	99.639 ppb	1.4 %	680,054 cps	680,054 cps
60Ni (KEDR)	99.182 ppb	0.2 %	320,002 cps	320,002 cps
63Cu (STDR)	100.312 ppb	0.9 %	1,715,106 cps	1,715,106 cps
63Cu (KEDR)	99.936 ppb	0.4 %	918,072 cps	918,072 cps
66Zn (STDR)	99.947 ppb	0.8 %	562,956 cps	562,956 cps
66Zn (KEDR)	99.687 ppb	0.6 %	169,087 cps	169,087 cps
74Ge (STDR)	98.259 %	0.5 %	339,615 cps	344,394 cps
74Ge (KEDR)	99.713 %	0.7 %	60,809 cps	60,809 cps
75As (STDR)	99.892 ppb	0.4 %	493,573 cps	490,393 cps
75As (KEDR)	99.682 ppb	0.7 %	82,042 cps	82,042 cps
82Se (STDR)	99.722 ppb	0.9 %	51,116 cps	51,516 cps
82Se (KEDR)	100.873 ppb	3.5 %	3,793 cps	3,793 cps
98Mo (STDR)	100.197 ppb	0.8 %	1,739,858 cps	1,739,863 cps
98Mo (KEDR)	99.930 ppb	0.4 %	1,089,196 cps	1,089,196 cps
107Ag (STDR)	100.437 ppb	0.9 %	3,317,914 cps	3,317,914 cps
107Ag (KEDR)	99.693 ppb	0.3 %	2,452,586 cps	2,452,586 cps
111Cd (STDR)	100.094 ppb	0.5 %	832,870 cps	836,504 cps
111Cd (KEDR)	99.912 ppb	0.7 %	437,698 cps	437,698 cps
115In (STDR)	98.100 %	0.8 %	527,698 cps	527,708 cps
115In (KEDR)	98.303 %	1.4 %	136,001 cps	136,001 cps
121Sb (STDR)	100.090 ppb	1.4 %	2,874,137 cps	2,874,138 cps
121Sb (KEDR)	99.884 ppb	0.4 %	984,405 cps	984,405 cps
137Ba (STDR)	99.903 ppb	0.3 %	1,171,130 cps	1,171,130 cps
137Ba (KEDR)	100.107 ppb	2.1 %	360,169 cps	360,169 cps
205Tl (STDR)	100.170 ppb	1.3 %	10,966,651 cps	10,966,651 cps
205Tl (KEDR)	100.243 ppb	0.7 %	11,793,738 cps	11,793,738 cps
208Pb (STDR)	100.195 ppb	0.6 %	15,192,178 cps	8,077,104 cps
208Pb (KEDR)	100.065 ppb	1.0 %	8,623,802 cps	8,623,802 cps
209Bi (STDR)	98.198 %	0.9 %	747,879 cps	747,879 cps
209Bi (KEDR)	100.007 %	0.8 %	790,216 cps	790,216 cps
238U (STDR)	100.029 ppb	1.2 %	17,093,370 cps	17,093,370 cps
238U (KEDR)	99.955 ppb	0.7 %	19,477,635 cps	19,477,635 cps

Turner Report Sample Summary

4/13/2021 11:29:45 AM
ICAP RQ ICP-MS



W. 4/13/21

Analysis index: 6
Analysis name: ICB
Analysis started at: 4/13/2021 11:26:19 AM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	96.784 %	1.4 %	63,828 cps	63,828 cps
9Be (STDR)	0.015 ppb	14.6 %	142 cps	142 cps
27Al (STDR)	-0.012 ppb	35.6 %	11,128 cps	11,128 cps
45Sc (STDR)	97.719 %	0.9 %	169,189 cps	185,111 cps
45Sc (KEDR)	97.504 %	3.5 %	6,383 cps	6,383 cps
51V (STDR)	-0.021 ppb	115.3 %	-9,318 cps	186,254 cps
51V (KEDR)	0.041 ppb	7.7 %	390 cps	390 cps
55Mn (STDR)	0.039 ppb	5.5 %	3,222 cps	3,222 cps
55Mn (KEDR)	0.060 ppb	14.4 %	262 cps	262 cps
52Cr (STDR)	-0.019 ppb	44.6 %	-46,629 cps	13,564 cps
52Cr (KEDR)	0.024 ppb	28.9 %	324 cps	324 cps
59Co (STDR)	0.011 ppb	24.2 %	503 cps	503 cps
59Co (KEDR)	0.015 ppb	4.1 %	189 cps	189 cps
60Ni (STDR)	0.033 ppb	25.1 %	635 cps	635 cps
60Ni (KEDR)	0.041 ppb	26.5 %	260 cps	260 cps
63Cu (STDR)	-0.001 ppb	339.7 %	7,277 cps	7,277 cps
63Cu (KEDR)	0.017 ppb	20.2 %	318 cps	318 cps
66Zn (STDR)	0.011 ppb	300.9 %	5,053 cps	5,053 cps
66Zn (KEDR)	0.027 ppb	127.3 %	1,450 cps	1,450 cps
74Ge (STDR)	97.493 %	0.6 %	336,968 cps	337,329 cps
74Ge (KEDR)	96.913 %	0.6 %	59,102 cps	59,102 cps
75As (STDR)	-0.041 ppb	51.9 %	-273 cps	8,631 cps
75As (KEDR)	0.023 ppb	23.1 %	25 cps	25 cps
82Se (STDR)	0.034 ppb	430.9 %	-133 cps	300 cps
82Se (KEDR)	0.193 ppb	102.5 %	18 cps	18 cps
98Mo (STDR)	0.039 ppb	9.8 %	805 cps	808 cps
98Mo (KEDR)	0.048 ppb	2.7 %	594 cps	594 cps
107Ag (STDR)	0.019 ppb	19.7 %	1,022 cps	1,022 cps
107Ag (KEDR)	0.024 ppb	10.9 %	855 cps	855 cps
111Cd (STDR)	0.004 ppb	142.1 %	339 cps	90 cps
111Cd (KEDR)	0.013 ppb	15.1 %	57 cps	57 cps
115In (STDR)	97.642 %	1.2 %	525,235 cps	525,239 cps
115In (KEDR)	96.179 %	0.8 %	133,063 cps	133,063 cps
121Sb (STDR)	0.016 ppb	10.8 %	696 cps	697 cps
121Sb (KEDR)	0.016 ppb	14.4 %	236 cps	236 cps
137Ba (STDR)	0.011 ppb	100.3 %	1,867 cps	1,867 cps
137Ba (KEDR)	0.018 ppb	82.9 %	535 cps	535 cps
205Tl (STDR)	0.056 ppb	4.8 %	8,244 cps	8,244 cps
205Tl (KEDR)	0.073 ppb	8.8 %	10,780 cps	10,780 cps
208Pb (STDR)	0.012 ppb	1.6 %	2,202 cps	1,252 cps
208Pb (KEDR)	0.015 ppb	12.7 %	1,503 cps	1,503 cps
209Bi (STDR)	97.922 %	0.6 %	745,781 cps	745,781 cps
209Bi (KEDR)	98.275 %	0.6 %	776,531 cps	776,531 cps
238U (STDR)	0.013 ppb	5.8 %	2,340 cps	2,340 cps
238U (KEDR)	0.016 ppb	10.1 %	3,129 cps	3,129 cps

Turner Report Sample Summary

4/13/2021 11:33:13 AM
ICAP RQ ICP-MS



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4/13/21

Analysis index: 7
Analysis name: IPC
Analysis started at: 4/13/2021 11:29:45 AM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	97.757 %	1.0 %	64,469 cps	64,469 cps
9Be (STDR)	49.613 ppb	1.8 %	156,940 cps	156,940 cps
27Al (STDR)	49.419 ppb	0.8 %	779,074 cps	779,074 cps
45Sc (STDR)	97.280 %	0.2 %	168,429 cps	183,878 cps
45Sc (KEDR)	98.905 %	1.5 %	6,475 cps	6,475 cps
51V (STDR)	51.166 ppb	0.4 %	1,269,101 cps	1,491,437 cps
51V (KEDR)	51.135 ppb	2.1 %	204,416 cps	204,416 cps
55Mn (STDR)	50.582 ppb	2.0 %	1,923,466 cps	1,923,466 cps
55Mn (KEDR)	51.030 ppb	1.6 %	154,735 cps	154,735 cps
52Cr (STDR)	50.349 ppb	0.3 %	1,191,809 cps	1,254,901 cps
52Cr (KEDR)	51.247 ppb	2.5 %	309,352 cps	309,352 cps
59Co (STDR)	50.274 ppb	0.7 %	1,495,336 cps	1,495,336 cps
59Co (KEDR)	50.851 ppb	1.0 %	577,805 cps	577,805 cps
60Ni (STDR)	50.165 ppb	0.8 %	335,137 cps	335,137 cps
60Ni (KEDR)	50.746 ppb	0.8 %	158,926 cps	158,926 cps
63Cu (STDR)	49.550 ppb	0.9 %	833,607 cps	833,607 cps
63Cu (KEDR)	49.805 ppb	1.5 %	444,489 cps	444,489 cps
66Zn (STDR)	49.858 ppb	1.9 %	277,982 cps	277,982 cps
66Zn (KEDR)	50.789 ppb	0.5 %	84,455 cps	84,455 cps
74Ge (STDR)	96.776 %	0.8 %	334,490 cps	337,050 cps
74Ge (KEDR)	97.221 %	0.4 %	59,290 cps	59,290 cps
75As (STDR)	50.125 ppb	1.2 %	243,948 cps	245,524 cps
75As (KEDR)	50.093 ppb	0.3 %	40,217 cps	40,217 cps
82Se (STDR)	51.399 ppb	1.8 %	25,923 cps	26,311 cps
82Se (KEDR)	51.316 ppb	4.8 %	1,892 cps	1,892 cps
98Mo (STDR)	49.915 ppb	0.4 %	858,459 cps	858,462 cps
98Mo (KEDR)	49.720 ppb	0.6 %	533,001 cps	533,001 cps
107Ag (STDR)	49.422 ppb	1.1 %	1,620,494 cps	1,620,494 cps
107Ag (KEDR)	50.250 ppb	1.0 %	1,219,828 cps	1,219,828 cps
111Cd (STDR)	50.324 ppb	0.7 %	416,100 cps	417,221 cps
111Cd (KEDR)	49.560 ppb	1.1 %	214,512 cps	214,512 cps
115In (STDR)	97.534 %	0.2 %	524,655 cps	524,659 cps
115In (KEDR)	97.272 %	0.8 %	134,574 cps	134,574 cps
121Sb (STDR)	50.110 ppb	0.1 %	1,431,471 cps	1,431,471 cps
121Sb (KEDR)	49.495 ppb	0.2 %	482,548 cps	482,548 cps
137Ba (STDR)	49.573 ppb	0.4 %	579,603 cps	579,603 cps
137Ba (KEDR)	49.478 ppb	1.3 %	176,158 cps	176,158 cps
205Tl (STDR)	49.521 ppb	1.1 %	5,427,603 cps	5,427,603 cps
205Tl (KEDR)	49.679 ppb	1.2 %	5,750,706 cps	5,750,706 cps
208Pb (STDR)	49.340 ppb	0.8 %	7,490,023 cps	3,986,816 cps
208Pb (KEDR)	49.777 ppb	1.5 %	4,219,343 cps	4,219,343 cps
209Bi (STDR)	98.314 %	0.7 %	748,761 cps	748,761 cps
209Bi (KEDR)	98.345 %	0.4 %	777,087 cps	777,087 cps
238U (STDR)	49.215 ppb	0.6 %	8,420,512 cps	8,420,512 cps
238U (KEDR)	49.977 ppb	0.8 %	9,577,309 cps	9,577,309 cps

Turner Report Sample Summary

4/13/2021 11:36:43 AM
ICAP RQ ICP-MS



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Analysis index: 8
Analysis name: ICV
Analysis started at: 4/13/2021 11:33:13 AM

Repair & Re-run

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	98.532 %	1.0 %	64,980 cps	64,980 cps
9Be (STDR)	53.232 ppb	1.9 %	169,764 cps	169,764 cps
27Al (STDR)	108.871 ppb	1.1 %	1,719,279 cps	1,719,279 cps
45Sc (STDR)	98.380 %	0.4 %	170,334 cps	185,781 cps
45Sc (KEDR)	102.496 %	2.8 %	6,710 cps	6,710 cps
51V (STDR)	55.395 ↑	0.8	1,390,251 cps	1,635,013 cps
51V (KEDR)	54.124 ppb	2.5 %	222,793 cps	222,793 cps
55Mn (STDR)	55.971 ↑	0.2	2,152,381 cps	2,152,381 cps
55Mn (KEDR)	54.399 ppb	2.0 %	169,179 cps	169,179 cps
52Cr (STDR)	54.534 ppb	0.1 %	1,309,335 cps	1,378,863 cps
52Cr (KEDR)	54.101 ppb	2.9 %	335,945 cps	335,945 cps
59Co (STDR)	54.417 ppb	0.4 %	1,636,940 cps	1,636,940 cps
59Co (KEDR)	53.883 ppb	2.3 %	625,355 cps	625,355 cps
60Ni (STDR)	55.013	0.4	371,659 cps	371,659 cps
60Ni (KEDR)	54.390 ppb	1.5 %	173,811 cps	173,811 cps
63Cu (STDR)	53.940 ppb	0.5 %	917,134 cps	917,134 cps
63Cu (KEDR)	53.307 ppb	1.6 %	483,935 cps	483,935 cps
66Zn (STDR)	108.895 ppb	0.6 %	608,141 cps	608,141 cps
66Zn (KEDR)	108.612 ppb	1.7 %	181,516 cps	181,516 cps
74Ge (STDR)	97.876 %	0.6 %	338,292 cps	341,005 cps
74Ge (KEDR)	97.766 %	1.0 %	59,622 cps	59,622 cps
75As (STDR)	55.132 ↑	1.1	271,408 cps	273,020 cps
75As (KEDR)	54.588 ppb	1.4 %	44,079 cps	44,079 cps
82Se (STDR)	53.850 ppb	2.7 %	27,496 cps	27,911 cps
82Se (KEDR)	52.588 ppb	9.1 %	1,953 cps	1,953 cps
98Mo (STDR)	53.687 ppb	0.6 %	935,779 cps	935,781 cps
98Mo (KEDR)	53.965 ppb	0.5 %	584,869 cps	584,869 cps
107Ag (STDR)	53.245 ppb	0.7 %	1,770,758 cps	1,770,758 cps
107Ag (KEDR)	53.917 ppb	0.5 %	1,325,871 cps	1,325,871 cps
111Cd (STDR)	53.772 ppb	0.2 %	451,093 cps	453,245 cps
111Cd (KEDR)	53.464 ppb	0.3 %	234,637 cps	234,637 cps
115In (STDR)	98.996 %	0.4 %	532,516 cps	532,530 cps
115In (KEDR)	98.710 %	0.8 %	136,564 cps	136,564 cps
121Sb (STDR)	54.497 ppb	0.6 %	1,580,041 cps	1,580,044 cps
121Sb (KEDR)	53.783 ppb	0.6 %	531,948 cps	531,948 cps
137Ba (STDR)	54.395 ppb	0.7 %	645,227 cps	645,227 cps
137Ba (KEDR)	54.226 ppb	0.3 %	195,659 cps	195,659 cps
205Tl (STDR)	56.420 ↑	1.2	6,271,559 cps	6,271,559 cps
205Tl (KEDR)	57.034 ↑	1.2	6,670,100 cps	6,670,100 cps
208Pb (STDR)	53.264 ppb	0.8 %	8,200,393 cps	4,378,720 cps
208Pb (KEDR)	53.943 ppb	0.5 %	4,619,045 cps	4,619,045 cps
209Bi (STDR)	99.708 %	0.6 %	759,381 cps	759,381 cps
209Bi (KEDR)	99.347 %	0.3 %	785,005 cps	785,005 cps
238U (STDR)	54.460 ppb	0.2 %	9,450,009 cps	9,450,009 cps
238U (KEDR)	55.809 ↑	0.4	10,803,590 cps	10,803,590 cps

Turner Report Sample Summary

4/13/2021 11:40:12 AM
ICAP RQ ICP-MS



W. W. W. W.

Analysis index: 9
Analysis name: ICV
Analysis started at: 4/13/2021 11:36:43 AM

Remake & Refill

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	100.036 %	0.4 %	65,972 cps	65,972 cps
9Be (STDR)	52.932 ppb	0.9 %	171,273 cps	171,273 cps
27Al (STDR)	107.739 ppb	0.9 %	1,718,931 cps	1,718,931 cps
45Sc (STDR)	98.964 %	0.9 %	171,344 cps	187,207 cps
45Sc (KEDR)	100.407 %	3.2 %	6,573 cps	6,573 cps
51V (STDR)	55.257 ↑	0.9	1,392,703 cps	1,641,270 cps
51V (KEDR)	54.964 ppb	2.2 %	222,470 cps	222,470 cps
55Mn (STDR)	56.221 †	1.1	2,168,867 cps	2,168,867 cps
55Mn (KEDR)	55.149	1.5	169,076 cps	169,076 cps
52Cr (STDR)	54.241 ppb	0.4 %	1,307,312 cps	1,377,347 cps
52Cr (KEDR)	54.973 ppb	1.8 %	335,919 cps	335,919 cps
59Co (STDR)	54.567 ppb	1.5 %	1,644,826 cps	1,644,826 cps
59Co (KEDR)	54.896 ppb	2.4 %	629,641 cps	629,641 cps
60Ni (STDR)	54.991 ppb	1.0 %	372,174 cps	372,174 cps
60Ni (KEDR)	54.725 ppb	1.5 %	172,939 cps	172,939 cps
63Cu (STDR)	54.027 ppb	0.6 %	919,535 cps	919,535 cps
63Cu (KEDR)	53.436 ppb	0.8 %	480,688 cps	480,688 cps
66Zn (STDR)	109.216 ppb	0.9 %	610,047 cps	610,047 cps
66Zn (KEDR)	108.293 ppb	0.5 %	179,679 cps	179,679 cps
74Ge (STDR)	97.683 %	0.6 %	337,626 cps	340,396 cps
74Ge (KEDR)	97.563 %	0.9 %	59,498 cps	59,498 cps
75As (STDR)	54.013 ppb	0.8 %	265,443 cps	270,531 cps
75As (KEDR)	54.359 ppb	0.9 %	43,795 cps	43,795 cps
82Se (STDR)	52.387 ppb	1.0 %	26,746 cps	27,139 cps
82Se (KEDR)	54.105 ppb	2.8 %	2,001 cps	2,001 cps
98Mo (STDR)	52.943 ppb	1.1 %	926,665 cps	926,668 cps
98Mo (KEDR)	53.685 ppb	0.4 %	577,158 cps	577,158 cps
107Ag (STDR)	52.738 ppb	0.3 %	1,765,224 cps	1,765,224 cps
107Ag (KEDR)	54.420 ppb	0.4 %	1,324,562 cps	1,324,562 cps
111Cd (STDR)	53.569 ppb	0.9 %	452,738 cps	454,900 cps
111Cd (KEDR)	54.012 ppb	1.1 %	234,388 cps	234,388 cps
115In (STDR)	99.834 %	0.6 %	537,028 cps	537,044 cps
115In (KEDR)	97.507 %	0.4 %	134,900 cps	134,900 cps
121Sb (STDR)	54.361 ppb	0.7 %	1,588,685 cps	1,588,687 cps
121Sb (KEDR)	54.368 ppb	0.7 %	531,753 cps	531,753 cps
137Ba (STDR)	53.857 ppb	0.2 %	643,215 cps	643,215 cps
137Ba (KEDR)	54.752 ppb	0.4 %	195,918 cps	195,918 cps
205Tl (STDR)	56.477 †	1.5	6,288,976 cps	6,288,976 cps
205Tl (KEDR)	56.659	1.5	6,650,872 cps	6,650,872 cps
208Pb (STDR)	53.352 ppb	0.6 %	8,226,474 cps	4,389,671 cps
208Pb (KEDR)	53.038 ppb	0.6 %	4,561,263 cps	4,561,263 cps
209Bi (STDR)	99.853 %	0.7 %	760,486 cps	760,486 cps
209Bi (KEDR)	99.793 %	0.9 %	788,529 cps	788,529 cps
238U (STDR)	54.783 ppb	0.4 %	9,519,971 cps	9,519,971 cps
238U (KEDR)	55.355 ↑	1.2	10,763,145 cps	10,763,145 cps

Turner Report Sample Summary

4/13/2021 11:49:19 AM
ICAP RQ ICP-MS



W. Allison

Analysis index: 10
Analysis name: ICV
Analysis started at: 4/13/2021 11:45:49 AM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	99.919 %	0.4 %	65,895 cps	65,895 cps
9Be (STDR)	48.645 ppb	0.4 %	157,230 cps	157,230 cps
27Al (STDR)	98.525 ppb	1.0 %	1,571,168 cps	1,571,168 cps
45Sc (STDR)	98.865 %	1.1 %	171,173 cps	185,418 cps
45Sc (KEDR)	100.013 %	0.9 %	6,548 cps	6,548 cps
51V (STDR)	50.592 ppb	1.2 %	1,274,441 cps	1,509,065 cps
51V (KEDR)	50.236 ppb	0.9 %	202,870 cps	202,870 cps
55Mn (STDR)	49.839 ppb	1.0 %	1,924,430 cps	1,924,430 cps
55Mn (KEDR)	50.138 ppb	1.0 %	153,461 cps	153,461 cps
52Cr (STDR)	49.589 ppb	0.6 %	1,191,443 cps	1,252,537 cps
52Cr (KEDR)	49.900 ppb	0.1 %	304,250 cps	304,250 cps
59Co (STDR)	49.469 ppb	0.5 %	1,493,526 cps	1,493,526 cps
59Co (KEDR)	50.084 ppb	0.8 %	573,958 cps	573,958 cps
60Ni (STDR)	49.927 ppb	1.0 %	338,532 cps	338,532 cps
60Ni (KEDR)	49.786 ppb	0.5 %	157,226 cps	157,226 cps
63Cu (STDR)	48.565 ppb	1.0 %	829,194 cps	829,194 cps
63Cu (KEDR)	49.355 ppb	1.5 %	443,897 cps	443,897 cps
66Zn (STDR)	99.791 ppb	1.1 %	559,396 cps	559,396 cps
66Zn (KEDR)	99.992 ppb	0.4 %	166,082 cps	166,082 cps
74Ge (STDR)	98.101 %	0.3 %	339,068 cps	341,582 cps
74Ge (KEDR)	97.763 %	1.3 %	59,620 cps	59,620 cps
75As (STDR)	49.900 ppb	0.8 %	246,190 cps	248,115 cps
75As (KEDR)	50.695 ppb	2.2 %	40,925 cps	40,925 cps
82Se (STDR)	49.519 ppb	0.2 %	25,315 cps	25,686 cps
82Se (KEDR)	50.006 ppb	4.6 %	1,854 cps	1,854 cps
98Mo (STDR)	48.638 ppb	0.6 %	848,235 cps	848,237 cps
98Mo (KEDR)	49.201 ppb	0.4 %	530,567 cps	530,567 cps
107Ag (STDR)	47.205 ppb	1.0 %	1,569,759 cps	1,569,759 cps
107Ag (KEDR)	48.437 ppb	1.6 %	1,182,877 cps	1,182,877 cps
111Cd (STDR)	48.967 ppb	0.8 %	410,638 cps	412,229 cps
111Cd (KEDR)	49.084 ppb	0.4 %	213,759 cps	213,759 cps
115In (STDR)	98.926 %	0.3 %	532,142 cps	532,149 cps
115In (KEDR)	97.875 %	1.5 %	135,408 cps	135,408 cps
121Sb (STDR)	49.263 ppb	0.2 %	1,427,982 cps	1,427,984 cps
121Sb (KEDR)	49.454 ppb	0.9 %	485,286 cps	485,286 cps
137Ba (STDR)	48.891 ppb	0.4 %	580,704 cps	580,704 cps
137Ba (KEDR)	49.326 ppb	0.3 %	176,959 cps	176,959 cps
205Tl (STDR)	50.745 ppb	1.7 %	5,676,460 cps	5,676,460 cps
205Tl (KEDR)	51.258 ppb	1.1 %	6,005,073 cps	6,005,073 cps
208Pb (STDR)	47.831 ppb	0.6 %	7,412,087 cps	3,935,853 cps
208Pb (KEDR)	48.664 ppb	0.6 %	4,175,657 cps	4,175,657 cps
209Bi (STDR)	100.367 %	0.1 %	764,402 cps	764,402 cps
209Bi (KEDR)	99.566 %	0.7 %	786,733 cps	786,733 cps
238U (STDR)	49.308 ppb	2.4 %	8,612,841 cps	8,612,841 cps
238U (KEDR)	50.153 ppb	0.9 %	9,729,795 cps	9,729,795 cps

Turner Report Sample Summary

4/13/2021 11:52:45 AM
ICAP RQ ICP-MS



W. W. W. W.

Analysis index: 11
Analysis name: 0.25 CHK STD
Analysis started at: 4/13/2021 11:49:19 AM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	100.849 %	0.9 %	66,509 cps	66,509 cps
9Be (STDR)	0.261 ppb	13.7 %	947 cps	947 cps
27Al (STDR)	0.348 ppb	13.7 %	17,040 cps	17,040 cps
45Sc (STDR)	97.726 %	0.3 %	169,201 cps	184,821 cps
45Sc (KEDR)	98.777 %	3.4 %	6,467 cps	6,467 cps
51V (STDR)	0.195 ppb	22.8 %	-3,883 cps	207,945 cps
51V (KEDR)	0.284 ppb	5.3 %	1,369 cps	1,369 cps
55Mn (STDR)	0.287 ppb	1.1 %	12,745 cps	12,745 cps
55Mn (KEDR)	0.312 ppb	3.5 %	1,033 cps	1,033 cps
52Cr (STDR)	0.295 ppb	5.5 %	-38,938 cps	20,023 cps
52Cr (KEDR)	0.276 ppb	3.9 %	1,848 cps	1,848 cps
59Co (STDR)	0.257 ppb	1.6 %	7,906 cps	7,906 cps
59Co (KEDR)	0.266 ppb	1.2 %	3,065 cps	3,065 cps
60Ni (STDR)	0.253 ppb	7.8 %	2,120 cps	2,120 cps
60Ni (KEDR)	0.325 ppb	16.4 %	1,156 cps	1,156 cps
63Cu (STDR)	0.082 ppb	21.0 %	8,703 cps	8,703 cps
63Cu (KEDR)	0.253 ppb	2.8 %	2,439 cps	2,439 cps
66Zn (STDR)	0.079 ppb	7.1 %	5,453 cps	5,453 cps
66Zn (KEDR)	0.161 ppb	10.8 %	1,690 cps	1,690 cps
74Ge (STDR)	98.186 %	1.1 %	339,362 cps	339,713 cps
74Ge (KEDR)	98.235 %	0.8 %	59,908 cps	59,908 cps
75As (STDR)	0.331 ppb	26.9 %	1,564 cps	9,949 cps
75As (KEDR)	0.262 ppb	15.7 %	219 cps	219 cps
82Se (STDR)	0.463 ppb	33.3 %	86 cps	402 cps
82Se (KEDR)	0.345 ppb	50.2 %	24 cps	24 cps
98Mo (STDR)	0.269 ppb	3.5 %	4,817 cps	4,818 cps
98Mo (KEDR)	0.259 ppb	2.1 %	2,869 cps	2,869 cps
107Ag (STDR)	0.256 ppb	4.0 %	8,887 cps	8,887 cps
107Ag (KEDR)	0.268 ppb	1.7 %	6,808 cps	6,808 cps
111Cd (STDR)	0.243 ppb	1.2 %	2,330 cps	2,097 cps
111Cd (KEDR)	0.245 ppb	7.5 %	1,061 cps	1,061 cps
115In (STDR)	98.354 %	1.4 %	529,063 cps	529,066 cps
115In (KEDR)	97.265 %	0.4 %	134,565 cps	134,565 cps
121Sb (STDR)	0.258 ppb	1.6 %	7,687 cps	7,687 cps
121Sb (KEDR)	0.254 ppb	1.4 %	2,566 cps	2,566 cps
137Ba (STDR)	0.242 ppb	1.0 %	4,584 cps	4,584 cps
137Ba (KEDR)	0.272 ppb	3.6 %	1,443 cps	1,443 cps
205Tl (STDR)	0.248 ppb	2.0 %	29,388 cps	29,388 cps
205Tl (KEDR)	0.265 ppb	0.7 %	32,923 cps	32,923 cps
208Pb (STDR)	0.251 ppb	0.6 %	38,615 cps	20,462 cps
208Pb (KEDR)	0.264 ppb	1.5 %	22,562 cps	22,562 cps
209Bi (STDR)	98.528 %	0.6 %	750,391 cps	750,391 cps
209Bi (KEDR)	98.349 %	0.4 %	777,116 cps	777,116 cps
238U (STDR)	0.251 ppb	2.0 %	43,133 cps	43,133 cps
238U (KEDR)	0.269 ppb	1.3 %	51,711 cps	51,711 cps

Turner Report Sample Summary

4/13/2021 11:56:11 AM
ICAP RQ ICP-MS



W. K. 4/13/21

Analysis index: 12
Analysis name: 0.50 CHK STD
Analysis started at: 4/13/2021 11:52:45 AM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	✓ 98.367 %	0.3 %	64,871 cps	64,871 cps
9Be (STDR)	0.494 ppb	7.0 %	1,667 cps	1,667 cps
27Al (STDR)	0.334 ppb	9.8 %	16,539 cps	16,539 cps
45Sc (STDR)	✓ 96.918 %	0.5 %	167,801 cps	183,766 cps
45Sc (KEDR)	92.550 %	16.7 %	6,059 cps	6,059 cps
51V (STDR)	0.478 ppb ✓	11.7 %	3,208 cps	220,926 cps
51V (KEDR)	0.583 ppb	15.1 %	2,365 cps	2,365 cps
55Mn (STDR)	0.540 ppb	0.8 %	22,272 cps	22,272 cps
55Mn (KEDR)	0.605 ppb	16.4 %	1,769 cps	1,769 cps
52Cr (STDR)	0.590 ppb ✓	4.6 %	-31,391 cps	26,333 cps
52Cr (KEDR)	0.597 ppb	18.2 %	3,483 cps	3,483 cps
59Co (STDR)	0.507 ppb	2.5 %	15,306 cps	15,306 cps
59Co (KEDR)	0.553 ppb	16.4 %	5,831 cps	5,831 cps
60Ni (STDR)	0.475 ppb ✓	2.0 %	3,591 cps	3,591 cps
60Ni (KEDR)	0.543 ppb	25.7 %	1,682 cps	1,682 cps
63Cu (STDR)	0.326 ppb ✓	5.4 %	12,725 cps	12,725 cps
63Cu (KEDR)	0.557 ppb	20.1 %	4,738 cps	4,738 cps
66Zn (STDR)	0.958 ppb	7.6 %	10,259 cps	10,259 cps
66Zn (KEDR)	1.137 ppb	32.0 %	3,026 cps	3,026 cps
74Ge (STDR)	✓ 97.621 %	0.5 %	337,409 cps	337,785 cps
74Ge (KEDR)	91.315 %	10.6 %	55,688 cps	55,688 cps
75As (STDR)	0.529 ppb ✓	23.2 %	2,529 cps	11,355 cps
75As (KEDR)	0.560 ppb	15.1 %	424 cps	424 cps
82Se (STDR)	0.494 ppb ✓	31.8 %	102 cps	488 cps
82Se (KEDR)	0.742 ppb	14.4 %	36 cps	36 cps
98Mo (STDR)	0.504 ppb	3.8 %	8,889 cps	8,892 cps
98Mo (KEDR)	0.553 ppb	14.5 %	5,534 cps	5,534 cps
107Ag (STDR)	0.506 ppb ✓	0.4 %	17,185 cps	17,185 cps
107Ag (KEDR)	0.549 ppb	14.0 %	12,490 cps	12,490 cps
111Cd (STDR)	0.483 ppb	3.4 %	4,345 cps	4,179 cps
111Cd (KEDR)	0.544 ppb	12.7 %	2,162 cps	2,162 cps
115In (STDR)	✓ 98.616 %	1.0 %	530,475 cps	530,478 cps
115In (KEDR)	90.013 %	12.9 %	124,532 cps	124,532 cps
121Sb (STDR)	0.507 ppb ✓	2.7 %	14,888 cps	14,889 cps
121Sb (KEDR)	0.554 ppb	17.6 %	5,009 cps	5,009 cps
137Ba (STDR)	0.496 ppb ✓	0.6 %	7,579 cps	7,579 cps
137Ba (KEDR)	0.573 ppb	25.4 %	2,290 cps	2,290 cps
205Tl (STDR)	0.491 ppb ✓	0.7 %	55,793 cps	55,793 cps
205Tl (KEDR)	0.546 ppb	13.0 %	60,711 cps	60,711 cps
208Pb (STDR)	0.501 ppb ✓	1.5 %	76,211 cps	40,153 cps
208Pb (KEDR)	0.569 ppb	14.6 %	44,874 cps	44,874 cps
209Bi (STDR)	✓ 98.025 %	0.9 %	746,565 cps	746,565 cps
209Bi (KEDR)	92.093 %	10.6 %	727,682 cps	727,682 cps
238U (STDR)	0.495 ppb ✓	0.5 %	84,508 cps	84,508 cps
238U (KEDR)	0.575 ppb	13.6 %	102,255 cps	102,255 cps

Turner Report Sample Summary

4/13/2021 11:59:39 AM
iCAP RQ ICP-MS



Handwritten: 4/13/21

Analysis index: 13
Analysis name: 40 CHK STD
Analysis started at: 4/13/2021 11:56:12 AM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	99.878 %	0.9 %	65,868 cps	65,868 cps
9Be (STDR)	37.950 ppb	1.6 %	122,508 cps	122,508 cps
27Al (STDR)	37.911 ppb	1.0 %	607,397 cps	607,397 cps
45Sc (STDR)	97.620 %	1.5 %	169,018 cps	185,158 cps
45Sc (KEDR)	101.019 %	1.5 %	6,613 cps	6,613 cps
51V (STDR)	39.320 ppb	0.4 %	976,787 cps	1,209,924 cps
51V (KEDR)	38.345 ppb	1.2 %	156,300 cps	156,300 cps
55Mn (STDR)	38.477 ppb	0.7 %	1,468,999 cps	1,468,999 cps
55Mn (KEDR)	37.986 ppb	2.4 %	117,244 cps	117,244 cps
52Cr (STDR)	38.612 ppb	1.0 %	906,499 cps	964,775 cps
52Cr (KEDR)	38.051 ppb	1.6 %	234,093 cps	234,093 cps
59Co (STDR)	38.455 ppb	0.8 %	1,148,217 cps	1,148,217 cps
59Co (KEDR)	38.118 ppb	2.0 %	440,183 cps	440,183 cps
60Ni (STDR)	38.126 ppb	0.6 %	255,768 cps	255,768 cps
60Ni (KEDR)	38.168 ppb	1.8 %	121,472 cps	121,472 cps
63Cu (STDR)	37.170 ppb	0.5 %	629,571 cps	629,571 cps
63Cu (KEDR)	37.125 ppb	1.6 %	336,289 cps	336,289 cps
66Zn (STDR)	38.387 ppb	1.3 %	216,024 cps	216,024 cps
66Zn (KEDR)	37.972 ppb	0.9 %	64,371 cps	64,371 cps
74Ge (STDR)	97.174 %	0.7 %	335,866 cps	337,874 cps
74Ge (KEDR)	98.267 %	0.4 %	59,928 cps	59,928 cps
75As (STDR)	37.867 ppb	0.8 %	185,035 cps	189,053 cps
75As (KEDR)	37.622 ppb	1.0 %	30,536 cps	30,536 cps
82Se (STDR)	38.032 ppb	2.1 %	19,221 cps	19,550 cps
82Se (KEDR)	36.253 ppb	8.2 %	1,356 cps	1,356 cps
98Mo (STDR)	37.888 ppb	0.4 %	654,348 cps	654,351 cps
98Mo (KEDR)	37.683 ppb	0.9 %	409,416 cps	409,416 cps
107Ag (STDR)	37.789 ppb	0.6 %	1,244,283 cps	1,244,283 cps
107Ag (KEDR)	37.915 ppb	1.5 %	933,743 cps	933,743 cps
111Cd (STDR)	37.976 ppb	1.2 %	315,373 cps	316,673 cps
111Cd (KEDR)	37.306 ppb	0.6 %	163,884 cps	163,884 cps
115In (STDR)	97.943 %	1.0 %	526,851 cps	526,854 cps
115In (KEDR)	98.764 %	0.8 %	136,639 cps	136,639 cps
121Sb (STDR)	37.893 ppb	1.0 %	1,086,847 cps	1,086,847 cps
121Sb (KEDR)	37.369 ppb	0.4 %	369,634 cps	369,634 cps
137Ba (STDR)	38.052 ppb	1.1 %	446,914 cps	446,914 cps
137Ba (KEDR)	37.373 ppb	0.7 %	134,800 cps	134,800 cps
205Tl (STDR)	37.754 ppb	1.4 %	4,147,168 cps	4,147,168 cps
205Tl (KEDR)	37.644 ppb	1.3 %	4,369,170 cps	4,369,170 cps
208Pb (STDR)	37.522 ppb	0.2 %	5,707,793 cps	3,027,948 cps
208Pb (KEDR)	37.624 ppb	0.4 %	3,196,087 cps	3,196,087 cps
209Bi (STDR)	98.513 %	0.6 %	750,282 cps	750,282 cps
209Bi (KEDR)	98.549 %	1.1 %	778,700 cps	778,700 cps
238U (STDR)	37.136 ppb	1.0 %	6,366,850 cps	6,366,850 cps
238U (KEDR)	37.715 ppb	1.1 %	7,241,912 cps	7,241,912 cps

Turner Report Sample Summary

4/13/2021 12:10:00 PM
ICAP RQ ICP-MS



Analysis index: 16
Analysis name: CCB
Analysis started at: 4/13/2021 12:06:34 PM

W 4/13/21

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	101.171 %	1.5 %	66,721 cps	66,721 cps
9Be (STDR)	0.002 ppb	289.2 %	103 cps	103 cps
27Al (STDR)	-0.026 ppb	97.5 %	11,172 cps	11,172 cps
45Sc (STDR)	98.330 %	1.0 %	170,247 cps	187,135 cps
45Sc (KEDR)	99.172 %	1.7 %	6,493 cps	6,493 cps
51V (STDR)	0.019 ppb	285.1 %	-8,359 cps	233,206 cps
51V (KEDR)	0.066 ppb	19.6 %	498 cps	498 cps
55Mn (STDR)	0.012 ppb	21.8 %	2,227 cps	2,227 cps
55Mn (KEDR)	0.009 ppb	86.4 %	113 cps	113 cps
52Cr (STDR)	0.035 ppb	91.6 %	-45,634 cps	14,473 cps
52Cr (KEDR)	0.007 ppb	31.4 %	224 cps	224 cps
59Co (STDR)	0.001 ppb	103.6 %	205 cps	205 cps
59Co (KEDR)	0.001 ppb	24.8 %	38 cps	38 cps
60Ni (STDR)	-0.007 ppb	111.7 %	373 cps	373 cps
60Ni (KEDR)	-0.003 ppb	154.7 %	125 cps	125 cps
63Cu (STDR)	-0.241 ppb	5.1 %	3,280 cps	3,280 cps
63Cu (KEDR)	0.000 ppb	827.5 %	174 cps	174 cps
66Zn (STDR)	-0.012 ppb	333.6 %	4,969 cps	4,969 cps
66Zn (KEDR)	0.013 ppb	151.4 %	1,453 cps	1,453 cps
74Ge (STDR)	98.514 %	0.2 %	340,496 cps	340,876 cps
74Ge (KEDR)	98.763 %	0.8 %	60,230 cps	60,230 cps
75As (STDR)	-0.008 ppb	571.6 %	-110 cps	9,424 cps
75As (KEDR)	0.007 ppb	1.7 %	13 cps	13 cps
82Se (STDR)	0.191 ppb	54.0 %	-54 cps	252 cps
82Se (KEDR)	-0.063 ppb	61.9 %	9 cps	9 cps
98Mo (STDR)	0.027 ppb	17.2 %	611 cps	612 cps
98Mo (KEDR)	0.030 ppb	3.7 %	403 cps	403 cps
107Ag (STDR)	0.009 ppb	21.9 %	725 cps	725 cps
107Ag (KEDR)	0.010 ppb	15.8 %	528 cps	528 cps
111Cd (STDR)	-0.006 ppb	59.5 %	259 cps	17 cps
111Cd (KEDR)	0.001 ppb	24.3 %	7 cps	7 cps
115In (STDR)	98.747 %	0.5 %	531,178 cps	531,182 cps
115In (KEDR)	96.820 %	0.6 %	133,949 cps	133,949 cps
121Sb (STDR)	0.006 ppb	22.3 %	428 cps	428 cps
121Sb (KEDR)	0.006 ppb	14.7 %	143 cps	143 cps
137Ba (STDR)	0.142 ppb	9.0 %	3,425 cps	3,425 cps
137Ba (KEDR)	0.172 ppb	7.7 %	1,080 cps	1,080 cps
205Tl (STDR)	0.084 ppb	2.5 %	11,282 cps	11,282 cps
205Tl (KEDR)	0.118 ppb	10.1 %	15,766 cps	15,766 cps
208Pb (STDR)	0.001 ppb	21.6 %	500 cps	267 cps
208Pb (KEDR)	0.000 ppb	126.2 %	255 cps	255 cps
209Bi (STDR)	98.061 %	0.6 %	746,840 cps	746,840 cps
209Bi (KEDR)	97.348 %	0.4 %	769,212 cps	769,212 cps
238U (STDR)	0.000 ppb	20.8 %	150 cps	150 cps
238U (KEDR)	0.001 ppb	30.4 %	211 cps	211 cps

Turner Report Sample Summary

4/13/2021 12:13:30 PM
iCAP RQ ICP-MS



Analysis index: 17
Analysis name: CCV
Analysis started at: 4/13/2021 12:10:01 PM

W 4/13/21

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	102.320 %	2.1 %	67,479 cps	67,479 cps
9Be (STDR)	48.115 ppb	1.3 %	158,779 cps	158,779 cps
27Al (STDR)	98.805 ppb	1.2 %	1,581,390 cps	1,581,390 cps
45Sc (STDR)	97.497 %	1.1 %	168,804 cps	185,340 cps
45Sc (KEDR)	100.624 %	1.7 %	6,588 cps	6,588 cps
51V (STDR)	51.078 ppb	0.5 %	1,273,857 cps	1,535,826 cps
51V (KEDR)	50.431 ppb	0.9 %	205,242 cps	205,242 cps
55Mn (STDR)	50.238 ppb	0.4 %	1,925,138 cps	1,925,138 cps
55Mn (KEDR)	50.428 ppb	0.8 %	155,732 cps	155,732 cps
52Cr (STDR)	50.297 ppb	0.4 %	1,197,671 cps	1,258,689 cps
52Cr (KEDR)	50.224 ppb	0.8 %	308,694 cps	308,694 cps
59Co (STDR)	49.743 ppb	1.0 %	1,494,214 cps	1,494,214 cps
59Co (KEDR)	49.867 ppb	1.4 %	577,243 cps	577,243 cps
60Ni (STDR)	50.167 ppb	0.1 %	338,633 cps	338,633 cps
60Ni (KEDR)	50.090 ppb	0.9 %	159,836 cps	159,836 cps
63Cu (STDR)	48.963 ppb	0.3 %	833,753 cps	833,753 cps
63Cu (KEDR)	49.144 ppb	1.1 %	447,004 cps	447,004 cps
66Zn (STDR)	100.802 ppb	0.5 %	564,612 cps	564,612 cps
66Zn (KEDR)	100.400 ppb	1.7 %	168,786 cps	168,786 cps
74Ge (STDR)	98.525 %	1.0 %	340,536 cps	343,132 cps
74Ge (KEDR)	99.201 %	0.9 %	60,497 cps	60,497 cps
75As (STDR)	49.847 ppb	0.7 %	246,903 cps	249,987 cps
75As (KEDR)	49.330 ppb	0.8 %	40,397 cps	40,397 cps
82Se (STDR)	50.407 ppb	1.2 %	25,800 cps	26,092 cps
82Se (KEDR)	49.722 ppb	2.6 %	1,865 cps	1,865 cps
98Mo (STDR)	48.609 ppb	1.3 %	843,266 cps	843,268 cps
98Mo (KEDR)	49.039 ppb	0.9 %	531,536 cps	531,536 cps
107Ag (STDR)	47.589 ppb	0.6 %	1,568,486 cps	1,568,486 cps
107Ag (KEDR)	48.577 ppb	0.3 %	1,188,304 cps	1,188,304 cps
111Cd (STDR)	49.831 ppb	0.7 %	413,522 cps	415,092 cps
111Cd (KEDR)	49.077 ppb	0.6 %	213,740 cps	213,740 cps
115In (STDR)	97.739 %	1.1 %	525,758 cps	525,766 cps
115In (KEDR)	97.719 %	1.0 %	135,193 cps	135,193 cps
121Sb (STDR)	50.098 ppb	0.2 %	1,434,953 cps	1,434,955 cps
121Sb (KEDR)	49.608 ppb	1.0 %	485,656 cps	485,656 cps
137Ba (STDR)	49.914 ppb	1.3 %	585,961 cps	585,961 cps
137Ba (KEDR)	49.501 ppb	1.0 %	176,774 cps	176,774 cps
205Tl (STDR)	52.012 ppb	0.9 %	5,760,067 cps	5,760,067 cps
205Tl (KEDR)	52.727 ppb	0.6 %	6,093,950 cps	6,093,950 cps
208Pb (STDR)	48.212 ppb	0.3 %	7,396,953 cps	3,925,755 cps
208Pb (KEDR)	48.505 ppb	0.7 %	4,104,300 cps	4,104,300 cps
209Bi (STDR)	99.374 %	0.9 %	756,838 cps	756,838 cps
209Bi (KEDR)	98.170 %	0.7 %	775,705 cps	775,705 cps
238U (STDR)	49.203 ppb	0.9 %	8,508,831 cps	8,508,831 cps
238U (KEDR)	50.230 ppb	0.6 %	9,608,521 cps	9,608,521 cps

Turner Report Sample Summary

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iCAP RQ ICP-MS



W. M. 4/13/21

Analysis index: 18
Analysis name: 2104161-BLK1
Analysis started at: 4/13/2021 12:13:31 PM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	100.600 %	0.2 %	66,344 cps	66,344 cps
9Be (STDR)	0.007 ppb	94.3 %	120 cps	120 cps
27Al (STDR)	4.634 ppb	1.1 %	84,533 cps	84,533 cps
45Sc (STDR)	97.446 %	0.5 %	168,717 cps	185,288 cps
45Sc (KEDR)	99.745 %	1.4 %	6,530 cps	6,530 cps
51V (STDR)	-0.175 ppb	38.3 %	-13,146 cps	220,490 cps
51V (KEDR)	0.014 ppb	37.9 %	292 cps	292 cps
55Mn (STDR)	0.087 ppb	4.3 %	5,053 cps	5,053 cps
55Mn (KEDR)	0.083 ppb	2.5 %	339 cps	339 cps
52Cr (STDR)	0.046 ppb	25.2 %	-44,908 cps	14,372 cps
52Cr (KEDR)	0.034 ppb	9.2 %	388 cps	388 cps
59Co (STDR)	0.013 ppb	20.1 %	568 cps	568 cps
59Co (KEDR)	0.012 ppb	10.3 %	164 cps	164 cps
60Ni (STDR)	0.388 ppb	5.3 %	3,012 cps	3,012 cps
60Ni (KEDR)	0.390 ppb	3.6 %	1,358 cps	1,358 cps
63Cu (STDR)	-0.090 ppb	8.6 %	5,763 cps	5,763 cps
63Cu (KEDR)	0.186 ppb	2.2 %	1,833 cps	1,833 cps
66Zn (STDR)	0.536 ppb	5.0 %	7,936 cps	7,936 cps
66Zn (KEDR)	0.512 ppb	11.9 %	2,259 cps	2,259 cps
74Ge (STDR)	97.395 %	0.7 %	336,629 cps	336,996 cps
74Ge (KEDR)	97.320 %	1.5 %	59,350 cps	59,350 cps
75As (STDR)	0.045 ppb	324.6 %	152 cps	9,355 cps
75As (KEDR)	0.017 ppb	68.7 %	20 cps	20 cps
82Se (STDR)	0.150 ppb	105.8 %	-74 cps	248 cps
82Se (KEDR)	0.033 ppb	907.3 %	13 cps	13 cps
98Mo (STDR)	0.021 ppb	28.1 %	489 cps	490 cps
98Mo (KEDR)	0.017 ppb	33.2 %	258 cps	258 cps
107Ag (STDR)	0.007 ppb	18.9 %	653 cps	653 cps
107Ag (KEDR)	0.011 ppb	36.8 %	540 cps	540 cps
111Cd (STDR)	-0.002 ppb	378.7 %	289 cps	42 cps
111Cd (KEDR)	0.005 ppb	47.7 %	24 cps	24 cps
115In (STDR)	97.162 %	0.8 %	522,652 cps	522,706 cps
115In (KEDR)	96.039 %	1.1 %	132,870 cps	132,870 cps
121Sb (STDR)	0.013 ppb	28.5 %	611 cps	612 cps
121Sb (KEDR)	0.010 ppb	10.8 %	181 cps	181 cps
137Ba (STDR)	0.046 ppb	13.7 %	2,254 cps	2,254 cps
137Ba (KEDR)	0.079 ppb	37.3 %	746 cps	746 cps
205Tl (STDR)	0.015 ppb	6.4 %	3,726 cps	3,726 cps
205Tl (KEDR)	0.020 ppb	10.3 %	4,476 cps	4,476 cps
208Pb (STDR)	0.024 ppb	6.4 %	4,017 cps	2,115 cps
208Pb (KEDR)	0.025 ppb	4.9 %	2,296 cps	2,296 cps
209Bi (STDR)	96.749 %	0.3 %	736,841 cps	736,841 cps
209Bi (KEDR)	96.746 %	0.7 %	764,452 cps	764,452 cps
238U (STDR)	0.004 ppb	10.2 %	820 cps	820 cps
238U (KEDR)	0.004 ppb	0.9 %	888 cps	888 cps

Turner Report Sample Summary

4/13/2021 12:20:27 PM
iCAP RQ ICP-MS



W 4/15/21

Analysis index: 19
Analysis name: 2104161-BS1
Analysis started at: 4/13/2021 12:16:59 PM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	100.188 %	2.0 %	66,073 cps	66,073 cps
9Be (STDR)	50.591 ppb	0.6 %	163,743 cps	163,743 cps
27Al (STDR)	104.205 ppb	0.7 %	1,650,865 cps	1,650,865 cps
45Sc (STDR)	97.495 %	0.4 %	168,802 cps	184,966 cps
45Sc (KEDR)	101.745 %	1.8 %	6,661 cps	6,661 cps
51V (STDR)	50.032 ppb	0.4 %	1,245,522 cps	1,488,144 cps
51V (KEDR)	49.849 ppb	1.4 %	204,637 cps	204,637 cps
55Mn (STDR)	49.782 ppb	0.5 %	1,902,445 cps	1,902,445 cps
55Mn (KEDR)	49.939 ppb	1.3 %	155,310 cps	155,310 cps
52Cr (STDR)	49.557 ppb	0.8 %	1,177,117 cps	1,231,998 cps
52Cr (KEDR)	49.084 ppb	0.7 %	304,213 cps	304,213 cps
59Co (STDR)	50.034 ppb	0.9 %	1,497,127 cps	1,497,127 cps
59Co (KEDR)	49.353 ppb	0.1 %	574,412 cps	574,412 cps
60Ni (STDR)	50.279 ppb	1.1 %	337,992 cps	337,992 cps
60Ni (KEDR)	49.064 ppb	0.5 %	157,344 cps	157,344 cps
63Cu (STDR)	49.273 ppb	0.2 %	834,875 cps	834,875 cps
63Cu (KEDR)	48.991 ppb	0.6 %	447,271 cps	447,271 cps
66Zn (STDR)	108.471 ppb	0.6 %	603,704 cps	603,704 cps
66Zn (KEDR)	107.936 ppb	0.7 %	181,798 cps	181,798 cps
74Ge (STDR)	97.752 %	1.3 %	337,863 cps	340,566 cps
74Ge (KEDR)	99.106 %	2.6 %	60,439 cps	60,439 cps
75As (STDR)	51.144 ppb	0.9 %	251,426 cps	252,386 cps
75As (KEDR)	51.610 ppb	2.3 %	42,197 cps	42,197 cps
82Se (STDR)	54.449 ppb	1.2 %	27,744 cps	28,057 cps
82Se (KEDR)	54.571 ppb	3.0 %	2,040 cps	2,040 cps
98Mo (STDR)	48.088 ppb	1.3 %	834,848 cps	834,849 cps
98Mo (KEDR)	48.227 ppb	1.7 %	519,710 cps	519,710 cps
107Ag (STDR)	49.141 ppb	0.7 %	1,626,184 cps	1,626,184 cps
107Ag (KEDR)	50.172 ppb	1.0 %	1,218,119 cps	1,218,119 cps
111Cd (STDR)	50.436 ppb	0.8 %	420,827 cps	422,949 cps
111Cd (KEDR)	50.738 ppb	1.6 %	219,142 cps	219,142 cps
115In (STDR)	98.414 %	0.7 %	529,384 cps	529,438 cps
115In (KEDR)	96.836 %	1.1 %	133,972 cps	133,972 cps
121Sb (STDR)	49.599 ppb	0.2 %	1,428,997 cps	1,428,999 cps
121Sb (KEDR)	49.510 ppb	0.7 %	480,661 cps	480,661 cps
137Ba (STDR)	49.240 ppb	0.4 %	579,915 cps	579,915 cps
137Ba (KEDR)	49.608 ppb	0.4 %	176,022 cps	176,022 cps
205Tl (STDR)	47.825 ppb	0.4 %	5,252,393 cps	5,252,393 cps
205Tl (KEDR)	46.760 ppb	0.3 %	5,413,434 cps	5,413,434 cps
208Pb (STDR)	48.549 ppb	0.4 %	7,382,693 cps	3,928,141 cps
208Pb (KEDR)	48.501 ppb	0.7 %	4,112,130 cps	4,112,130 cps
209Bi (STDR)	98.478 %	0.3 %	750,012 cps	750,012 cps
209Bi (KEDR)	98.375 %	0.2 %	777,326 cps	777,326 cps
238U (STDR)	47.765 ppb	1.4 %	8,186,273 cps	8,186,273 cps
238U (KEDR)	47.852 ppb	0.7 %	9,172,798 cps	9,172,798 cps

Turner Report Sample Summary

4/13/2021 12:23:56 PM
ICAP RQ ICP-MS



Analysis index: 20
Analysis name: 2104161-BSD1
Analysis started at: 4/13/2021 12:20:27 PM

W 4/13/21

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	100.671 %	1.3 %	66,391 cps	66,391 cps
9Be (STDR)	50.849 ppb	1.0 %	165,242 cps	165,242 cps
27Al (STDR)	107.006 ppb	1.1 %	1,693,852 cps	1,693,852 cps
45Sc (STDR)	96.962 %	0.5 %	167,878 cps	184,409 cps
45Sc (KEDR)	100.280 %	2.3 %	6,565 cps	6,565 cps
51V (STDR)	51.159 ppb	1.0 %	1,268,412 cps	1,501,655 cps
51V (KEDR)	50.836 ppb	2.1 %	205,929 cps	205,929 cps
55Mn (STDR)	50.783 ppb	0.9 %	1,934,036 cps	1,934,036 cps
55Mn (KEDR)	50.999 ppb	2.4 %	156,647 cps	156,647 cps
52Cr (STDR)	51.109 ppb	0.3 %	1,210,563 cps	1,260,837 cps
52Cr (KEDR)	50.199 ppb	2.1 %	307,057 cps	307,057 cps
59Co (STDR)	50.034 ppb	0.3 %	1,493,300 cps	1,493,300 cps
59Co (KEDR)	50.216 ppb	1.9 %	577,850 cps	577,850 cps
60Ni (STDR)	50.228 ppb	1.1 %	336,851 cps	336,851 cps
60Ni (KEDR)	50.061 ppb	1.8 %	158,767 cps	158,767 cps
63Cu (STDR)	49.215 ppb	1.5 %	832,439 cps	832,439 cps
63Cu (KEDR)	49.223 ppb	1.8 %	444,765 cps	444,765 cps
66Zn (STDR)	111.436 ppb	1.0 %	619,384 cps	619,384 cps
66Zn (KEDR)	109.984 ppb	1.6 %	183,453 cps	183,453 cps
74Ge (STDR)	97.802 %	0.1 %	338,035 cps	340,759 cps
74Ge (KEDR)	98.367 %	1.5 %	59,989 cps	59,989 cps
75As (STDR)	51.566 ppb	0.9 %	253,556 cps	255,992 cps
75As (KEDR)	51.257 ppb	0.5 %	41,623 cps	41,623 cps
82Se (STDR)	53.824 ppb	1.1 %	27,375 cps	27,691 cps
82Se (KEDR)	55.573 ppb	4.8 %	2,067 cps	2,067 cps
98Mo (STDR)	48.807 ppb	0.6 %	842,070 cps	842,071 cps
98Mo (KEDR)	48.795 ppb	0.8 %	525,492 cps	525,492 cps
107Ag (STDR)	49.876 ppb	0.7 %	1,636,060 cps	1,636,060 cps
107Ag (KEDR)	50.486 ppb	0.8 %	1,227,971 cps	1,227,971 cps
111Cd (STDR)	51.193 ppb	0.6 %	422,932 cps	424,095 cps
111Cd (KEDR)	50.704 ppb	0.6 %	219,639 cps	219,639 cps
115In (STDR)	97.334 %	0.2 %	523,580 cps	523,651 cps
115In (KEDR)	97.230 %	0.7 %	134,516 cps	134,516 cps
121Sb (STDR)	50.310 ppb	0.4 %	1,434,264 cps	1,434,265 cps
121Sb (KEDR)	50.018 ppb	0.3 %	487,502 cps	487,502 cps
137Ba (STDR)	49.703 ppb	0.7 %	579,951 cps	579,951 cps
137Ba (KEDR)	49.773 ppb	0.6 %	177,212 cps	177,212 cps
205Tl (STDR)	48.872 ppb	0.8 %	5,346,651 cps	5,346,651 cps
205Tl (KEDR)	48.138 ppb	1.1 %	5,581,363 cps	5,581,363 cps
208Pb (STDR)	48.795 ppb	0.2 %	7,393,258 cps	3,919,055 cps
208Pb (KEDR)	49.039 ppb	0.7 %	4,163,805 cps	4,163,805 cps
209Bi (STDR)	98.128 %	0.4 %	747,351 cps	747,351 cps
209Bi (KEDR)	98.520 %	0.6 %	778,467 cps	778,467 cps
238U (STDR)	48.259 ppb	0.7 %	8,241,500 cps	8,241,500 cps
238U (KEDR)	48.411 ppb	0.5 %	9,293,493 cps	9,293,493 cps

Turner Report Sample Summary

4/13/2021 12:48:14 PM
iCAP RQ ICP-MS



Analysis index: 27
Analysis name: CCB
Analysis started at: 4/13/2021 12:44:47 PM

ReRun *4/13/21*

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	99.954 %	0.7 %	65,919 cps	65,919 cps
9Be (STDR)	-0.011 ppb	67.8 %	62 cps	62 cps
27Al (STDR)	0.065 ppb	24.7 %	12,213 cps	12,213 cps
45Sc (STDR)	93.350 %	0.5 %	161,625 cps	178,189 cps
45Sc (KEDR)	97.516 %	1.9 %	6,384 cps	6,384 cps
51V (STDR)	-0.063 ppb	292.2 %	-9,889 cps	285,156 cps
51V (KEDR)	0.036 ppb	49.1 %	368 cps	368 cps
55Mn (STDR)	0.004 ppb	43.9 %	1,797 cps	1,797 cps
55Mn (KEDR)	-0.012 ppb	14.6 %	48 cps	48 cps
52Cr (STDR)	0.081 ppb	22.1 %	-42,221 cps	14,667 cps
52Cr (KEDR)	0.008 ppb	54.2 %	228 cps	228 cps
59Co (STDR)	0.002 ppb	36.8 %	245 cps	245 cps
59Co (KEDR)	0.000 ppb	142.6 %	22 cps	22 cps
60Ni (STDR)	-0.006 ppb	73.7 %	360 cps	360 cps
60Ni (KEDR)	-0.005 ppb	61.6 %	113 cps	113 cps
63Cu (STDR)	0.566 ↑	4.9	16,067 cps	16,067 cps
63Cu (KEDR)	0.000 ppb	2,169.7 %	165 cps	165 cps
66Zn (STDR)	0.064 ppb	58.3 %	5,118 cps	5,118 cps
66Zn (KEDR)	-0.025 ppb	103.3 %	1,339 cps	1,339 cps
74Ge (STDR)	93.399 %	1.2 %	322,818 cps	323,315 cps
74Ge (KEDR)	94.323 %	1.0 %	57,522 cps	57,522 cps
75As (STDR)	-0.035 ppb	349.2 %	-234 cps	12,163 cps
75As (KEDR)	0.019 ppb	44.5 %	21 cps	21 cps
82Se (STDR)	-0.209 ppb	103.7 %	-248 cps	372 cps
82Se (KEDR)	0.066 ppb	345.7 %	13 cps	13 cps
98Mo (STDR)	0.037 ppb	11.6 %	741 cps	747 cps
98Mo (KEDR)	0.035 ppb	7.9 %	448 cps	448 cps
107Ag (STDR)	0.007 ppb	26.2 %	615 cps	615 cps
107Ag (KEDR)	0.010 ppb	1.5 %	512 cps	512 cps
111Cd (STDR)	-0.005 ppb	88.6 %	257 cps	18 cps
111Cd (KEDR)	0.001 ppb	106.9 %	7 cps	7 cps
115In (STDR)	95.197 %	0.1 %	512,082 cps	512,086 cps
115In (KEDR)	94.300 %	0.6 %	130,463 cps	130,463 cps
121Sb (STDR)	0.006 ppb	11.5 %	411 cps	412 cps
121Sb (KEDR)	0.006 ppb	37.5 %	138 cps	138 cps
137Ba (STDR)	0.002 ppb	444.2 %	1,715 cps	1,715 cps
137Ba (KEDR)	0.013 ppb	48.0 %	506 cps	506 cps
205Tl (STDR)	0.659 ↑	3.9	72,002 cps	72,002 cps
205Tl (KEDR)	0.810 ↑	3.1	92,669 cps	92,669 cps
208Pb (STDR)	0.001 ppb	30.0 %	577 cps	325 cps
208Pb (KEDR)	0.002 ppb	6.5 %	406 cps	406 cps
209Bi (STDR)	95.236 %	1.1 %	725,321 cps	725,321 cps
209Bi (KEDR)	94.857 %	0.7 %	749,526 cps	749,526 cps
238U (STDR)	0.003 ppb	23.1 %	592 cps	592 cps
238U (KEDR)	0.004 ppb	8.4 %	774 cps	774 cps

Turner Report Sample Summary

4/13/2021 12:51:41 PM
ICAP RQ ICP-MS



W 4/13/21

Analysis index: 28
Analysis name: CCB
Analysis started at: 4/13/2021 12:48:14 PM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	101.067 %	1.8 %	66,652 cps	66,652 cps
9Be (STDR)	-0.006 ppb	21.0 %	77 cps	77 cps
27Al (STDR)	0.076 ppb	38.1 %	12,501 cps	12,501 cps
45Sc (STDR)	94.152 %	1.5 %	163,013 cps	179,955 cps
45Sc (KEDR)	97.618 %	2.7 %	6,391 cps	6,391 cps
51V (STDR)	-0.142 ppb	118.2 %	-11,954 cps	309,231 cps
51V (KEDR)	0.047 ppb	12.2 %	413 cps	413 cps
55Mn (STDR)	0.005 ppb	69.1 %	1,875 cps	1,875 cps
55Mn (KEDR)	-0.007 ppb	116.3 %	61 cps	61 cps
52Cr (STDR)	0.093 ppb	16.3 %	-42,347 cps	15,356 cps
52Cr (KEDR)	0.012 ppb	45.3 %	252 cps	252 cps
59Co (STDR)	0.003 ppb	50.3 %	273 cps	273 cps
59Co (KEDR)	0.003 ppb	48.6 %	64 cps	64 cps
60Ni (STDR)	-0.006 ppb	160.6 %	367 cps	367 cps
60Ni (KEDR)	-0.004 ppb	61.6 %	117 cps	117 cps
63Cu (STDR)	0.404 ppb	3.6 %	13,631 cps	13,631 cps
63Cu (KEDR)	0.002 ppb	89.8 %	180 cps	180 cps
66Zn (STDR)	0.001 ppb	2,478.2 %	4,843 cps	4,843 cps
66Zn (KEDR)	-0.029 ppb	127.9 %	1,327 cps	1,327 cps
74Ge (STDR)	94.706 %	0.4 %	327,335 cps	327,826 cps
74Ge (KEDR)	93.717 %	1.4 %	57,153 cps	57,153 cps
75As (STDR)	0.138 ppb	56.6 %	588 cps	12,915 cps
75As (KEDR)	0.011 ppb	26.8 %	15 cps	15 cps
82Se (STDR)	-0.150 ppb	100.1 %	-221 cps	323 cps
82Se (KEDR)	0.115 ppb	182.9 %	15 cps	15 cps
98Mo (STDR)	0.023 ppb	18.1 %	522 cps	528 cps
98Mo (KEDR)	0.024 ppb	7.3 %	323 cps	323 cps
107Ag (STDR)	0.003 ppb	57.1 %	495 cps	495 cps
107Ag (KEDR)	0.006 ppb	9.2 %	421 cps	421 cps
111Cd (STDR)	-0.001 ppb	182.8 %	288 cps	47 cps
111Cd (KEDR)	0.005 ppb	40.6 %	21 cps	21 cps
115In (STDR)	95.117 %	1.0 %	511,652 cps	511,657 cps
115In (KEDR)	93.335 %	0.9 %	129,128 cps	129,128 cps
121Sb (STDR)	0.008 ppb	17.6 %	460 cps	460 cps
121Sb (KEDR)	0.005 ppb	55.8 %	133 cps	133 cps
137Ba (STDR)	0.001 ppb	604.8 %	1,708 cps	1,708 cps
137Ba (KEDR)	0.018 ppb	85.0 %	516 cps	516 cps
205Tl (STDR)	0.323 ppb	0.9 %	36,721 cps	36,721 cps
205Tl (KEDR)	0.350 ppb	1.1 %	41,147 cps	41,147 cps
208Pb (STDR)	0.004 ppb	5.2 %	1,007 cps	540 cps
208Pb (KEDR)	0.004 ppb	17.8 %	540 cps	540 cps
209Bi (STDR)	96.330 %	1.6 %	733,655 cps	733,655 cps
209Bi (KEDR)	94.583 %	0.8 %	747,358 cps	747,358 cps
238U (STDR)	0.005 ppb	9.2 %	943 cps	943 cps
238U (KEDR)	0.006 ppb	6.1 %	1,192 cps	1,192 cps

Turner Report Sample Summary

4/13/2021 12:55:11 PM
ICAP RQ ICP-MS



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4/13/21

Analysis index: 29
Analysis name: CCV
Analysis started at: 4/13/2021 12:51:41 PM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	101.352 %	0.3 %	66,840 cps	66,840 cps
9Be (STDR)	48.320 ppb	0.3 %	157,647 cps	157,647 cps
27Al (STDR)	97.987 ppb	0.3 %	1,530,716 cps	1,530,716 cps
45Sc (STDR)	93.860 %	0.2 %	162,508 cps	179,256 cps
45Sc (KEDR)	97.058 %	4.5 %	6,354 cps	6,354 cps
51V (STDR)	50.016 ppb	0.6 %	1,198,861 cps	1,541,747 cps
51V (KEDR)	49.753 ppb	3.4 %	194,411 cps	194,411 cps
55Mn (STDR)	49.844 ppb	1.0 %	1,834,156 cps	1,834,156 cps
55Mn (KEDR)	50.004 ppb	3.5 %	147,889 cps	147,889 cps
52Cr (STDR)	49.501 ppb	0.5 %	1,132,101 cps	1,190,694 cps
52Cr (KEDR)	49.517 ppb	3.4 %	292,034 cps	292,034 cps
59Co (STDR)	49.511 ppb	0.9 %	1,426,695 cps	1,426,695 cps
59Co (KEDR)	48.870 ppb	3.0 %	540,508 cps	540,508 cps
60Ni (STDR)	49.488 ppb	0.7 %	320,403 cps	320,403 cps
60Ni (KEDR)	48.857 ppb	2.5 %	148,869 cps	148,869 cps
63Cu (STDR)	49.094 ppb	0.3 %	801,215 cps	801,215 cps
63Cu (KEDR)	48.140 ppb	1.6 %	417,366 cps	417,366 cps
66Zn (STDR)	100.976 ppb	0.5 %	541,647 cps	541,647 cps
66Zn (KEDR)	99.839 ppb	1.6 %	159,682 cps	159,682 cps
74Ge (STDR)	94.172 %	1.0 %	325,491 cps	328,069 cps
74Ge (KEDR)	93.875 %	1.3 %	57,249 cps	57,249 cps
75As (STDR)	50.349 ppb	0.0 %	238,481 cps	243,896 cps
75As (KEDR)	49.500 ppb	2.1 %	38,371 cps	38,371 cps
82Se (STDR)	49.808 ppb	0.4 %	24,461 cps	24,993 cps
82Se (KEDR)	50.076 ppb	2.7 %	1,785 cps	1,785 cps
98Mo (STDR)	48.452 ppb	0.5 %	812,806 cps	812,811 cps
98Mo (KEDR)	48.456 ppb	0.4 %	502,989 cps	502,989 cps
107Ag (STDR)	47.570 ppb	0.1 %	1,522,780 cps	1,522,780 cps
107Ag (KEDR)	48.478 ppb	0.4 %	1,140,808 cps	1,140,808 cps
111Cd (STDR)	49.132 ppb	0.2 %	396,763 cps	398,612 cps
111Cd (KEDR)	48.851 ppb	0.4 %	205,068 cps	205,068 cps
115In (STDR)	95.295 %	0.8 %	512,608 cps	512,615 cps
115In (KEDR)	94.378 %	0.4 %	130,571 cps	130,571 cps
121Sb (STDR)	49.915 ppb	0.9 %	1,394,161 cps	1,394,163 cps
121Sb (KEDR)	49.844 ppb	0.5 %	471,464 cps	471,464 cps
137Ba (STDR)	49.696 ppb	0.7 %	569,254 cps	569,254 cps
137Ba (KEDR)	49.539 ppb	1.1 %	171,087 cps	171,087 cps
205Tl (STDR)	52.592 ppb	0.1 %	5,695,532 cps	5,695,532 cps
205Tl (KEDR)	53.056 ppb	1.1 %	5,953,953 cps	5,953,953 cps
208Pb (STDR)	48.158 ppb	1.2 %	7,225,555 cps	3,822,864 cps
208Pb (KEDR)	48.437 ppb	0.7 %	3,980,369 cps	3,980,369 cps
209Bi (STDR)	97.188 %	0.9 %	740,192 cps	740,192 cps
209Bi (KEDR)	95.349 %	1.3 %	753,414 cps	753,414 cps
238U (STDR)	49.987 ppb	1.3 %	8,454,218 cps	8,454,218 cps
238U (KEDR)	50.148 ppb	0.9 %	9,316,517 cps	9,316,517 cps

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iCAP RQ ICP-MS



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Analysis index: 34
Analysis name: CCB
Analysis started at: 4/13/2021 1:12:04 PM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	105.633 %	1.4 %	69,664 cps	69,664 cps
9Be (STDR)	-0.009 ppb	21.6 %	72 cps	72 cps
27Al (STDR)	0.019 ppb	89.6 %	11,996 cps	11,996 cps
45Sc (STDR)	96.105 %	2.1 %	166,395 cps	184,275 cps
45Sc (KEDR)	93.912 %	1.7 %	6,148 cps	6,148 cps
51V (STDR)	-0.183 ppb	79.0 %	-13,148 cps	335,762 cps
51V (KEDR)	0.044 ppb	27.1 %	388 cps	388 cps
55Mn (STDR)	0.003 ppb	41.0 %	1,845 cps	1,845 cps
55Mn (KEDR)	-0.013 ppb	26.6 %	44 cps	44 cps
52Cr (STDR)	0.085 ppb	20.9 %	-43,445 cps	15,805 cps
52Cr (KEDR)	0.010 ppb	38.0 %	228 cps	228 cps
59Co (STDR)	0.002 ppb	21.8 %	233 cps	233 cps
59Co (KEDR)	-0.001 ppb	97.4 %	18 cps	18 cps
60Ni (STDR)	-0.017 ppb	37.3 %	297 cps	297 cps
60Ni (KEDR)	-0.003 ppb	39.0 %	118 cps	118 cps
63Cu (STDR)	0.234 ppb	9.9 %	11,110 cps	11,110 cps
63Cu (KEDR)	-0.002 ppb	137.4 %	148 cps	148 cps
66Zn (STDR)	-0.003 ppb	1,469.4 %	4,934 cps	4,934 cps
66Zn (KEDR)	-0.036 ppb	223.8 %	1,301 cps	1,301 cps
74Ge (STDR)	96.927 %	0.6 %	335,012 cps	335,539 cps
74Ge (KEDR)	93.639 %	0.3 %	57,105 cps	57,105 cps
75As (STDR)	0.052 ppb	247.9 %	181 cps	13,581 cps
75As (KEDR)	0.008 ppb	68.7 %	13 cps	13 cps
82Se (STDR)	-0.060 ppb	248.7 %	-180 cps	285 cps
82Se (KEDR)	0.045 ppb	415.8 %	13 cps	13 cps
98Mo (STDR)	0.009 ppb	16.1 %	285 cps	288 cps
98Mo (KEDR)	0.010 ppb	44.3 %	177 cps	177 cps
107Ag (STDR)	0.001 ppb	123.7 %	448 cps	448 cps
107Ag (KEDR)	0.003 ppb	41.1 %	352 cps	352 cps
111Cd (STDR)	-0.010 ppb	47.5 %	219 cps	7 cps
111Cd (KEDR)	0.000 ppb	251.0 %	3 cps	3 cps
115In (STDR)	97.145 %	0.5 %	522,561 cps	522,565 cps
115In (KEDR)	92.569 %	0.8 %	128,068 cps	128,068 cps
121Sb (STDR)	0.001 ppb	62.6 %	267 cps	268 cps
121Sb (KEDR)	0.000 ppb	1,866.0 %	83 cps	83 cps
137Ba (STDR)	-0.006 ppb	98.1 %	1,660 cps	1,660 cps
137Ba (KEDR)	0.016 ppb	46.9 %	508 cps	508 cps
205Tl (STDR)	0.128 ppb	2.3 %	16,177 cps	16,177 cps
205Tl (KEDR)	0.147 ppb	2.4 %	18,587 cps	18,587 cps
208Pb (STDR)	0.000 ppb	48.2 %	430 cps	238 cps
208Pb (KEDR)	0.000 ppb	84.0 %	239 cps	239 cps
209Bi (STDR)	98.678 %	0.3 %	751,535 cps	751,535 cps
209Bi (KEDR)	94.972 %	1.4 %	750,432 cps	750,432 cps
238U (STDR)	0.000 ppb	20.0 %	122 cps	122 cps
238U (KEDR)	0.000 ppb	34.5 %	178 cps	178 cps

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ICAP RQ ICP-MS



W 4/13/21

Analysis index: 35
Analysis name: CCV
Analysis started at: 4/13/2021 1:15:32 PM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	109.364 %	0.5 %	72,124 cps	72,124 cps
9Be (STDR)	47.904 ppb	0.5 %	168,415 cps	168,415 cps
27Al (STDR)	96.811 ppb	0.5 %	1,616,007 cps	1,616,007 cps
45Sc (STDR)	99.362 %	1.3 %	172,034 cps	190,157 cps
45Sc (KEDR)	99.465 %	1.2 %	6,512 cps	6,512 cps
51V (STDR)	50.396 ppb	1.2 %	1,277,546 cps	1,657,187 cps
51V (KEDR)	50.125 ppb	1.3 %	200,847 cps	200,847 cps
55Mn (STDR)	49.961 ppb	0.6 %	1,942,933 cps	1,942,933 cps
55Mn (KEDR)	50.331 ppb	0.1 %	152,623 cps	152,623 cps
52Cr (STDR)	49.454 ppb	0.5 %	1,195,786 cps	1,257,674 cps
52Cr (KEDR)	49.924 ppb	1.3 %	301,906 cps	301,906 cps
59Co (STDR)	49.212 ppb	0.2 %	1,497,533 cps	1,497,533 cps
59Co (KEDR)	49.656 ppb	0.7 %	562,910 cps	562,910 cps
60Ni (STDR)	49.573 ppb	0.7 %	338,861 cps	338,861 cps
60Ni (KEDR)	49.584 ppb	1.4 %	154,838 cps	154,838 cps
63Cu (STDR)	48.827 ppb	0.7 %	840,928 cps	840,928 cps
63Cu (KEDR)	48.822 ppb	0.8 %	433,688 cps	433,688 cps
66Zn (STDR)	100.286 ppb	0.6 %	567,413 cps	567,413 cps
66Zn (KEDR)	99.588 ppb	0.6 %	163,182 cps	163,182 cps
74Ge (STDR)	99.184 %	0.4 %	342,812 cps	345,532 cps
74Ge (KEDR)	96.136 %	1.0 %	58,628 cps	58,628 cps
75As (STDR)	49.758 ppb	1.1 %	248,169 cps	255,225 cps
75As (KEDR)	49.593 ppb	0.5 %	39,370 cps	39,370 cps
82Se (STDR)	49.033 ppb	2.0 %	25,321 cps	25,837 cps
82Se (KEDR)	48.646 ppb	2.3 %	1,774 cps	1,774 cps
98Mo (STDR)	48.344 ppb	1.1 %	850,323 cps	850,327 cps
98Mo (KEDR)	48.780 ppb	0.6 %	517,160 cps	517,160 cps
107Ag (STDR)	46.996 ppb	0.2 %	1,574,864 cps	1,574,864 cps
107Ag (KEDR)	48.020 ppb	0.9 %	1,152,941 cps	1,152,941 cps
111Cd (STDR)	49.261 ppb	0.1 %	416,130 cps	418,421 cps
111Cd (KEDR)	48.828 ppb	0.7 %	209,041 cps	209,041 cps
115In (STDR)	99.611 %	1.5 %	535,828 cps	535,835 cps
115In (KEDR)	96.208 %	0.3 %	133,103 cps	133,103 cps
121Sb (STDR)	49.640 ppb	1.3 %	1,449,752 cps	1,449,754 cps
121Sb (KEDR)	49.303 ppb	0.6 %	475,788 cps	475,788 cps
137Ba (STDR)	49.454 ppb	1.9 %	592,919 cps	592,919 cps
137Ba (KEDR)	48.815 ppb	0.8 %	172,385 cps	172,385 cps
205Tl (STDR)	51.340 ppb	1.1 %	5,844,947 cps	5,844,947 cps
205Tl (KEDR)	51.650 ppb	0.8 %	5,980,833 cps	5,980,833 cps
208Pb (STDR)	47.679 ppb	0.6 %	7,522,323 cps	3,991,415 cps
208Pb (KEDR)	48.154 ppb	1.3 %	4,084,618 cps	4,084,618 cps
209Bi (STDR)	102.199 %	0.8 %	778,355 cps	778,355 cps
209Bi (KEDR)	98.432 %	0.4 %	777,771 cps	777,771 cps
238U (STDR)	49.926 ppb	0.9 %	8,879,339 cps	8,879,339 cps
238U (KEDR)	50.683 ppb	0.4 %	9,720,997 cps	9,720,997 cps

Turner Report Sample Summary

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iCAP RQ ICP-MS



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Analysis index: 43
Analysis name: 21D0200-01
Analysis started at: 4/13/2021 1:44:23 PM

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Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	↑ 132.306	1.5	87,254 cps	87,254 cps
9Be (STDR)	0.274 ppb	2.9 %	1,222 cps	1,222 cps
27Al (STDR)	8,334.108 >LDR	3.2 %	100,082,657 cps	100,082,657 cps
45Sc (STDR)	↓ 26.633	10.0	46,112 cps	364,943 cps
45Sc (KEDR)	✓ 120.378 %	4.1 %	7,881 cps	7,881 cps
51V (STDR)	31.819 ppb	4.1 %	344,264 cps	778,379 cps
51V (KEDR)	11.656 ppb	2.8 %	54,866 cps	54,866 cps
55Mn (STDR)	392.099 ppb	3.9 %	8,169,155 cps	8,169,155 cps
55Mn (KEDR)	173.127 ppb ✓	2.6 %	600,222 cps	600,222 cps
52Cr (STDR)	15.296 ppb	3.3 %	153,679 cps	220,940 cps
52Cr (KEDR)	6.767 ppb ✓	2.5 %	47,803 cps	47,803 cps
59Co (STDR)	3.696 ppb	2.5 %	72,545 cps	72,545 cps
59Co (KEDR)	1.955 ppb ✓	1.7 %	24,785 cps	24,785 cps
60Ni (STDR)	9.050 ppb	2.9 %	41,735 cps	41,735 cps
60Ni (KEDR)	4.878 ppb ✓	2.4 %	17,047 cps	17,047 cps
63Cu (STDR)	25.467 ppb	2.0 %	332,397 cps	332,397 cps
63Cu (KEDR)	16.013 ppb ✓	1.4 %	155,212 cps	155,212 cps
66Zn (STDR)	121.981 ppb	0.9 %	573,766 cps	573,766 cps
66Zn (KEDR)	90.821 ppb ✓	1.0 %	159,348 cps	159,348 cps
74Ge (STDR)	103.986 %	1.5 %	359,410 cps	360,082 cps
74Ge (KEDR)	✓ 97.542 %	0.7 %	59,485 cps	59,485 cps
75As (STDR)	12.598 ppb	0.9 %	65,748 cps	82,926 cps
75As (KEDR)	13.521 ppb ✓	0.9 %	10,886 cps	10,886 cps
82Se (STDR)	-0.337 ppb	38.2 %	-342 cps	318 cps
82Se (KEDR)	0.852 ppb ✓	61.6 %	43 cps	43 cps
98Mo (STDR)	2.681 ppb	0.1 %	48,242 cps	48,246 cps
98Mo (KEDR)	2.705 ppb ✓	1.1 %	28,552 cps	28,552 cps
107Ag (STDR)	0.105 ppb	1.8 %	3,992 cps	3,992 cps
107Ag (KEDR)	0.105 ppb ✓	1.5 %	2,766 cps	2,766 cps
111Cd (STDR)	0.262 ppb	4.0 %	2,539 cps	1,973 cps
111Cd (KEDR)	0.249 ppb ✓	2.9 %	1,049 cps	1,049 cps
115In (STDR)	99.625 %	0.9 %	535,900 cps	539,799 cps
115In (KEDR)	✓ 94.076 %	1.1 %	130,154 cps	130,154 cps
121Sb (STDR)	0.466 ppb	1.7 %	13,810 cps	13,819 cps
121Sb (KEDR)	0.464 ppb ✓	4.2 %	4,442 cps	4,442 cps
137Ba (STDR)	99.531 ppb	1.1 %	1,175,517 cps	1,175,517 cps
137Ba (KEDR)	98.130 ppb ✓	1.4 %	334,444 cps	334,444 cps
205Tl (STDR)	0.329 ppb	2.7 %	37,421 cps	37,421 cps
205Tl (KEDR)	0.337 ppb ✓	2.1 %	38,524 cps	38,524 cps
208Pb (STDR)	99.338 ppb	0.5 %	14,785,741 cps	7,773,778 cps
208Pb (KEDR)	97.851 ppb ✓	0.9 %	7,725,630 cps	7,725,630 cps
209Bi (STDR)	96.358 %	1.2 %	733,863 cps	733,863 cps
209Bi (KEDR)	✓ 91.577 % ✓	1.5 %	723,611 cps	723,611 cps
238U (STDR)	4.106 ppb	1.0 %	688,560 cps	688,560 cps
238U (KEDR)	4.363 ppb ✓	1.0 %	778,496 cps	778,496 cps

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Turner Report Sample Summary

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ICAP RQ ICP-MS



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Analysis index: 44
Analysis name: CCB
Analysis started at: 4/13/2021 1:47:52 PM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	116.081 %	2.4 %	76,554 cps	76,554 cps
9Be (STDR)	-0.016 ppb	9.7 %	50 cps	50 cps
27Al (STDR)	0.427 ppb	9.4 %	20,692 cps	20,692 cps
45Sc (STDR)	108.882 %	0.8 %	188,516 cps	209,236 cps
45Sc (KEDR)	108.775 %	3.1 %	7,121 cps	7,121 cps
51V (STDR)	-0.305 ppb	48.9 %	-18,374 cps	366,729 cps
51V (KEDR)	0.047 ppb	18.0 %	458 cps	458 cps
55Mn (STDR)	0.138 ppb	7.5 %	7,871 cps	7,871 cps
55Mn (KEDR)	0.161 ppb	23.9 %	623 cps	623 cps
52Cr (STDR)	-0.062 ppb	53.0 %	-53,340 cps	15,318 cps
52Cr (KEDR)	0.012 ppb	25.1 %	278 cps	278 cps
59Co (STDR)	0.002 ppb	70.2 %	270 cps	270 cps
59Co (KEDR)	0.000 ppb	307.7 %	25 cps	25 cps
60Ni (STDR)	0.013 ppb	173.6 %	567 cps	567 cps
60Ni (KEDR)	0.003 ppb	266.6 %	156 cps	156 cps
63Cu (STDR)	0.005 ppb	222.1 %	8,296 cps	8,296 cps
63Cu (KEDR)	0.002 ppb	101.8 %	207 cps	207 cps
66Zn (STDR)	-0.042 ppb	73.7 %	5,366 cps	5,366 cps
66Zn (KEDR)	0.033 ppb	46.0 %	1,594 cps	1,594 cps
74Ge (STDR)	110.426 %	2.3 %	381,668 cps	382,210 cps
74Ge (KEDR)	104.970 %	2.1 %	64,015 cps	64,015 cps
75As (STDR)	-0.212 ppb	50.4 %	-1,249 cps	12,475 cps
75As (KEDR)	0.011 ppb	60.7 %	17 cps	17 cps
82Se (STDR)	-0.030 ppb	454.1 %	-187 cps	313 cps
82Se (KEDR)	0.179 ppb	58.4 %	19 cps	19 cps
98Mo (STDR)	0.009 ppb	28.1 %	319 cps	322 cps
98Mo (KEDR)	0.007 ppb	19.7 %	168 cps	168 cps
107Ag (STDR)	-0.002 ppb	30.4 %	375 cps	375 cps
107Ag (KEDR)	-0.001 ppb	103.5 %	280 cps	280 cps
111Cd (STDR)	-0.010 ppb	31.2 %	242 cps	8 cps
111Cd (KEDR)	0.000 ppb	151.5 %	3 cps	3 cps
115In (STDR)	107.361 %	1.6 %	577,512 cps	577,522 cps
115In (KEDR)	101.027 %	1.5 %	139,770 cps	139,770 cps
121Sb (STDR)	0.001 ppb	41.1 %	319 cps	320 cps
121Sb (KEDR)	0.001 ppb	151.6 %	96 cps	96 cps
137Ba (STDR)	0.011 ppb	4.0 %	2,039 cps	2,039 cps
137Ba (KEDR)	0.035 ppb	51.9 %	623 cps	623 cps
205Tl (STDR)	0.049 ppb	4.6 %	8,046 cps	8,046 cps
205Tl (KEDR)	0.050 ppb	2.2 %	8,449 cps	8,449 cps
208Pb (STDR)	0.007 ppb	14.0 %	1,517 cps	803 cps
208Pb (KEDR)	0.007 ppb	15.7 %	876 cps	876 cps
209Bi (STDR)	105.798 %	1.3 %	805,761 cps	805,761 cps
209Bi (KEDR)	102.705 %	1.8 %	811,537 cps	811,537 cps
238U (STDR)	0.001 ppb	14.3 %	167 cps	167 cps
238U (KEDR)	0.001 ppb	16.0 %	232 cps	232 cps

Turner Report Sample Summary

4/13/2021 1:54:51 PM
ICAP RQ ICP-MS



W 4/13/21

Analysis index: 45
Analysis name: CCV
Analysis started at: 4/13/2021 1:51:20 PM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	119.909 %	1.3 %	79,078 cps	79,078 cps
9Be (STDR)	47.579 ppb	1.1 %	183,564 cps	183,564 cps
27Al (STDR)	98.702 ppb	0.6 %	1,818,453 cps	1,818,453 cps
45Sc (STDR)	110.382 %	0.6 %	191,114 cps	212,182 cps
45Sc (KEDR)	111.131 %	0.8 %	7,275 cps	7,275 cps
51V (STDR)	46.297 ppb	8.4 %	1,303,317 cps	1,687,026 cps
51V (KEDR)	49.413 ppb	1.4 %	220,460 cps	220,460 cps
55Mn (STDR)	50.749 ppb	0.7 %	2,194,012 cps	2,194,012 cps
55Mn (KEDR)	49.254 ppb	2.1 %	165,899 cps	165,899 cps
52Cr (STDR)	49.615 ppb	1.7 %	1,333,617 cps	1,404,025 cps
52Cr (KEDR)	48.598 ppb	0.8 %	327,049 cps	327,049 cps
59Co (STDR)	49.474 ppb	0.6 %	1,674,277 cps	1,674,277 cps
59Co (KEDR)	49.213 ppb	1.4 %	618,235 cps	618,235 cps
60Ni (STDR)	49.293 ppb	0.2 %	374,746 cps	374,746 cps
60Ni (KEDR)	48.993 ppb	1.8 %	169,442 cps	169,442 cps
63Cu (STDR)	48.787 ppb	0.4 %	934,691 cps	934,691 cps
63Cu (KEDR)	48.637 ppb	1.7 %	477,630 cps	477,630 cps
66Zn (STDR)	100.786 ppb	0.4 %	634,460 cps	634,460 cps
66Zn (KEDR)	98.858 ppb	1.8 %	178,766 cps	178,766 cps
74Ge (STDR)	110.422 %	1.2 %	381,654 cps	384,613 cps
74Ge (KEDR)	105.574 %	0.9 %	64,384 cps	64,384 cps
75As (STDR)	50.065 ppb	0.2 %	277,893 cps	283,567 cps
75As (KEDR)	49.990 ppb	1.5 %	43,558 cps	43,558 cps
82Se (STDR)	49.680 ppb	0.4 %	28,479 cps	28,895 cps
82Se (KEDR)	48.090 ppb	4.0 %	1,918 cps	1,918 cps
98Mo (STDR)	48.132 ppb	0.5 %	934,100 cps	934,103 cps
98Mo (KEDR)	49.096 ppb	1.5 %	563,741 cps	563,741 cps
107Ag (STDR)	47.080 ppb	1.1 %	1,734,691 cps	1,734,691 cps
107Ag (KEDR)	48.919 ppb	0.8 %	1,265,489 cps	1,265,489 cps
111Cd (STDR)	49.285 ppb	0.8 %	457,053 cps	458,735 cps
111Cd (KEDR)	49.435 ppb	2.2 %	227,463 cps	227,463 cps
115In (STDR)	109.191 %	0.9 %	587,358 cps	587,368 cps
115In (KEDR)	103.182 %	1.6 %	142,752 cps	142,752 cps
121Sb (STDR)	50.169 ppb	0.9 %	1,603,165 cps	1,603,169 cps
121Sb (KEDR)	49.936 ppb	0.8 %	516,268 cps	516,268 cps
137Ba (STDR)	49.835 ppb	0.5 %	650,444 cps	650,444 cps
137Ba (KEDR)	49.721 ppb	1.2 %	187,596 cps	187,596 cps
205Tl (STDR)	51.630 ppb	0.3 %	6,262,907 cps	6,262,907 cps
205Tl (KEDR)	51.726 ppb	1.0 %	6,328,125 cps	6,328,125 cps
208Pb (STDR)	47.872 ppb	0.9 %	8,039,319 cps	4,268,259 cps
208Pb (KEDR)	48.194 ppb	0.4 %	4,317,010 cps	4,317,010 cps
209Bi (STDR)	108.749 %	0.9 %	828,238 cps	828,238 cps
209Bi (KEDR)	103.928 %	0.7 %	821,201 cps	821,201 cps
238U (STDR)	49.223 ppb	0.8 %	9,316,295 cps	9,316,295 cps
238U (KEDR)	50.222 ppb	0.2 %	10,170,510 cps	10,170,510 cps

iCAP RQ Report

4/14/2021 1:42:57 PM



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Sample List Summary:

Instrument Name: iCAP RQ
Filename: 210414_1a.imexp

Index:	Label:	Main runs:	Survey runs:	Start time:	User name:
1	RINSE	3	1	4/14/2021 11:41:04 AM	TURNER\PEService
2	Blank	3	1	4/14/2021 11:44:29 AM	TURNER\PEService
3	Cal Std 1 <i>2101339</i>	3	1	4/14/2021 11:47:55 AM	TURNER\PEService
4	Cal Std 2 <i>2101340</i>	3	1	4/14/2021 11:51:22 AM	TURNER\PEService
5	Cal Std 3 <i>2101341</i>	3	1	4/14/2021 11:54:50 AM	TURNER\PEService
6	Cal Std 4 <i>2101342</i>	3	1	4/14/2021 11:58:18 AM	TURNER\PEService
7	ICB	3	1	4/14/2021 12:01:47 PM	TURNER\PEService
8	IPC <i>2101341</i>	3	1	4/14/2021 12:05:14 PM	TURNER\PEService
9	ICV <i>2101402</i>	3	1	4/14/2021 12:08:42 PM	TURNER\PEService
10	0.25 CHK STD	3	1	4/14/2021 12:12:12 PM	TURNER\PEService
11	0.50 CHK STD	3	1	4/14/2021 12:15:38 PM	TURNER\PEService
12	40 CHK STD	3	1	4/14/2021 12:19:05 PM	TURNER\PEService
13	0.25 CHK STD	3	1	4/14/2021 12:23:58 PM	TURNER\PEService
14	0.50 CHK STD	3	1	4/14/2021 12:27:25 PM	TURNER\PEService
15	2104161-BLK1	3	1	4/14/2021 12:32:51 PM	TURNER\PEService
16	21D0148-01@20	3	1	4/14/2021 12:36:19 PM	TURNER\PEService
17	21D0148-02@2	3	1	4/14/2021 12:39:46 PM	TURNER\PEService
18	21D0148-07@5	3	1	4/14/2021 12:43:15 PM	TURNER\PEService
19	21D0200-01@20	3	1	4/14/2021 12:46:43 PM	TURNER\PEService
20	CCB	3	1	4/14/2021 12:50:12 PM	TURNER\PEService
21	CCV	3	1	4/14/2021 12:53:39 PM	TURNER\PEService
22	CCV <i>210402</i>	3	1	4/14/2021 12:57:09 PM	TURNER\PEService
23	21D0146-01	3	1	4/14/2021 1:00:39 PM	TURNER\PEService
24	21D0111-01@10	3	1	4/14/2021 1:04:09 PM	TURNER\PEService
25	RINSE	3	1	4/14/2021 1:07:38 PM	TURNER\PEService
26	21D0146-01@2	3	1	4/14/2021 1:11:05 PM	TURNER\PEService
27	21D0111-01@20	3	1	4/14/2021 1:14:36 PM	TURNER\PEService
28	21D0111-01@50	3	1	4/14/2021 1:20:28 PM	TURNER\PEService
29	21D0111-01@100	3	1	4/14/2021 1:26:52 PM	TURNER\PEService
30	CCB	3	1	4/14/2021 1:31:25 PM	TURNER\PEService
31	CCV	3	1	4/14/2021 1:34:53 PM	TURNER\PEService
32	CCV	3	1	4/14/2021 1:38:23 PM	TURNER\PEService

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*0.25 CHK STD = 0.25 mL of 2100805 diluted to 10mL
0.50 CHK STD = 0.50 mL of 2100805 diluted to 10mL
40 CHK STD = 0.02 mL of 2003633 diluted to 10mL*

iCAP RQ Report

4/14/2021 1:42:57 PM



Calibration Summary

Index	6
Label	Cal Std 4
Category	Correlation Coefficient
6Li (STDR)	
9Be (STDR)	.9999988
27Al (STDR)	.9999926
45Sc (STDR)	
45Sc (KEDR)	
51V (STDR)	.9992456
51V (KEDR)	.9999471
52Cr (STDR)	.9999623
52Cr (KEDR)	.9999667
55Mn (STDR)	.9999981
55Mn (KEDR)	.9999977
59Co (STDR)	.9999773
59Co (KEDR)	.9999752
60Ni (STDR)	.9999983
60Ni (KEDR)	.9999636
63Cu (STDR)	.9999449
63Cu (KEDR)	.9999993
66Zn (STDR)	.999984
66Zn (KEDR)	.999987
74Ge (STDR)	
74Ge (KEDR)	
75As (STDR)	.9999987
75As (KEDR)	.999976
82Se (STDR)	.9999838
82Se (KEDR)	.9999541
98Mo (STDR)	.999979
98Mo (KEDR)	.999965
107Ag (STDR)	.9998746
107Ag (KEDR)	.9999997
111Cd (STDR)	.9999942
111Cd (KEDR)	.9999794
115In (STDR)	
115In (KEDR)	
121Sb (STDR)	.9999997
121Sb (KEDR)	.9999983
137Ba (STDR)	.9999983
137Ba (KEDR)	.9999991
205Tl (STDR)	.9999973
205Tl (KEDR)	.9999816
208Pb (STDR)	.9999988
208Pb (KEDR)	.999985
209Bi (STDR)	
209Bi (KEDR)	
238U (STDR)	.9999987
238U (KEDR)	.9999468

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4/14/21

Turner Report Sample Summary

4/14/2021 11:44:29 AM
ICAP RQ ICP-MS



Analysis index: 1
Analysis name: RINSE
Analysis started at: 4/14/2021 11:41:04 AM

4/14/21

Category	Intensity average	Raw Intensity average
6Li (STDR) [cps]	111,794	111,794
9Be (STDR) [cps]	90	90
27Al (STDR) [cps]	14,704	14,704
45Sc (STDR) [cps]	292,742	323,151
45Sc (KEDR) [cps]	10,062	10,062
51V (STDR) [cps]	83,626	1,509,624
51V (KEDR) [cps]	1,120	1,120
55Mn (STDR) [cps]	3,487	3,487
55Mn (KEDR) [cps]	61	61
52Cr (STDR) [cps]	-78,011	33,421
52Cr (KEDR) [cps]	362	362
59Co (STDR) [cps]	295	295
59Co (KEDR) [cps]	12	12
60Ni (STDR) [cps]	342	342
60Ni (KEDR) [cps]	142	142
63Cu (STDR) [cps]	938	938
63Cu (KEDR) [cps]	338	338
66Zn (STDR) [cps]	5,695	5,695
66Zn (KEDR) [cps]	1,454	1,454
74Ge (STDR) [cps]	564,837	566,208
74Ge (KEDR) [cps]	88,315	88,315
75As (STDR) [cps]	-671	35,138
75As (KEDR) [cps]	14	14
82Se (STDR) [cps]	-154	365
82Se (KEDR) [cps]	13	13
98Mo (STDR) [cps]	106	108
98Mo (KEDR) [cps]	44	44
107Ag (STDR) [cps]	67	67
107Ag (KEDR) [cps]	68	68
111Cd (STDR) [cps]	297	8
111Cd (KEDR) [cps]	4	4
115In (STDR) [cps]	817,135	817,139
115In (KEDR) [cps]	187,213	187,213
121Sb (STDR) [cps]	266	267
121Sb (KEDR) [cps]	80	80
137Ba (STDR) [cps]	2,484	2,484
137Ba (KEDR) [cps]	690	690
205Tl (STDR) [cps]	1,345	1,345
205Tl (KEDR) [cps]	1,282	1,282
208Pb (STDR) [cps]	368	200
208Pb (KEDR) [cps]	169	169
209Bi (STDR) [cps]	1,053,614	1,053,614
209Bi (KEDR) [cps]	1,027,153	1,027,153
238U (STDR) [cps]	33	33
238U (KEDR) [cps]	42	42

Turner Report Sample Summary

4/14/2021 11:47:55 AM
ICAP RQ ICP-MS



W. M. M. M.

Analysis index: 2
Analysis name: Blank
Analysis started at: 4/14/2021 11:44:29 AM

Category	Intensity average	Raw Intensity average
6Li (STDR) [cps]	112,299	112,299
9Be (STDR) [cps]	67	67
27Al (STDR) [cps]	15,204	15,204
45Sc (STDR) [cps]	285,256	317,550
45Sc (KEDR) [cps]	9,464	9,464
51V (STDR) [cps]	90,959	1,559,483
51V (KEDR) [cps]	1,122	1,122
55Mn (STDR) [cps]	3,475	3,475
55Mn (KEDR) [cps]	45	45
52Cr (STDR) [cps]	-76,343	33,199
52Cr (KEDR) [cps]	353	353
59Co (STDR) [cps]	270	270
59Co (KEDR) [cps]	13	13
60Ni (STDR) [cps]	345	345
60Ni (KEDR) [cps]	108	108
63Cu (STDR) [cps]	1,042	1,042
63Cu (KEDR) [cps]	349	349
66Zn (STDR) [cps]	5,488	5,488
66Zn (KEDR) [cps]	1,509	1,509
74Ge (STDR) [cps]	561,222	562,582
74Ge (KEDR) [cps]	84,896	84,896
75As (STDR) [cps]	-898	34,490
75As (KEDR) [cps]	23	23
82Se (STDR) [cps]	-107	413
82Se (KEDR) [cps]	20	20
98Mo (STDR) [cps]	102	103
98Mo (KEDR) [cps]	66	66
107Ag (STDR) [cps]	102	102
107Ag (KEDR) [cps]	66	66
111Cd (STDR) [cps]	332	5
111Cd (KEDR) [cps]	1	1
115In (STDR) [cps]	812,153	812,157
115In (KEDR) [cps]	176,307	176,307
121Sb (STDR) [cps]	251	252
121Sb (KEDR) [cps]	73	73
137Ba (STDR) [cps]	2,577	2,577
137Ba (KEDR) [cps]	678	678
205Tl (STDR) [cps]	1,322	1,322
205Tl (KEDR) [cps]	1,355	1,355
208Pb (STDR) [cps]	373	190
208Pb (KEDR) [cps]	213	213
209Bi (STDR) [cps]	1,044,413	1,044,413
209Bi (KEDR) [cps]	987,864	987,864
238U (STDR) [cps]	17	17
238U (KEDR) [cps]	18	18

Turner Report Sample Summary

4/14/2021 11:51:22 AM
iCAP RQ ICP-MS



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Analysis index: 3
Analysis name: Cal Std 1
Analysis started at: 4/14/2021 11:47:55 AM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	99.954 %	0.7 %	112,247 cps	112,247 cps
9Be (STDR)	1.000 ppb	3.7 %	5,128 cps	5,128 cps
27Al (STDR)	1.000 ppb	3.0 %	47,658 cps	47,658 cps
45Sc (STDR)	100.469 %	0.7 %	286,593 cps	319,782 cps
45Sc (KEDR)	106.318 %	1.0 %	10,062 cps	10,062 cps
51V (STDR)	1.000 ppb	21.6 %	189,943 cps	1,830,195 cps
51V (KEDR)	1.000 ppb	3.9 %	7,640 cps	7,640 cps
55Mn (STDR)	1.000 ppb	1.5 %	68,794 cps	68,794 cps
55Mn (KEDR)	1.000 ppb	2.3 %	4,763 cps	4,763 cps
52Cr (STDR)	1.000 ppb	2.2 %	-45,287 cps	76,898 cps
52Cr (KEDR)	1.000 ppb	1.8 %	9,707 cps	9,707 cps
59Co (STDR)	1.000 ppb	0.6 %	49,833 cps	49,833 cps
59Co (KEDR)	1.000 ppb	3.0 %	17,350 cps	17,350 cps
60Ni (STDR)	1.000 ppb	1.2 %	11,684 cps	11,684 cps
60Ni (KEDR)	1.000 ppb	5.9 %	5,004 cps	5,004 cps
63Cu (STDR)	1.000 ppb	1.1 %	28,795 cps	28,795 cps
63Cu (KEDR)	1.000 ppb	1.2 %	13,658 cps	13,658 cps
66Zn (STDR)	1.000 ppb	2.7 %	18,813 cps	18,813 cps
66Zn (KEDR)	1.000 ppb	2.2 %	4,922 cps	4,922 cps
74Ge (STDR)	100.086 %	1.1 %	561,704 cps	563,219 cps
74Ge (KEDR)	103.729 %	0.5 %	88,062 cps	88,062 cps
75As (STDR)	1.000 ppb	11.5 %	6,287 cps	43,810 cps
75As (KEDR)	1.000 ppb	0.9 %	1,265 cps	1,265 cps
82Se (STDR)	1.000 ppb	15.9 %	637 cps	1,215 cps
82Se (KEDR)	1.000 ppb	7.8 %	73 cps	73 cps
98Mo (STDR)	1.000 ppb	2.8 %	27,156 cps	27,158 cps
98Mo (KEDR)	1.000 ppb	1.5 %	15,540 cps	15,540 cps
107Ag (STDR)	1.000 ppb	0.4 %	50,020 cps	50,020 cps
107Ag (KEDR)	1.000 ppb	1.2 %	34,287 cps	34,287 cps
111Cd (STDR)	1.000 ppb	1.6 %	12,684 cps	12,379 cps
111Cd (KEDR)	1.000 ppb	0.9 %	5,802 cps	5,802 cps
115In (STDR)	101.785 %	1.2 %	826,650 cps	826,658 cps
115In (KEDR)	105.032 %	0.2 %	185,179 cps	185,179 cps
121Sb (STDR)	1.000 ppb	1.4 %	43,736 cps	43,736 cps
121Sb (KEDR)	1.000 ppb	2.8 %	13,614 cps	13,614 cps
137Ba (STDR)	1.000 ppb	1.7 %	20,896 cps	20,896 cps
137Ba (KEDR)	1.000 ppb	2.1 %	5,810 cps	5,810 cps
205Tl (STDR)	1.000 ppb	1.5 %	152,842 cps	152,842 cps
205Tl (KEDR)	1.000 ppb	0.6 %	156,270 cps	156,270 cps
208Pb (STDR)	1.000 ppb	1.3 %	205,767 cps	109,914 cps
208Pb (KEDR)	1.000 ppb	0.5 %	112,831 cps	112,831 cps
209Bi (STDR)	99.868 %	0.9 %	1,043,038 cps	1,043,038 cps
209Bi (KEDR)	102.999 %	0.3 %	1,017,492 cps	1,017,492 cps
238U (STDR)	1.000 ppb	0.6 %	227,470 cps	227,470 cps
238U (KEDR)	1.000 ppb	1.5 %	254,832 cps	254,832 cps

Turner Report Sample Summary

4/14/2021 11:54:50 AM
iCAP RQ ICP-MS



W. J. ...

Analysis index: 4
Analysis name: Cal Std 2
Analysis started at: 4/14/2021 11:51:22 AM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	99.379 %	1.3 %	111,602 cps	111,602 cps
9Be (STDR)	10.006 ppb	1.2 %	53,456 cps	53,456 cps
27Al (STDR)	9.984 ppb	0.8 %	291,552 cps	291,552 cps
45Sc (STDR)	99.709 %	0.1 %	284,425 cps	318,295 cps
45Sc (KEDR)	107.993 %	2.0 %	10,220 cps	10,220 cps
51V (STDR)	9.922 ppb	2.1 %	637,313 cps	2,309,239 cps
51V (KEDR)	9.996 ppb	1.7 %	64,027 cps	64,027 cps
55Mn (STDR)	10.000 ppb	0.6 %	649,217 cps	649,217 cps
55Mn (KEDR)	9.998 ppb	2.0 %	46,503 cps	46,503 cps
52Cr (STDR)	10.024 ppb	1.2 %	333,221 cps	456,258 cps
52Cr (KEDR)	10.000 ppb	1.4 %	94,688 cps	94,688 cps
59Co (STDR)	10.001 ppb	0.5 %	499,387 cps	499,387 cps
59Co (KEDR)	10.001 ppb	1.6 %	176,298 cps	176,298 cps
60Ni (STDR)	9.999 ppb	0.9 %	112,422 cps	112,422 cps
60Ni (KEDR)	9.998 ppb	1.0 %	48,015 cps	48,015 cps
63Cu (STDR)	10.000 ppb	1.3 %	276,837 cps	276,837 cps
63Cu (KEDR)	10.001 ppb	1.3 %	134,698 cps	134,698 cps
66Zn (STDR)	9.960 ppb	1.1 %	99,977 cps	99,977 cps
66Zn (KEDR)	9.967 ppb	0.8 %	26,534 cps	26,534 cps
74Ge (STDR)	99.665 %	0.9 %	559,342 cps	561,464 cps
74Ge (KEDR)	102.877 %	1.7 %	87,339 cps	87,339 cps
75As (STDR)	10.011 ppb	3.4 %	79,933 cps	115,627 cps
75As (KEDR)	9.998 ppb	0.4 %	12,095 cps	12,095 cps
82Se (STDR)	10.006 ppb	2.5 %	7,802 cps	8,311 cps
82Se (KEDR)	9.993 ppb	4.3 %	500 cps	500 cps
98Mo (STDR)	10.002 ppb	0.6 %	272,481 cps	272,484 cps
98Mo (KEDR)	10.001 ppb	0.9 %	156,031 cps	156,031 cps
107Ag (STDR)	10.002 ppb	0.7 %	500,126 cps	500,126 cps
107Ag (KEDR)	10.002 ppb	0.3 %	349,160 cps	349,160 cps
111Cd (STDR)	10.005 ppb	0.4 %	127,662 cps	127,984 cps
111Cd (KEDR)	10.004 ppb	0.6 %	60,198 cps	60,198 cps
115In (STDR)	100.018 %	0.2 %	812,299 cps	812,307 cps
115In (KEDR)	105.102 %	0.4 %	185,302 cps	185,302 cps
121Sb (STDR)	10.003 ppb	0.4 %	443,333 cps	443,333 cps
121Sb (KEDR)	9.999 ppb	0.7 %	133,780 cps	133,780 cps
137Ba (STDR)	9.998 ppb	1.3 %	179,362 cps	179,362 cps
137Ba (KEDR)	9.995 ppb	0.3 %	49,252 cps	49,252 cps
205Tl (STDR)	10.000 ppb	1.3 %	1,519,918 cps	1,519,918 cps
205Tl (KEDR)	10.001 ppb	1.5 %	1,563,216 cps	1,563,216 cps
208Pb (STDR)	10.001 ppb	1.2 %	2,083,465 cps	1,102,932 cps
208Pb (KEDR)	10.001 ppb	0.6 %	1,140,154 cps	1,140,154 cps
209Bi (STDR)	100.049 %	1.0 %	1,044,926 cps	1,044,926 cps
209Bi (KEDR)	102.895 %	1.1 %	1,016,462 cps	1,016,462 cps
238U (STDR)	10.001 ppb	0.4 %	2,290,488 cps	2,290,488 cps
238U (KEDR)	10.000 ppb	0.4 %	2,546,162 cps	2,546,162 cps

Turner Report Sample Summary

4/14/2021 11:58:18 AM
ICAP RQ ICP-MS



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Analysis index: 5
Analysis name: Cal Std 3
Analysis started at: 4/14/2021 11:54:50 AM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	98.091 %	2.0 %	110,155 cps	110,155 cps
9Be (STDR)	49.997 ppb	2.5 %	262,746 cps	262,746 cps
27Al (STDR)	49.944 ppb	0.7 %	1,333,170 cps	1,333,170 cps
45Sc (STDR)	97.098 %	0.5 %	276,977 cps	310,547 cps
45Sc (KEDR)	104.300 %	0.5 %	9,871 cps	9,871 cps
51V (STDR)	49.614 ppb	1.8 %	2,326,257 cps	3,842,343 cps
51V (KEDR)	50.035 ppb	0.3 %	311,132 cps	311,132 cps
55Mn (STDR)	50.011 ppb	1.1 %	3,174,338 cps	3,174,338 cps
55Mn (KEDR)	49.999 ppb	0.5 %	225,348 cps	225,348 cps
52Cr (STDR)	50.039 ppb	1.1 %	1,958,732 cps	2,068,735 cps
52Cr (KEDR)	50.028 ppb	1.0 %	463,946 cps	463,946 cps
59Co (STDR)	49.990 ppb	0.2 %	2,427,330 cps	2,427,330 cps
59Co (KEDR)	50.004 ppb	0.8 %	858,303 cps	858,303 cps
60Ni (STDR)	49.978 ppb	1.1 %	542,361 cps	542,361 cps
60Ni (KEDR)	50.024 ppb	0.5 %	235,981 cps	235,981 cps
63Cu (STDR)	49.986 ppb	0.5 %	1,341,038 cps	1,341,038 cps
63Cu (KEDR)	50.011 ppb	0.4 %	658,032 cps	658,032 cps
66Zn (STDR)	49.948 ppb	0.8 %	458,027 cps	458,027 cps
66Zn (KEDR)	49.947 ppb	0.9 %	120,345 cps	120,345 cps
74Ge (STDR)	97.855 %	0.9 %	549,183 cps	553,983 cps
74Ge (KEDR)	100.656 %	0.5 %	85,453 cps	85,453 cps
75As (STDR)	50.011 ppb	0.2 %	397,859 cps	424,212 cps
75As (KEDR)	50.027 ppb	0.9 %	59,909 cps	59,909 cps
82Se (STDR)	50.046 ppb	1.0 %	39,669 cps	40,158 cps
82Se (KEDR)	50.098 ppb	2.9 %	2,491 cps	2,491 cps
98Mo (STDR)	49.957 ppb	1.1 %	1,309,556 cps	1,309,558 cps
98Mo (KEDR)	50.008 ppb	0.6 %	765,161 cps	765,161 cps
107Ag (STDR)	50.004 ppb	0.6 %	2,464,091 cps	2,464,091 cps
107Ag (KEDR)	50.012 ppb	0.7 %	1,715,212 cps	1,715,212 cps
111Cd (STDR)	50.010 ppb	0.7 %	629,743 cps	631,518 cps
111Cd (KEDR)	50.033 ppb	1.1 %	298,935 cps	298,935 cps
115In (STDR)	98.445 %	0.5 %	799,520 cps	799,530 cps
115In (KEDR)	102.652 %	1.0 %	180,982 cps	180,982 cps
121Sb (STDR)	50.009 ppb	0.8 %	2,190,773 cps	2,190,774 cps
121Sb (KEDR)	50.020 ppb	0.5 %	660,165 cps	660,165 cps
137Ba (STDR)	50.011 ppb	0.5 %	878,612 cps	878,612 cps
137Ba (KEDR)	49.992 ppb	1.3 %	237,294 cps	237,294 cps
205Tl (STDR)	49.986 ppb	1.5 %	7,458,449 cps	7,458,449 cps
205Tl (KEDR)	49.919 ppb	1.4 %	7,384,676 cps	7,384,676 cps
208Pb (STDR)	50.002 ppb	1.0 %	10,311,903 cps	5,475,008 cps
208Pb (KEDR)	49.915 ppb	1.2 %	5,379,617 cps	5,379,617 cps
209Bi (STDR)	98.964 %	0.6 %	1,033,592 cps	1,033,592 cps
209Bi (KEDR)	101.384 %	0.6 %	1,001,538 cps	1,001,538 cps
238U (STDR)	49.989 ppb	0.3 %	11,262,488 cps	11,262,488 cps
238U (KEDR)	49.940 ppb	1.5 %	12,165,837 cps	12,165,837 cps

Turner Report Sample Summary

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iCAP RQ ICP-MS



W. Miller

Analysis index: 6
Analysis name: Cal Std 4
Analysis started at: 4/14/2021 11:58:18 AM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	✓ 96.796 %	1.5 %	108,701 cps	108,701 cps
9Be (STDR)	99.945 ppb	0.8 %	517,513 cps	517,513 cps
27Al (STDR)	99.997 ppb	0.7 %	2,629,421 cps	2,629,421 cps
45Sc (STDR)	96.524 %	0.5 %	275,340 cps	308,219 cps
45Sc (KEDR)	✓ 104.750 %	1.6 %	9,913 cps	9,913 cps
51V (STDR)	98.915 ppb	1.1 %	4,333,507 cps	5,693,931 cps
51V (KEDR)	99.607 ppb	2.2 %	608,962 cps	608,962 cps
55Mn (STDR)	99.928 ppb	0.4 %	6,256,827 cps	6,256,827 cps
55Mn (KEDR)	100.083 ppb	1.1 %	451,158 cps	451,158 cps
52Cr (STDR)	100.312 ppb	0.5 %	4,014,362 cps	4,121,820 cps
52Cr (KEDR)	99.688 ppb	1.9 %	912,432 cps	912,432 cps
59Co (STDR)	100.263 ppb	0.9 %	4,858,560 cps	4,858,560 cps
59Co (KEDR)	99.725 ppb	1.2 %	1,684,030 cps	1,684,030 cps
60Ni (STDR)	99.949 ppb	1.2 %	1,068,651 cps	1,068,651 cps
60Ni (KEDR)	99.672 ppb	0.5 %	461,209 cps	461,209 cps
63Cu (STDR)	100.410 ppb	1.3 %	2,698,225 cps	2,698,225 cps
63Cu (KEDR)	100.038 ppb	0.3 %	1,306,460 cps	1,306,460 cps
66Zn (STDR)	100.011 ppb	0.5 %	898,351 cps	898,351 cps
66Zn (KEDR)	99.994 ppb	0.8 %	236,736 cps	236,736 cps
74Ge (STDR)	✓ 96.039 %	0.6 %	538,991 cps	547,020 cps
74Ge (KEDR)	98.957 %	0.3 %	84,011 cps	84,011 cps
75As (STDR)	100.022 ppb	0.6 %	782,414 cps	796,137 cps
75As (KEDR)	99.736 ppb	0.6 %	116,224 cps	116,224 cps
82Se (STDR)	100.194 ppb	0.6 %	78,594 cps	79,066 cps
82Se (KEDR)	100.301 ppb	1.2 %	4,942 cps	4,942 cps
98Mo (STDR)	100.233 ppb	1.1 %	2,597,899 cps	2,597,902 cps
98Mo (KEDR)	99.674 ppb	1.4 %	1,482,217 cps	1,482,217 cps
107Ag (STDR)	100.622 ppb	0.6 %	4,974,378 cps	4,974,378 cps
107Ag (KEDR)	99.996 ppb	0.5 %	3,375,726 cps	3,375,726 cps
111Cd (STDR)	100.130 ppb	0.2 %	1,240,235 cps	1,244,183 cps
111Cd (KEDR)	✓ 99.762 ppb	0.7 %	581,579 cps	581,579 cps
115In (STDR)	96.343 %	1.7 %	782,453 cps	782,469 cps
115In (KEDR)	101.092 %	0.3 %	178,232 cps	178,232 cps
121Sb (STDR)	100.018 ppb	0.5 %	4,294,254 cps	4,294,254 cps
121Sb (KEDR)	100.054 ppb	1.0 %	1,303,569 cps	1,303,569 cps
137Ba (STDR)	100.068 ppb	0.9 %	1,727,811 cps	1,727,811 cps
137Ba (KEDR)	100.043 ppb	0.6 %	468,346 cps	468,346 cps
205Tl (STDR)	100.085 ppb	0.8 %	14,841,724 cps	14,841,724 cps
205Tl (KEDR)	99.855 ppb	0.8 %	14,541,014 cps	14,541,014 cps
208Pb (STDR)	100.060 ppb	0.3 %	20,496,593 cps	10,887,565 cps
208Pb (KEDR)	99.914 ppb	1.3 %	10,626,429 cps	10,626,429 cps
209Bi (STDR)	98.093 %	1.4 %	1,024,496 cps	1,024,496 cps
209Bi (KEDR)	100.383 %	0.1 %	991,651 cps	991,651 cps
238U (STDR)	99.943 ppb	1.8 %	22,266,420 cps	22,266,420 cps
238U (KEDR)	99.623 ppb	0.1 %	23,687,314 cps	23,687,314 cps

Turner Report Sample Summary

4/14/2021 12:05:13 PM
ICAP RQ ICP-MS



W. J. J. J.

Analysis index: 7
Analysis name: ICB
Analysis started at: 4/14/2021 12:01:47 PM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	94.997 %	1.1 %	106,680 cps	106,680 cps
9Be (STDR)	0.010 ppb	33.0 %	112 cps	112 cps
27Al (STDR)	0.001 ppb	1,198.9 %	14,467 cps	14,467 cps
45Sc (STDR)	94.991 %	0.2 %	270,967 cps	303,690 cps
45Sc (KEDR)	102.961 %	2.4 %	9,744 cps	9,744 cps
51V (STDR)	-1.749 ppb	157.5 %	12,528 cps	1,327,132 cps
51V (KEDR)	0.007 ppb	103.5 %	1,185 cps	1,185 cps
55Mn (STDR)	0.006 ppb	35.5 %	3,647 cps	3,647 cps
55Mn (KEDR)	0.012 ppb	42.4 %	98 cps	98 cps
52Cr (STDR)	0.071 ppb	34.3 %	-69,724 cps	32,736 cps
52Cr (KEDR)	0.008 ppb	66.4 %	433 cps	433 cps
59Co (STDR)	0.007 ppb	1.3 %	602 cps	602 cps
59Co (KEDR)	0.009 ppb	12.6 %	158 cps	158 cps
60Ni (STDR)	0.004 ppb	43.0 %	372 cps	372 cps
60Ni (KEDR)	0.008 ppb	45.8 %	147 cps	147 cps
63Cu (STDR)	0.004 ppb	10.8 %	1,098 cps	1,098 cps
63Cu (KEDR)	0.010 ppb	14.4 %	479 cps	479 cps
66Zn (STDR)	-0.019 ppb	54.5 %	5,061 cps	5,061 cps
66Zn (KEDR)	-0.065 ppb	62.3 %	1,352 cps	1,352 cps
74Ge (STDR)	95.289 %	0.6 %	534,783 cps	535,995 cps
74Ge (KEDR)	98.379 %	1.1 %	83,520 cps	83,520 cps
75As (STDR)	0.000 ppb	8,042.3 %	-855 cps	30,796 cps
75As (KEDR)	0.020 ppb	43.1 %	46 cps	46 cps
82Se (STDR)	-0.044 ppb	89.2 %	-137 cps	330 cps
82Se (KEDR)	-0.082 ppb	128.8 %	16 cps	16 cps
98Mo (STDR)	0.055 ppb	2.9 %	1,528 cps	1,530 cps
98Mo (KEDR)	0.063 ppb	7.1 %	998 cps	998 cps
107Ag (STDR)	0.013 ppb	6.0 %	727 cps	727 cps
107Ag (KEDR)	0.017 ppb	17.3 %	630 cps	630 cps
111Cd (STDR)	0.007 ppb	55.0 %	413 cps	98 cps
111Cd (KEDR)	0.008 ppb	38.0 %	46 cps	46 cps
115In (STDR)	96.971 %	0.5 %	787,555 cps	787,559 cps
115In (KEDR)	100.774 %	0.3 %	177,672 cps	177,672 cps
121Sb (STDR)	0.011 ppb	5.2 %	703 cps	703 cps
121Sb (KEDR)	0.017 ppb	15.6 %	288 cps	288 cps
137Ba (STDR)	0.010 ppb	52.2 %	2,672 cps	2,672 cps
137Ba (KEDR)	0.005 ppb	45.8 %	708 cps	708 cps
205Tl (STDR)	0.076 ppb	2.2 %	12,496 cps	12,496 cps
205Tl (KEDR)	0.095 ppb	8.5 %	15,138 cps	15,138 cps
208Pb (STDR)	0.008 ppb	7.5 %	1,990 cps	1,082 cps
208Pb (KEDR)	0.012 ppb	12.5 %	1,489 cps	1,489 cps
209Bi (STDR)	97.713 %	0.6 %	1,020,524 cps	1,020,524 cps
209Bi (KEDR)	99.614 %	0.5 %	984,055 cps	984,055 cps
238U (STDR)	0.008 ppb	3.5 %	1,787 cps	1,787 cps
238U (KEDR)	0.012 ppb	11.8 %	2,862 cps	2,862 cps

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Turner Report Sample Summary

4/14/2021 12:08:42 PM
iCAP RQ ICP-MS



W. C. Smith

Analysis index: 8
Analysis name: IPC
Analysis started at: 4/14/2021 12:05:14 PM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	96.256 %	1.2 %	108,094 cps	108,094 cps
9Be (STDR)	50.282 ppb	0.8 %	258,819 cps	258,819 cps
27Al (STDR)	50.458 ppb	0.8 %	1,322,112 cps	1,322,112 cps
45Sc (STDR)	95.383 %	1.2 %	272,085 cps	304,920 cps
45Sc (KEDR)	102.864 %	2.3 %	9,735 cps	9,735 cps
51V (STDR)	51.967 ppb	1.2 %	2,296,761 cps	3,662,799 cps
51V (KEDR)	50.208 ppb	1.2 %	304,083 cps	304,083 cps
55Mn (STDR)	51.456 ppb	0.5 %	3,198,895 cps	3,198,895 cps
55Mn (KEDR)	50.464 ppb	1.8 %	225,970 cps	225,970 cps
52Cr (STDR)	50.938 ppb	1.4 %	1,984,279 cps	2,092,331 cps
52Cr (KEDR)	50.013 ppb	1.6 %	453,304 cps	453,304 cps
59Co (STDR)	50.842 ppb	0.7 %	2,449,221 cps	2,449,221 cps
59Co (KEDR)	50.121 ppb	1.3 %	844,654 cps	844,654 cps
60Ni (STDR)	50.705 ppb	1.1 %	539,291 cps	539,291 cps
60Ni (KEDR)	50.272 ppb	1.1 %	232,483 cps	232,483 cps
63Cu (STDR)	49.788 ppb	0.8 %	1,332,713 cps	1,332,713 cps
63Cu (KEDR)	49.505 ppb	0.4 %	648,454 cps	648,454 cps
66Zn (STDR)	50.014 ppb	0.6 %	450,557 cps	450,557 cps
66Zn (KEDR)	49.871 ppb	0.6 %	119,582 cps	119,582 cps
74Ge (STDR)	96.082 %	1.0 %	539,234 cps	543,894 cps
74Ge (KEDR)	100.558 %	0.8 %	85,370 cps	85,370 cps
75As (STDR)	50.177 ppb	0.8 %	392,357 cps	415,089 cps
75As (KEDR)	49.511 ppb	1.6 %	58,621 cps	58,621 cps
82Se (STDR)	50.448 ppb	1.9 %	39,629 cps	40,099 cps
82Se (KEDR)	51.134 ppb	2.9 %	2,564 cps	2,564 cps
98Mo (STDR)	49.799 ppb	0.7 %	1,300,315 cps	1,300,317 cps
98Mo (KEDR)	49.921 ppb	1.7 %	749,621 cps	749,621 cps
107Ag (STDR)	49.869 ppb	1.8 %	2,490,134 cps	2,490,134 cps
107Ag (KEDR)	50.084 ppb	1.6 %	1,703,255 cps	1,703,255 cps
111Cd (STDR)	49.759 ppb	0.5 %	623,394 cps	625,879 cps
111Cd (KEDR)	50.034 ppb	1.2 %	293,544 cps	293,544 cps
115In (STDR)	97.537 %	0.2 %	792,151 cps	792,160 cps
115In (KEDR)	101.640 %	1.3 %	179,197 cps	179,197 cps
121Sb (STDR)	49.612 ppb	0.9 %	2,154,985 cps	2,154,986 cps
121Sb (KEDR)	49.868 ppb	1.3 %	652,965 cps	652,965 cps
137Ba (STDR)	49.837 ppb	0.5 %	869,966 cps	869,966 cps
137Ba (KEDR)	49.556 ppb	1.6 %	233,251 cps	233,251 cps
205Tl (STDR)	49.779 ppb	0.8 %	7,389,769 cps	7,389,769 cps
205Tl (KEDR)	49.955 ppb	1.4 %	7,272,336 cps	7,272,336 cps
208Pb (STDR)	49.780 ppb	0.4 %	10,203,874 cps	5,432,853 cps
208Pb (KEDR)	49.553 ppb	0.5 %	5,267,422 cps	5,267,422 cps
209Bi (STDR)	98.140 %	0.3 %	1,024,986 cps	1,024,986 cps
209Bi (KEDR)	100.322 %	0.3 %	991,044 cps	991,044 cps
238U (STDR)	50.340 ppb	1.1 %	11,222,462 cps	11,222,462 cps
238U (KEDR)	50.162 ppb	0.6 %	11,919,813 cps	11,919,813 cps

Turner Report Sample Summary

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iCAP RQ ICP-MS



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Analysis index: 9
Analysis name: ICV
Analysis started at: 4/14/2021 12:08:42 PM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	97.023 %	1.4 %	108,957 cps	108,957 cps
9Be (STDR)	48.776 ppb	1.3 %	253,078 cps	253,078 cps
27Al (STDR)	99.500 ppb	1.1 %	2,615,300 cps	2,615,300 cps
45Sc (STDR)	96.249 %	0.8 %	274,555 cps	307,824 cps
45Sc (KEDR)	104.054 %	3.1 %	9,847 cps	9,847 cps
51V (STDR)	51.297 ppb	1.3 %	2,280,530 cps	3,571,533 cps
51V (KEDR)	49.235 ppb	2.1 %	300,101 cps	300,101 cps
55Mn (STDR)	50.394 ppb	0.3 %	3,141,661 cps	3,141,661 cps
55Mn (KEDR)	49.460 ppb	3.5 %	222,100 cps	222,100 cps
52Cr (STDR)	49.234 ppb	1.0 %	1,924,528 cps	2,028,360 cps
52Cr (KEDR)	48.827 ppb	2.6 %	444,977 cps	444,977 cps
59Co (STDR)	50.082 ppb	0.5 %	2,413,324 cps	2,413,324 cps
59Co (KEDR)	49.113 ppb	3.3 %	827,214 cps	827,214 cps
60Ni (STDR)	50.022 ppb	0.6 %	531,877 cps	531,877 cps
60Ni (KEDR)	49.441 ppb	2.6 %	228,325 cps	228,325 cps
63Cu (STDR)	48.807 ppb	1.0 %	1,303,622 cps	1,303,622 cps
63Cu (KEDR)	48.781 ppb	2.1 %	636,495 cps	636,495 cps
66Zn (STDR)	99.878 ppb	0.3 %	890,839 cps	890,839 cps
66Zn (KEDR)	98.879 ppb	1.6 %	234,091 cps	234,091 cps
74Ge (STDR)	95.203 %	0.5 %	534,302 cps	538,908 cps
74Ge (KEDR)	99.229 %	1.3 %	84,242 cps	84,242 cps
75As (STDR)	50.059 ppb	0.8 %	387,950 cps	409,030 cps
75As (KEDR)	49.482 ppb	0.8 %	57,848 cps	57,848 cps
82Se (STDR)	50.997 ppb	0.6 %	39,756 cps	40,181 cps
82Se (KEDR)	49.632 ppb	2.7 %	2,468 cps	2,468 cps
98Mo (STDR)	49.023 ppb	1.0 %	1,273,990 cps	1,273,992 cps
98Mo (KEDR)	49.081 ppb	0.4 %	737,246 cps	737,246 cps
107Ag (STDR)	47.301 ppb	1.9 %	2,354,579 cps	2,354,579 cps
107Ag (KEDR)	48.108 ppb	0.5 %	1,644,761 cps	1,644,761 cps
111Cd (STDR)	48.624 ppb	0.8 %	607,728 cps	610,291 cps
111Cd (KEDR)	48.887 ppb	0.5 %	288,957 cps	288,957 cps
115In (STDR)	97.372 %	0.3 %	790,806 cps	790,818 cps
115In (KEDR)	102.613 %	1.0 %	180,914 cps	180,914 cps
121Sb (STDR)	49.303 ppb	0.4 %	2,139,896 cps	2,139,899 cps
121Sb (KEDR)	49.477 ppb	0.8 %	653,948 cps	653,948 cps
137Ba (STDR)	48.613 ppb	0.4 %	850,029 cps	850,029 cps
137Ba (KEDR)	49.368 ppb	0.6 %	234,444 cps	234,444 cps
205Tl (STDR)	51.206 ppb	1.3 %	7,690,314 cps	7,690,314 cps
205Tl (KEDR)	51.943 ppb	0.8 %	7,611,402 cps	7,611,402 cps
208Pb (STDR)	48.311 ppb	1.7 %	10,022,083 cps	5,316,737 cps
208Pb (KEDR)	48.709 ppb	0.7 %	5,211,175 cps	5,211,175 cps
209Bi (STDR)	99.354 %	1.5 %	1,037,670 cps	1,037,670 cps
209Bi (KEDR)	100.967 %	0.6 %	997,413 cps	997,413 cps
238U (STDR)	50.940 ppb	1.3 %	11,495,458 cps	11,495,458 cps
238U (KEDR)	50.745 ppb	0.9 %	12,135,775 cps	12,135,775 cps

Turner Report Sample Summary

4/14/2021 12:15:38 PM
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Analysis index: 10
Analysis name: 0.25 CHK STD
Analysis started at: 4/14/2021 12:12:12 PM

Remake & ReRun

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	101.661 %	1.2 %	114,164 cps	114,164 cps
9Be (STDR)	0.262 ppb	10.0 %	1,490 cps	1,490 cps
27Al (STDR)	0.732 ppb	1.8 %	35,310 cps	35,310 cps
45Sc (STDR)	100.238 %	1.2 %	285,934 cps	322,337 cps
45Sc (KEDR)	105.807 %	2.1 %	10,013 cps	10,013 cps
51V (STDR)	3.832 ppb	11.1 %	261,199 cps	2,670,808 cps
51V (KEDR)	0.355 ppb	8.4 %	3,362 cps	3,362 cps
55Mn (STDR)	0.316 ppb	1.9 %	23,864 cps	23,864 cps
55Mn (KEDR)	0.304 ppb	2.2 %	1,433 cps	1,433 cps
52Cr (STDR)	-1.809 ppb	2.1 %	-152,313 cps	70,509 cps
52Cr (KEDR)	0.273 ppb	8.7 %	2,890 cps	2,890 cps
59Co (STDR)	0.247 ppb	3.1 %	12,580 cps	12,580 cps
59Co (KEDR)	0.252 ppb	2.6 %	4,310 cps	4,310 cps
60Ni (STDR)	0.275 ppb	2.0 %	3,370 cps	3,370 cps
60Ni (KEDR)	0.281 ppb	4.2 %	1,428 cps	1,428 cps
63Cu (STDR)	0.433 ppb	1.2 %	12,967 cps	12,967 cps
63Cu (KEDR)	0.430 ppb	3.4 %	6,039 cps	6,039 cps
66Zn (STDR)	1.558 ppb	3.7 %	19,665 cps	19,665 cps
66Zn (KEDR)	1.519 ppb	1.9 %	5,154 cps	5,154 cps
74Ge (STDR)	97.929 %	0.6 %	549,602 cps	552,006 cps
74Ge (KEDR)	100.255 %	1.6 %	85,113 cps	85,113 cps
75As (STDR)	0.275 ppb	31.7 %	1,317 cps	63,628 cps
75As (KEDR)	0.276 ppb	5.9 %	349 cps	349 cps
82Se (STDR)	0.508 ppb	35.7 %	303 cps	835 cps
82Se (KEDR)	0.566 ppb	24.1 %	48 cps	48 cps
98Mo (STDR)	0.294 ppb	2.7 %	7,953 cps	7,956 cps
98Mo (KEDR)	0.298 ppb	5.7 %	4,553 cps	4,553 cps
107Ag (STDR)	0.251 ppb	2.4 %	12,950 cps	12,950 cps
107Ag (KEDR)	0.264 ppb	2.6 %	9,082 cps	9,082 cps
111Cd (STDR)	0.241 ppb	0.8 %	3,430 cps	3,092 cps
111Cd (KEDR)	0.247 ppb	5.1 %	1,456 cps	1,456 cps
115In (STDR)	100.081 %	1.6 %	812,810 cps	812,817 cps
115In (KEDR)	102.325 %	0.3 %	180,406 cps	180,406 cps
121Sb (STDR)	0.266 ppb	3.3 %	12,118 cps	12,118 cps
121Sb (KEDR)	0.265 ppb	2.2 %	3,564 cps	3,564 cps
137Ba (STDR)	0.472 ppb	1.0 %	10,965 cps	10,965 cps
137Ba (KEDR)	0.451 ppb	6.8 %	2,814 cps	2,814 cps
205Tl (STDR)	0.293 ppb	2.2 %	45,247 cps	45,247 cps
205Tl (KEDR)	0.315 ppb	0.8 %	46,647 cps	46,647 cps
208Pb (STDR)	0.258 ppb	1.7 %	53,892 cps	28,576 cps
208Pb (KEDR)	0.279 ppb	1.6 %	29,481 cps	29,481 cps
209Bi (STDR)	99.219 %	0.9 %	1,036,258 cps	1,036,258 cps
209Bi (KEDR)	99.140 %	0.7 %	979,368 cps	979,368 cps
238U (STDR)	0.255 ppb	1.2 %	57,531 cps	57,531 cps
238U (KEDR)	0.275 ppb	1.6 %	64,520 cps	64,520 cps

Turner Report Sample Summary

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W. M. M. M.

Analysis index: 11
Analysis name: 0.50 CHK STD
Analysis started at: 4/14/2021 12:15:38 PM

Remake + ReRun

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	101.618 %	1.6 %	114,116 cps	114,116 cps
9Be (STDR)	0.485 ppb	1.4 %	2,702 cps	2,702 cps
27Al (STDR)	0.898 ppb	4.3 %	40,093 cps	40,093 cps
45Sc (STDR)	101.447 %	1.0 %	289,383 cps	326,097 cps
45Sc (KEDR)	104.618 %	2.3 %	9,901 cps	9,901 cps
51V (STDR)	5.372 ppb	15.0 %	333,670 cps	2,893,330 cps
51V (KEDR)	0.589 ppb	1.9 %	4,753 cps	4,753 cps
55Mn (STDR)	0.547 ppb	0.6 %	39,243 cps	39,243 cps
55Mn (KEDR)	0.519 ppb	4.1 %	2,383 cps	2,383 cps
52Cr (STDR)	-1.528 ppb	1.4 %	-142,230 cps	79,162 cps
52Cr (KEDR)	0.503 ppb	2.9 %	4,963 cps	4,963 cps
59Co (STDR)	0.472 ppb	1.7 %	24,133 cps	24,133 cps
59Co (KEDR)	0.484 ppb	2.8 %	8,165 cps	8,165 cps
60Ni (STDR)	0.492 ppb	4.2 %	5,828 cps	5,828 cps
60Ni (KEDR)	0.487 ppb	2.6 %	2,360 cps	2,360 cps
63Cu (STDR)	0.623 ppb	2.4 %	18,450 cps	18,450 cps
63Cu (KEDR)	0.644 ppb	3.3 %	8,747 cps	8,747 cps
66Zn (STDR)	1.743 ppb	1.6 %	21,637 cps	21,637 cps
66Zn (KEDR)	1.698 ppb	5.2 %	5,505 cps	5,505 cps
74Ge (STDR)	99.201 %	1.0 %	556,740 cps	559,205 cps
74Ge (KEDR)	98.810 %	0.7 %	83,886 cps	83,886 cps
75As (STDR)	0.525 ppb	67.6 %	3,357 cps	67,095 cps
75As (KEDR)	0.502 ppb	5.5 %	607 cps	607 cps
82Se (STDR)	0.592 ppb	1.9 %	374 cps	912 cps
82Se (KEDR)	0.566 ppb	33.8 %	48 cps	48 cps
98Mo (STDR)	0.502 ppb	1.2 %	13,620 cps	13,622 cps
98Mo (KEDR)	0.500 ppb	2.3 %	7,462 cps	7,462 cps
107Ag (STDR)	0.471 ppb	1.9 %	24,365 cps	24,365 cps
107Ag (KEDR)	0.500 ppb	0.2 %	16,832 cps	16,832 cps
111Cd (STDR)	0.479 ppb	0.9 %	6,520 cps	6,193 cps
111Cd (KEDR)	0.506 ppb	4.0 %	2,927 cps	2,927 cps
115In (STDR)	100.540 %	1.5 %	816,539 cps	816,545 cps
115In (KEDR)	100.326 %	0.8 %	176,882 cps	176,882 cps
121Sb (STDR)	0.493 ppb	2.1 %	22,298 cps	22,298 cps
121Sb (KEDR)	0.501 ppb	0.8 %	6,552 cps	6,552 cps
137Ba (STDR)	0.634 ppb	0.8 %	13,954 cps	13,954 cps
137Ba (KEDR)	0.629 ppb	1.9 %	3,609 cps	3,609 cps
205Tl (STDR)	0.497 ppb	1.2 %	76,947 cps	76,947 cps
205Tl (KEDR)	0.511 ppb	1.6 %	75,950 cps	75,950 cps
208Pb (STDR)	0.491 ppb	1.1 %	103,365 cps	54,529 cps
208Pb (KEDR)	0.514 ppb	1.1 %	55,035 cps	55,035 cps
209Bi (STDR)	100.498 %	1.0 %	1,049,614 cps	1,049,614 cps
209Bi (KEDR)	100.733 %	0.1 %	995,100 cps	995,100 cps
238U (STDR)	0.491 ppb	1.7 %	112,036 cps	112,036 cps
238U (KEDR)	0.518 ppb	0.4 %	123,706 cps	123,706 cps

Turner Report Sample Summary

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iCAP RQ ICP-MS



W. W. W.
4/14/21

Analysis index: 12
Analysis name: 40 CHK STD
Analysis started at: 4/14/2021 12:19:05 PM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	102.016 %	0.3 %	114,563 cps	114,563 cps
9Be (STDR)	38.312 ppb	0.4 %	209,075 cps	209,075 cps
27Al (STDR)	38.712 ppb	0.8 %	1,080,282 cps	1,080,282 cps
45Sc (STDR)	101.370 %	0.7 %	289,162 cps	324,971 cps
45Sc (KEDR)	106.724 %	1.1 %	10,100 cps	10,100 cps
51V (STDR)	42.625 ppb	1.1 %	2,007,357 cps	4,668,104 cps
51V (KEDR)	38.923 ppb	0.7 %	243,487 cps	243,487 cps
55Mn (STDR)	39.782 ppb	0.9 %	2,604,311 cps	2,604,311 cps
55Mn (KEDR)	38.388 ppb	1.5 %	176,692 cps	176,692 cps
52Cr (STDR)	36.291 ppb	1.2 %	1,470,490 cps	1,697,454 cps
52Cr (KEDR)	38.679 ppb	0.2 %	361,475 cps	361,475 cps
59Co (STDR)	38.330 ppb	1.8 %	1,936,490 cps	1,936,490 cps
59Co (KEDR)	38.463 ppb	0.5 %	663,624 cps	663,624 cps
60Ni (STDR)	38.629 ppb	0.6 %	430,543 cps	430,543 cps
60Ni (KEDR)	38.333 ppb	0.9 %	181,331 cps	181,331 cps
63Cu (STDR)	38.458 ppb	1.4 %	1,075,680 cps	1,075,680 cps
63Cu (KEDR)	38.270 ppb	0.7 %	511,257 cps	511,257 cps
66Zn (STDR)	38.868 ppb	1.1 %	365,950 cps	365,950 cps
66Zn (KEDR)	38.240 ppb	0.8 %	93,588 cps	93,588 cps
74Ge (STDR)	99.314 %	0.8 %	557,370 cps	562,696 cps
74Ge (KEDR)	101.416 %	1.0 %	86,098 cps	86,098 cps
75As (STDR)	38.448 ppb	1.4 %	310,474 cps	370,829 cps
75As (KEDR)	38.160 ppb	0.9 %	45,557 cps	45,557 cps
82Se (STDR)	39.317 ppb	0.8 %	31,848 cps	32,342 cps
82Se (KEDR)	37.305 ppb	0.7 %	1,887 cps	1,887 cps
98Mo (STDR)	39.030 ppb	0.9 %	1,048,168 cps	1,048,171 cps
98Mo (KEDR)	39.350 ppb	1.0 %	590,663 cps	590,663 cps
107Ag (STDR)	38.331 ppb	0.4 %	1,964,960 cps	1,964,960 cps
107Ag (KEDR)	39.541 ppb	1.9 %	1,339,546 cps	1,339,546 cps
111Cd (STDR)	38.816 ppb	1.0 %	498,898 cps	500,588 cps
111Cd (KEDR)	39.250 ppb	1.1 %	229,055 cps	229,055 cps
115In (STDR)	99.972 %	0.9 %	811,923 cps	811,930 cps
115In (KEDR)	100.955 %	1.6 %	177,990 cps	177,990 cps
121Sb (STDR)	38.603 ppb	1.1 %	1,717,651 cps	1,717,652 cps
121Sb (KEDR)	38.855 ppb	1.0 %	505,843 cps	505,843 cps
137Ba (STDR)	39.062 ppb	1.1 %	698,005 cps	698,005 cps
137Ba (KEDR)	39.450 ppb	0.5 %	185,248 cps	185,248 cps
205Tl (STDR)	38.998 ppb	1.6 %	5,883,947 cps	5,883,947 cps
205Tl (KEDR)	39.158 ppb	1.6 %	5,746,279 cps	5,746,279 cps
208Pb (STDR)	38.844 ppb	1.4 %	8,089,697 cps	4,280,427 cps
208Pb (KEDR)	39.209 ppb	0.4 %	4,203,322 cps	4,203,322 cps
209Bi (STDR)	99.712 %	1.3 %	1,041,410 cps	1,041,410 cps
209Bi (KEDR)	101.191 %	0.7 %	999,633 cps	999,633 cps
238U (STDR)	39.211 ppb	0.7 %	8,881,050 cps	8,881,050 cps
238U (KEDR)	39.312 ppb	0.9 %	9,421,929 cps	9,421,929 cps

Turner Report Sample Summary

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Analysis index: 13
Analysis name: 0.25 CHK STD
Analysis started at: 4/14/2021 12:23:58 PM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	96.453 %	0.9 %	108,316 cps	108,316 cps
9Be (STDR)	0.260 ppb	4.8 %	1,405 cps	1,405 cps
27Al (STDR)	0.312 ppb	7.2 %	22,762 cps	22,762 cps
45Sc (STDR)	96.129 %	0.8 %	274,213 cps	305,801 cps
45Sc (KEDR)	98.611 %	25.5 %	9,332 cps	9,332 cps
51V (STDR)	-1.651 ppb	203.3 %	17,593 cps	1,459,639 cps
51V (KEDR)	0.313 ppb	49.1 %	2,789 cps	2,789 cps
55Mn (STDR)	0.295 ppb	3.8 %	21,799 cps	21,799 cps
55Mn (KEDR)	0.300 ppb	30.5 %	1,285 cps	1,285 cps
52Cr (STDR)	0.336 ppb	5.0 %	-59,774 cps	44,554 cps
52Cr (KEDR)	0.286 ppb	35.8 %	2,713 cps	2,713 cps
59Co (STDR)	0.271 ppb	2.7 %	13,382 cps	13,382 cps
59Co (KEDR)	0.276 ppb	28.4 %	4,347 cps	4,347 cps
60Ni (STDR)	0.272 ppb	4.9 %	3,240 cps	3,240 cps
60Ni (KEDR)	0.271 ppb	33.0 %	1,268 cps	1,268 cps
63Cu (STDR)	0.265 ppb	0.9 %	8,129 cps	8,129 cps
63Cu (KEDR)	0.289 ppb	30.0 %	3,895 cps	3,895 cps
66Zn (STDR)	1.008 ppb	2.6 %	14,310 cps	14,310 cps
66Zn (KEDR)	1.113 ppb	40.0 %	3,943 cps	3,943 cps
74Ge (STDR)	96.430 %	0.3 %	541,186 cps	542,461 cps
74Ge (KEDR)	99.777 %	19.8 %	84,707 cps	84,707 cps
75As (STDR)	0.354 ppb	26.2 %	1,925 cps	34,637 cps
75As (KEDR)	0.259 ppb	28.6 %	316 cps	316 cps
82Se (STDR)	0.324 ppb	60.2 %	152 cps	575 cps
82Se (KEDR)	0.274 ppb	98.8 %	32 cps	32 cps
98Mo (STDR)	0.276 ppb	2.9 %	7,307 cps	7,309 cps
98Mo (KEDR)	0.281 ppb	30.1 %	4,049 cps	4,049 cps
107Ag (STDR)	0.267 ppb	1.9 %	13,444 cps	13,444 cps
107Ag (KEDR)	0.276 ppb	29.2 %	8,903 cps	8,903 cps
111Cd (STDR)	0.271 ppb	2.7 %	3,716 cps	3,400 cps
111Cd (KEDR)	0.271 ppb	31.8 %	1,486 cps	1,486 cps
115In (STDR)	97.390 %	0.8 %	790,952 cps	790,956 cps
115In (KEDR)	100.497	26.4	177,184 cps	177,184 cps
121Sb (STDR)	0.276 ppb	0.4 %	12,194 cps	12,194 cps
121Sb (KEDR)	0.282 ppb	30.4 %	3,532 cps	3,532 cps
137Ba (STDR)	0.257 ppb	4.1 %	6,972 cps	6,972 cps
137Ba (KEDR)	0.285 ppb	42.0 %	1,908 cps	1,908 cps
205Tl (STDR)	0.284 ppb	1.6 %	43,022 cps	43,022 cps
205Tl (KEDR)	0.300 ppb	29.2 %	42,418 cps	42,418 cps
208Pb (STDR)	0.273 ppb	1.8 %	55,799 cps	29,538 cps
208Pb (KEDR)	0.287 ppb	29.7 %	28,847 cps	28,847 cps
209Bi (STDR)	97.278 %	0.9 %	1,015,987 cps	1,015,987 cps
209Bi (KEDR)	98.982 %	24.4 %	977,803 cps	977,803 cps
238U (STDR)	0.273 ppb	1.1 %	60,346 cps	60,346 cps
238U (KEDR)	0.290 ppb	28.8 %	64,762 cps	64,762 cps

Turner Report Sample Summary

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Analysis index: 14
Analysis name: 0.50 CHK STD
Analysis started at: 4/14/2021 12:27:25 PM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	✓ 96.220 %	0.9 %	108,054 cps	108,054 cps
9Be (STDR)	0.475 ppb	1.3 %	2,507 cps	2,507 cps
27Al (STDR)	0.581 ppb	0.8 %	29,640 cps	29,640 cps
45Sc (STDR)	✓ 95.583 %	0.6 %	272,656 cps	304,808 cps
45Sc (KEDR)	101.154 %	0.5 %	9,573 cps	9,573 cps
51V (STDR)	0.561 ppb	388.2 %	111,193 cps	1,564,511 cps
51V (KEDR)	0.501 ppb	5.9 %	4,110 cps	4,110 cps
55Mn (STDR)	0.510 ppb	0.9 %	34,941 cps	34,941 cps
55Mn (KEDR)	0.525 ppb	2.8 %	2,362 cps	2,362 cps
52Cr (STDR)	0.521 ppb	✓ 4.0 %	-51,858 cps	52,212 cps
52Cr (KEDR)	0.489 ppb	2.4 %	4,719 cps	4,719 cps
59Co (STDR)	0.487 ppb	0.2 %	23,614 cps	23,614 cps
59Co (KEDR)	0.495 ppb	1.7 %	8,245 cps	8,245 cps
60Ni (STDR)	0.499 ppb	2.7 %	5,613 cps	5,613 cps
60Ni (KEDR)	0.510 ppb	5.2 %	2,437 cps	2,437 cps
63Cu (STDR)	0.498 ppb	0.9 %	14,243 cps	14,243 cps
63Cu (KEDR)	0.498 ppb	3.7 %	6,802 cps	6,802 cps
66Zn (STDR)	1.082 ppb	1.5 %	14,780 cps	14,780 cps
66Zn (KEDR)	1.004 ppb	3.1 %	3,863 cps	3,863 cps
74Ge (STDR)	✓ 95.009 %	0.9 %	533,211 cps	534,498 cps
74Ge (KEDR)	99.745 %	1.3 %	84,680 cps	84,680 cps
75As (STDR)	0.453 ppb	13.1 %	2,658 cps	35,151 cps
75As (KEDR)	0.474 ppb	2.2 %	580 cps	580 cps
82Se (STDR)	0.505 ppb	9.0 %	291 cps	782 cps
82Se (KEDR)	0.235 ppb	75.6 %	32 cps	32 cps
98Mo (STDR)	0.508 ppb	1.1 %	13,225 cps	13,225 cps
98Mo (KEDR)	0.506 ppb	0.6 %	7,636 cps	7,636 cps
107Ag (STDR)	0.476 ppb	1.2 %	23,632 cps	23,632 cps
107Ag (KEDR)	0.500 ppb	0.6 %	17,016 cps	17,016 cps
111Cd (STDR)	0.485 ppb	1.3 %	6,337 cps	6,003 cps
111Cd (KEDR)	0.489 ppb	0.8 %	2,864 cps	2,864 cps
115In (STDR)	✓ 96.729 %	1.4 %	785,585 cps	785,590 cps
115In (KEDR)	101.547 %	1.6 %	179,034 cps	179,034 cps
121Sb (STDR)	0.480 ppb	2.7 %	20,929 cps	20,929 cps
121Sb (KEDR)	0.491 ppb	1.5 %	6,494 cps	6,494 cps
137Ba (STDR)	0.486 ppb	3.1 %	10,900 cps	10,900 cps
137Ba (KEDR)	0.493 ppb	7.3 %	3,003 cps	3,003 cps
205Tl (STDR)	0.489 ppb	0.5 %	73,555 cps	73,555 cps
205Tl (KEDR)	0.514 ppb	0.8 %	76,037 cps	76,037 cps
208Pb (STDR)	0.492 ppb	✓ 1.4 %	100,799 cps	53,886 cps
208Pb (KEDR)	0.511 ppb	1.5 %	54,429 cps	54,429 cps
209Bi (STDR)	✓ 97.746 %	0.8 %	1,020,872 cps	1,020,872 cps
209Bi (KEDR)	100.135 %	0.5 %	989,193 cps	989,193 cps
238U (STDR)	0.498 ppb	1.3 %	110,604 cps	110,604 cps
238U (KEDR)	0.515 ppb	0.8 %	122,279 cps	122,279 cps

Turner Report Sample Summary

4/14/2021 12:36:18 PM
ICAP RQ ICP-MS



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Analysis index: 15
Analysis name: 2104161-BLK1
Analysis started at: 4/14/2021 12:32:51 PM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	94.836 %	3.3 %	106,500 cps	106,500 cps
9Be (STDR)	0.005 ppb	91.4 %	87 cps	87 cps
27Al (STDR)	5.704 ppb	1.6 %	160,425 cps	160,425 cps
45Sc (STDR)	94.491 %	0.4 %	269,541 cps	301,094 cps
45Sc (KEDR)	98.705 %	6.8 %	9,341 cps	9,341 cps
51V (STDR)	-1.150 ppb	308.4 %	37,881 cps	1,473,079 cps
51V (KEDR)	0.013 ppb	98.9 %	1,178 cps	1,178 cps
55Mn (STDR)	0.083 ppb	3.9 %	8,383 cps	8,383 cps
55Mn (KEDR)	0.076 ppb	7.8 %	370 cps	370 cps
52Cr (STDR)	0.141 ppb	4.0 %	-66,514 cps	32,290 cps
52Cr (KEDR)	0.025 ppb	19.0 %	562 cps	562 cps
59Co (STDR)	0.011 ppb	7.2 %	768 cps	768 cps
59Co (KEDR)	0.011 ppb	8.4 %	183 cps	183 cps
60Ni (STDR)	0.421 ppb	3.2 %	4,743 cps	4,743 cps
60Ni (KEDR)	0.422 ppb	7.8 %	1,983 cps	1,983 cps
63Cu (STDR)	0.189 ppb	0.8 %	5,968 cps	5,968 cps
63Cu (KEDR)	0.210 ppb	1.1 %	2,995 cps	2,995 cps
66Zn (STDR)	0.808 ppb	2.5 %	12,268 cps	12,268 cps
66Zn (KEDR)	0.798 ppb	12.5 %	3,300 cps	3,300 cps
74Ge (STDR)	94.440 %	0.1 %	530,017 cps	531,194 cps
74Ge (KEDR)	97.559 %	3.2 %	82,824 cps	82,824 cps
75As (STDR)	-0.036 ppb	102.1 %	-1,121 cps	29,704 cps
75As (KEDR)	-0.004 ppb	137.7 %	18 cps	18 cps
82Se (STDR)	-0.152 ppb	44.9 %	-219 cps	280 cps
82Se (KEDR)	-0.145 ppb	41.7 %	13 cps	13 cps
98Mo (STDR)	0.011 ppb	19.3 %	370 cps	372 cps
98Mo (KEDR)	0.010 ppb	20.8 %	210 cps	210 cps
107Ag (STDR)	0.007 ppb	13.7 %	433 cps	433 cps
107Ag (KEDR)	0.007 ppb	1.8 %	286 cps	286 cps
111Cd (STDR)	0.000 ppb	818.7 %	320 cps	35 cps
111Cd (KEDR)	0.001 ppb	26.1 %	8 cps	8 cps
115In (STDR)	95.031 %	0.4 %	771,800 cps	771,886 cps
115In (KEDR)	97.430 %	5.7 %	171,775 cps	171,775 cps
121Sb (STDR)	0.005 ppb	32.4 %	466 cps	467 cps
121Sb (KEDR)	0.004 ppb	69.7 %	119 cps	119 cps
137Ba (STDR)	0.023 ppb	42.4 %	2,842 cps	2,842 cps
137Ba (KEDR)	0.035 ppb	48.6 %	816 cps	816 cps
205Tl (STDR)	0.005 ppb	14.3 %	1,935 cps	1,935 cps
205Tl (KEDR)	0.004 ppb	14.6 %	1,939 cps	1,939 cps
208Pb (STDR)	0.028 ppb	3.6 %	6,024 cps	3,197 cps
208Pb (KEDR)	0.031 ppb	7.7 %	3,364 cps	3,364 cps
209Bi (STDR)	96.325 %	0.9 %	1,006,032 cps	1,006,032 cps
209Bi (KEDR)	96.554 %	4.4 %	953,818 cps	953,818 cps
238U (STDR)	0.001 ppb	15.6 %	193 cps	193 cps
238U (KEDR)	0.001 ppb	6.1 %	208 cps	208 cps

Turner Report Sample Summary

4/14/2021 12:50:12 PM
ICAP RQ ICP-MS



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Analysis index: 19
Analysis name: 21D0200-01@20
Analysis started at: 4/14/2021 12:46:43 PM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	95.826 %	0.7 %	107,612 cps	107,612 cps
9Be (STDR)	0.021 ppb	26.3 %	173 cps	173 cps
27Al (STDR)	303.637 ppb	1.2 %	7,750,811 cps	7,750,811 cps
45Sc (STDR)	92.752 %	0.5 %	264,581 cps	317,886 cps
45Sc (KEDR)	101.278 %	0.8 %	9,585 cps	9,585 cps
51V (STDR)	-1.680 ppb	50.0 %	15,441 cps	1,949,010 cps
51V (KEDR)	0.695 ppb	3.0 %	5,230 cps	5,230 cps
55Mn (STDR)	10.552 ppb	0.2 %	645,677 cps	645,677 cps
55Mn (KEDR)	10.067 ppb	1.0 %	44,023 cps	44,023 cps
52Cr (STDR)	-2.000 ppb	1.5 %	-150,367 cps	55,381 cps
52Cr (KEDR)	0.417 ppb	4.3 %	4,045 cps	4,045 cps
59Co (STDR)	0.120 ppb	2.8 %	5,920 cps	5,920 cps
59Co (KEDR)	0.113 ppb	1.8 %	1,870 cps	1,870 cps
60Ni (STDR)	0.328 ppb	2.4 %	3,756 cps	3,756 cps
60Ni (KEDR)	0.294 ppb	10.5 %	1,427 cps	1,427 cps
63Cu (STDR)	1.183 ppb	0.4 %	32,202 cps	32,202 cps
63Cu (KEDR)	1.136 ppb	1.1 %	14,745 cps	14,745 cps
66Zn (STDR)	5.642 ppb	0.5 %	54,890 cps	54,890 cps
66Zn (KEDR)	5.426 ppb	1.1 %	13,880 cps	13,880 cps
74Ge (STDR)	95.628 %	0.4 %	536,684 cps	538,574 cps
74Ge (KEDR)	96.375 %	0.4 %	81,819 cps	81,819 cps
75As (STDR)	0.472 ppb	31.8 %	2,827 cps	52,202 cps
75As (KEDR)	0.619 ppb	5.9 %	725 cps	725 cps
82Se (STDR)	0.041 ppb	49.1 %	-71 cps	502 cps
82Se (KEDR)	0.170 ppb	215.1 %	28 cps	28 cps
98Mo (STDR)	0.135 ppb	3.3 %	3,627 cps	3,631 cps
98Mo (KEDR)	0.135 ppb	1.7 %	2,003 cps	2,003 cps
107Ag (STDR)	0.008 ppb	3.3 %	475 cps	475 cps
107Ag (KEDR)	0.007 ppb	16.8 %	285 cps	285 cps
111Cd (STDR)	0.010 ppb	72.0 %	447 cps	165 cps
111Cd (KEDR)	0.014 ppb	6.8 %	81 cps	81 cps
115In (STDR)	97.815 %	1.1 %	794,404 cps	794,691 cps
115In (KEDR)	97.715 %	0.6 %	172,279 cps	172,279 cps
121Sb (STDR)	0.032 ppb	5.4 %	1,632 cps	1,633 cps
121Sb (KEDR)	0.032 ppb	14.2 %	472 cps	472 cps
137Ba (STDR)	5.024 ppb	0.5 %	90,243 cps	90,243 cps
137Ba (KEDR)	5.155 ppb	0.6 %	24,025 cps	24,025 cps
205Tl (STDR)	0.015 ppb	10.2 %	3,516 cps	3,516 cps
205Tl (KEDR)	0.017 ppb	6.3 %	3,756 cps	3,756 cps
208Pb (STDR)	5.050 ppb	0.4 %	1,039,398 cps	549,282 cps
208Pb (KEDR)	5.275 ppb	0.3 %	548,903 cps	548,903 cps
209Bi (STDR)	98.508 %	1.8 %	1,028,830 cps	1,028,830 cps
209Bi (KEDR)	98.193 %	0.7 %	970,010 cps	970,010 cps
238U (STDR)	0.205 ppb	0.9 %	45,960 cps	45,960 cps
238U (KEDR)	0.213 ppb	0.4 %	49,643 cps	49,643 cps

Turner Report Sample Summary

4/14/2021 12:53:39 PM
ICAP RQ ICP-MS



W. M. M.

Analysis index: 20
Analysis name: CCB
Analysis started at: 4/14/2021 12:50:12 PM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	90.232 %	0.4 %	101,329 cps	101,329 cps
9Be (STDR)	0.003 ppb	145.3 %	77 cps	77 cps
27Al (STDR)	-0.001 ppb	1,271.5 %	14,115 cps	14,115 cps
45Sc (STDR)	95.487 %	1.3 %	272,383 cps	302,950 cps
45Sc (KEDR)	102.908 %	0.3 %	9,739 cps	9,739 cps
51V (STDR)	-3.679 ppb	19.4 %	-69,790 cps	1,295,557 cps
51V (KEDR)	0.005 ppb	325.7 %	1,176 cps	1,176 cps
55Mn (STDR)	0.002 ppb	120.6 %	3,444 cps	3,444 cps
55Mn (KEDR)	0.006 ppb	66.1 %	73 cps	73 cps
52Cr (STDR)	-0.088 ppb	18.3 %	-76,795 cps	26,827 cps
52Cr (KEDR)	-0.003 ppb	113.3 %	329 cps	329 cps
59Co (STDR)	0.001 ppb	69.9 %	298 cps	298 cps
59Co (KEDR)	0.000 ppb	426.3 %	12 cps	12 cps
60Ni (STDR)	0.008 ppb	53.0 %	417 cps	417 cps
60Ni (KEDR)	0.001 ppb	187.7 %	113 cps	113 cps
63Cu (STDR)	-0.005 ppb	10.7 %	882 cps	882 cps
63Cu (KEDR)	-0.004 ppb	24.5 %	299 cps	299 cps
66Zn (STDR)	-0.026 ppb	78.1 %	5,071 cps	5,071 cps
66Zn (KEDR)	-0.049 ppb	9.4 %	1,404 cps	1,404 cps
74Ge (STDR)	97.155 %	1.2 %	545,253 cps	546,345 cps
74Ge (KEDR)	99.815 %	0.2 %	84,740 cps	84,740 cps
75As (STDR)	-0.009 ppb	530.0 %	-937 cps	27,574 cps
75As (KEDR)	-0.001 ppb	99.9 %	22 cps	22 cps
82Se (STDR)	-0.109 ppb	109.3 %	-190 cps	302 cps
82Se (KEDR)	-0.170 ppb	45.6 %	12 cps	12 cps
98Mo (STDR)	0.000 ppb	1,880.1 %	97 cps	100 cps
98Mo (KEDR)	-0.001 ppb	29.2 %	47 cps	47 cps
107Ag (STDR)	0.000 ppb	223.8 %	77 cps	77 cps
107Ag (KEDR)	0.000 ppb	19.9 %	54 cps	54 cps
111Cd (STDR)	-0.003 ppb	61.5 %	281 cps	3 cps
111Cd (KEDR)	0.000 ppb	272.8 %	3 cps	3 cps
115In (STDR)	97.395 %	0.3 %	790,998 cps	791,002 cps
115In (KEDR)	102.118 %	0.7 %	180,041 cps	180,041 cps
121Sb (STDR)	-0.001 ppb	112.1 %	213 cps	213 cps
121Sb (KEDR)	0.000 ppb	490.0 %	71 cps	71 cps
137Ba (STDR)	0.007 ppb	94.6 %	2,634 cps	2,634 cps
137Ba (KEDR)	0.005 ppb	227.8 %	718 cps	718 cps
205Tl (STDR)	0.000 ppb	78.8 %	1,228 cps	1,228 cps
205Tl (KEDR)	-0.001 ppb	23.7 %	1,253 cps	1,253 cps
208Pb (STDR)	0.000 ppb	46.5 %	400 cps	217 cps
208Pb (KEDR)	0.000 ppb	80.1 %	208 cps	208 cps
209Bi (STDR)	98.548 %	0.9 %	1,029,249 cps	1,029,249 cps
209Bi (KEDR)	100.549 %	0.7 %	993,291 cps	993,291 cps
238U (STDR)	0.000 ppb	151.1 %	18 cps	18 cps
238U (KEDR)	0.000 ppb	64.9 %	24 cps	24 cps

Turner Report Sample Summary

4/14/2021 12:57:09 PM
iCAP RQ ICP-MS



Analysis index: 21
Analysis name: CCV
Analysis started at: 4/14/2021 12:53:39 PM

Reed *M. H. H. H. H. H.*

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	91.704 %	0.6 %	102,983 cps	102,983 cps
9Be (STDR)	48.793 ppb	0.2 %	240,458 cps	240,458 cps
27Al (STDR)	99.193 ppb	1.4 %	2,547,305 cps	2,547,305 cps
45Sc (STDR)	96.693 %	1.5 %	275,822 cps	306,698 cps
45Sc (KEDR)	105.702 %	1.1 %	10,003 cps	10,003 cps
51V (STDR)	39.621 ↓	2.0	1,792,438 cps	3,195,653 cps
51V (KEDR)	49.188 ppb	0.9 %	305,097 cps	305,097 cps
55Mn (STDR)	48.640 ppb	0.2 %	3,055,141 cps	3,055,141 cps
55Mn (KEDR)	49.010 ppb	0.3 %	224,227 cps	224,227 cps
52Cr (STDR)	48.131 ppb	1.2 %	1,892,083 cps	1,994,731 cps
52Cr (KEDR)	48.598 ppb	1.1 %	450,829 cps	450,829 cps
59Co (STDR)	49.157 ppb	1.1 %	2,388,957 cps	2,388,957 cps
59Co (KEDR)	48.717 ppb	0.6 %	836,716 cps	836,716 cps
60Ni (STDR)	49.748 ppb	0.8 %	533,640 cps	533,640 cps
60Ni (KEDR)	48.693 ppb	0.5 %	229,343 cps	229,343 cps
63Cu (STDR)	48.859 ppb	0.6 %	1,317,664 cps	1,317,664 cps
63Cu (KEDR)	48.444 ppb	0.4 %	645,098 cps	645,098 cps
66Zn (STDR)	99.587 ppb	0.7 %	897,642 cps	897,642 cps
66Zn (KEDR)	98.583 ppb	1.1 %	238,378 cps	238,378 cps
74Ge (STDR)	96.435 %	0.9 %	541,213 cps	545,702 cps
74Ge (KEDR)	101.536 %	0.8 %	86,201 cps	86,201 cps
75As (STDR)	49.707 ppb	1.7 %	390,205 cps	408,929 cps
75As (KEDR)	49.721 ppb	1.5 %	59,473 cps	59,473 cps
82Se (STDR)	49.898 ppb	1.6 %	39,440 cps	39,877 cps
82Se (KEDR)	47.981 ppb	5.3 %	2,440 cps	2,440 cps
98Mo (STDR)	48.915 ppb	0.1 %	1,291,885 cps	1,291,886 cps
98Mo (KEDR)	48.346 ppb	1.1 %	741,408 cps	741,408 cps
107Ag (STDR)	46.706 ppb	0.7 %	2,365,650 cps	2,365,650 cps
107Ag (KEDR)	47.698 ppb	1.1 %	1,663,449 cps	1,663,449 cps
111Cd (STDR)	48.582 ppb	0.6 %	618,176 cps	620,535 cps
111Cd (KEDR)	48.658 ppb	0.1 %	293,271 cps	293,271 cps
115In (STDR)	99.189 %	1.3 %	805,566 cps	805,578 cps
115In (KEDR)	104.599 %	0.3 %	184,415 cps	184,415 cps
121Sb (STDR)	49.242 ppb	0.8 %	2,175,246 cps	2,175,248 cps
121Sb (KEDR)	49.383 ppb	0.4 %	665,298 cps	665,298 cps
137Ba (STDR)	49.276 ppb	0.8 %	875,089 cps	875,089 cps
137Ba (KEDR)	49.415 ppb	0.5 %	239,102 cps	239,102 cps
205Tl (STDR)	51.065 ppb	1.8 %	7,722,045 cps	7,722,045 cps
205Tl (KEDR)	51.412 ppb	1.4 %	7,664,947 cps	7,664,947 cps
208Pb (STDR)	48.351 ppb	0.7 %	10,095,912 cps	5,365,337 cps
208Pb (KEDR)	48.897 ppb	0.5 %	5,322,023 cps	5,322,023 cps
209Bi (STDR)	99.977 %	0.7 %	1,044,168 cps	1,044,168 cps
209Bi (KEDR)	102.715 %	0.2 %	1,014,687 cps	1,014,687 cps
238U (STDR)	50.298 ppb	0.4 %	11,423,085 cps	11,423,085 cps
238U (KEDR)	50.203 ppb	0.6 %	12,214,011 cps	12,214,011 cps

Turner Report Sample Summary

4/14/2021 1:00:39 PM
iCAP RQ ICP-MS



W. J. ...

Analysis index: 22
Analysis name: CCV
Analysis started at: 4/14/2021 12:57:09 PM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	92.735 %	0.7 %	104,141 cps	104,141 cps
9Be (STDR)	47.932 ppb	0.8 %	238,673 cps	238,673 cps
27Al (STDR)	99.530 ppb	1.2 %	2,570,786 cps	2,570,786 cps
45Sc (STDR)	96.811 %	0.7 %	276,159 cps	306,695 cps
45Sc (KEDR)	104.573 %	3.0 %	9,896 cps	9,896 cps
51V (STDR)	49.960 ppb	0.5 %	2,240,826 cps	3,526,766 cps
51V (KEDR)	49.156 ppb	2.3 %	301,363 cps	301,363 cps
55Mn (STDR)	49.067 ppb	1.1 %	3,087,302 cps	3,087,302 cps
55Mn (KEDR)	48.808 ppb	2.1 %	220,617 cps	220,617 cps
52Cr (STDR)	49.999 ppb	0.2 %	1,971,669 cps	2,073,530 cps
52Cr (KEDR)	48.589 ppb	2.2 %	445,482 cps	445,482 cps
59Co (STDR)	49.759 ppb	1.2 %	2,423,143 cps	2,423,143 cps
59Co (KEDR)	48.770 ppb	1.7 %	827,321 cps	827,321 cps
60Ni (STDR)	49.536 ppb	1.1 %	532,447 cps	532,447 cps
60Ni (KEDR)	49.053 ppb	1.9 %	228,169 cps	228,169 cps
63Cu (STDR)	48.650 ppb	1.1 %	1,314,890 cps	1,314,890 cps
63Cu (KEDR)	48.471 ppb	1.8 %	637,257 cps	637,257 cps
66Zn (STDR)	98.651 ppb	0.6 %	891,344 cps	891,344 cps
66Zn (KEDR)	98.002 ppb	1.4 %	233,889 cps	233,889 cps
74Ge (STDR)	96.698 %	0.8 %	542,691 cps	547,130 cps
74Ge (KEDR)	100.137 %	0.5 %	85,012 cps	85,012 cps
75As (STDR)	49.664 ppb	1.3 %	390,885 cps	408,166 cps
75As (KEDR)	49.032 ppb	2.2 %	57,836 cps	57,836 cps
82Se (STDR)	49.801 ppb	1.5 %	39,388 cps	39,914 cps
82Se (KEDR)	48.491 ppb	0.6 %	2,430 cps	2,430 cps
98Mo (STDR)	49.215 ppb	1.0 %	1,294,599 cps	1,294,601 cps
98Mo (KEDR)	48.816 ppb	1.2 %	736,546 cps	736,546 cps
107Ag (STDR)	48.406 ppb	0.7 %	2,435,883 cps	2,435,883 cps
107Ag (KEDR)	47.593 ppb	0.8 %	1,631,821 cps	1,631,821 cps
111Cd (STDR)	48.538 ppb	0.6 %	612,913 cps	614,941 cps
111Cd (KEDR)	48.716 ppb	0.4 %	288,561 cps	288,561 cps
115In (STDR)	98.325 %	0.8 %	798,548 cps	798,559 cps
115In (KEDR)	102.761 %	1.1 %	181,175 cps	181,175 cps
121Sb (STDR)	49.261 ppb	0.9 %	2,158,097 cps	2,158,099 cps
121Sb (KEDR)	49.404 ppb	0.9 %	654,208 cps	654,208 cps
137Ba (STDR)	49.490 ppb	0.3 %	872,442 cps	872,442 cps
137Ba (KEDR)	49.879 ppb	1.2 %	237,584 cps	237,584 cps
205Tl (STDR)	51.759 ppb	0.2 %	7,800,721 cps	7,800,721 cps
205Tl (KEDR)	51.730 ppb	1.5 %	7,642,544 cps	7,642,544 cps
208Pb (STDR)	48.747 ppb	0.1 %	10,146,633 cps	5,397,603 cps
208Pb (KEDR)	48.828 ppb	1.1 %	5,268,041 cps	5,268,041 cps
209Bi (STDR)	99.666 %	1.6 %	1,040,928 cps	1,040,928 cps
209Bi (KEDR)	101.837 %	1.2 %	1,006,008 cps	1,006,008 cps
238U (STDR)	50.825 ppb	0.9 %	11,505,793 cps	11,505,793 cps
238U (KEDR)	50.139 ppb	1.3 %	12,092,860 cps	12,092,860 cps

iCAP RQ Report

4/16/2021 9:14:58 AM



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Sample List Summary:

Instrument Name: iCAP RQ
 Filename: 210415_1.imexp

Index:	Label:	Main runs:	Survey runs:	Start time:	User name:
1	Blank	3	1	4/15/2021 10:32:51 AM	TURNER\PEService
2	Cal Std 1 <i>2101110</i>	3	1	4/15/2021 10:36:17 AM	TURNER\PEService
3	Cal Std 2 <i>2101109</i>	3	1	4/15/2021 10:39:44 AM	TURNER\PEService
4	Cal Std 3 <i>2101118</i>	3	1	4/15/2021 10:43:12 AM	TURNER\PEService
5	Cal Std 4 <i>2101107</i>	3	1	4/15/2021 10:46:40 AM	TURNER\PEService
6	ICB	3	1	4/15/2021 10:50:09 AM	TURNER\PEService
7	IPC <i>2101118</i>	3	1	4/15/2021 10:53:35 AM	TURNER\PEService
8	ICV	3	1	4/15/2021 10:57:03 AM	TURNER\PEService
9	ICV <i>2101142</i>	3	1	4/15/2021 11:00:32 AM	TURNER\PEService
10	0.25 CHK STD	3	1	4/15/2021 11:04:02 AM	TURNER\PEService
11	0.50 CHK STD	3	1	4/15/2021 11:07:29 AM	TURNER\PEService
12	40 CHK STD	3	1	4/15/2021 11:10:55 AM	TURNER\PEService
13	2104129-BLK1	3	1	4/15/2021 11:14:22 AM	TURNER\PEService
14	2104129-BS1	3	1	4/15/2021 11:17:50 AM	TURNER\PEService
15	2104129-BSD1	3	1	4/15/2021 11:21:17 AM	TURNER\PEService
16	21D0200-01@20	3	1	4/15/2021 11:24:45 AM	TURNER\PEService
17	2104129-MS1@20	3	1	4/15/2021 11:28:14 AM	TURNER\PEService
18	21D0200-01	3	1	4/15/2021 11:31:42 AM	TURNER\PEService
19	2104129-MS1	3	1	4/15/2021 11:35:11 AM	TURNER\PEService
20	RINSE	3	1	4/15/2021 11:42:47 AM	TURNER\PEService
21	21D0200-01@5	3	1	4/15/2021 11:46:14 AM	TURNER\PEService
22	2104129-MS1@5	3	1	4/15/2021 11:49:42 AM	TURNER\PEService
23	CCB	3	1	4/15/2021 11:57:37 AM	TURNER\PEService
24	CCV	3	1	4/15/2021 12:01:04 PM	TURNER\PEService
25	CCV	3	1	4/15/2021 12:04:34 PM	TURNER\PEService
26	CCV <i>2101142</i>	3	1	4/15/2021 12:10:30 PM	TURNER\PEService
27	21D0185-01	3	1	4/15/2021 12:14:24 PM	TURNER\PEService
28	21D0342-01	3	1	4/15/2021 12:17:55 PM	TURNER\PEService
29	21A0441-05RE2@10	3	1	4/15/2021 12:21:25 PM	TURNER\PEService
30	21A0441-05RE2	3	1	4/15/2021 12:24:51 PM	TURNER\PEService
31	21D0250-01	3	1	4/15/2021 12:28:18 PM	TURNER\PEService
32	21D0250-02	3	1	4/15/2021 12:31:45 PM	TURNER\PEService
33	21D0250-03	3	1	4/15/2021 12:35:12 PM	TURNER\PEService
34	21D0248-01@100	3	1	4/15/2021 12:38:40 PM	TURNER\PEService
35	CCB	3	1	4/15/2021 12:42:08 PM	TURNER\PEService
36	CCB	3	1	4/15/2021 12:45:36 PM	TURNER\PEService
37	CCV	3	1	4/15/2021 1:06:03 PM	TURNER\PEService
38	CCV	3	1	4/15/2021 1:09:34 PM	TURNER\PEService
39	CCB	3	1	4/15/2021 1:13:58 PM	TURNER\PEService
40	2104153-BLK1	3	1	4/15/2021 1:19:19 PM	TURNER\PEService
41	2104153-BS1	3	1	4/15/2021 1:22:48 PM	TURNER\PEService
42	2104153-BSD1	3	1	4/15/2021 1:26:17 PM	TURNER\PEService
43	2104153-BS1	3	1	4/15/2021 1:30:21 PM	TURNER\PEService
44	2104153-BSD1	3	1	4/15/2021 1:33:50 PM	TURNER\PEService

CR
4/16/21

0.25 CHK STD = 0.25 mc of 1/4 2100805 diluted to 10mc
0.50 CHK STD = 0.50 mc of 2100805 diluted to 10mc
100 2100805 diluted to 10mc

iCAP RQ Report

4/16/2021 9:14:58 AM



Index:	Label:	Main runs:	Survey runs:	Start time:	User name:
45	21D0251-01	3	1	4/15/2021 1:37:46 PM	TURNER\PEService
46	2104153-MS1	3	1	4/15/2021 1:41:16 PM	TURNER\PEService
47	21D0310-01	3	1	4/15/2021 1:44:46 PM	TURNER\PEService
48	2104153-MS2	3	1	4/15/2021 1:48:17 PM	TURNER\PEService
49	21D0275-01	3	1	4/15/2021 1:51:44 PM	TURNER\PEService
50	21D0251-02	3	1	4/15/2021 1:55:12 PM	TURNER\PEService
51	21D0342-01	3	1	4/15/2021 1:58:39 PM	TURNER\PEService
52	CCB	3	1	4/15/2021 2:02:08 PM	TURNER\PEService
53	CCV	3	1	4/15/2021 2:05:36 PM	TURNER\PEService
54	21D0251-01@5	3	1	4/15/2021 2:09:08 PM	TURNER\PEService
55	2104153-MS1@5	3	1	4/15/2021 2:12:38 PM	TURNER\PEService
56	21D0310-01@2	3	1	4/15/2021 2:16:09 PM	TURNER\PEService
57	2104153-MS2@2	3	1	4/15/2021 2:19:39 PM	TURNER\PEService
58	21D0275-01@5	3	1	4/15/2021 2:23:10 PM	TURNER\PEService
59	21D0251-02@5	3	1	4/15/2021 2:26:40 PM	TURNER\PEService
60	CCB	3	1	4/15/2021 2:30:11 PM	TURNER\PEService
61	CCV	3	1	4/15/2021 2:33:40 PM	TURNER\PEService
62	21D0259-01	3	1	4/15/2021 2:37:12 PM	TURNER\PEService
63	21D0301-01	3	1	4/15/2021 2:40:41 PM	TURNER\PEService
64	21D0416-01	3	1	4/15/2021 2:44:10 PM	TURNER\PEService
65	21D0417-01	3	1	4/15/2021 2:47:40 PM	TURNER\PEService
66	21D0417-02	3	1	4/15/2021 2:51:10 PM	TURNER\PEService
67	21D0322-01	3	1	4/15/2021 2:54:41 PM	TURNER\PEService
68	21D0306-01	3	1	4/15/2021 2:58:11 PM	TURNER\PEService
69	21D0307-01	3	1	4/15/2021 3:01:43 PM	TURNER\PEService
70	CCB	3	1	4/15/2021 3:05:14 PM	TURNER\PEService
71	CCV	3	1	4/15/2021 3:08:44 PM	TURNER\PEService
72	21D0273-02	3	1	4/15/2021 3:12:17 PM	TURNER\PEService
73	21D0355-02	3	1	4/15/2021 3:15:46 PM	TURNER\PEService
74	21D0273-01@100	3	1	4/15/2021 3:19:15 PM	TURNER\PEService
75	21D0355-02@100	3	1	4/15/2021 3:22:45 PM	TURNER\PEService
76	CCB	3	1	4/15/2021 3:26:14 PM	TURNER\PEService
77	CCB	3	1	4/15/2021 3:29:44 PM	TURNER\PEService
78	CCV	3	1	4/15/2021 3:33:14 PM	TURNER\PEService
79	2104130-BLK1	3	1	4/15/2021 3:36:47 PM	TURNER\PEService
80	2104130-BS1	3	1	4/15/2021 3:40:17 PM	TURNER\PEService
81	2104130-BSD1	3	1	4/15/2021 3:43:47 PM	TURNER\PEService
82	21D0238-01	3	1	4/15/2021 3:47:18 PM	TURNER\PEService
83	2104130-MS1	3	1	4/15/2021 3:50:49 PM	TURNER\PEService
84	21D0253-01	3	1	4/15/2021 3:54:20 PM	TURNER\PEService
85	2104130-MS2	3	1	4/15/2021 3:57:52 PM	TURNER\PEService
86	21D0235-01	3	1	4/15/2021 4:01:24 PM	TURNER\PEService
87	21D0236-01	3	1	4/15/2021 4:04:56 PM	TURNER\PEService
88	21D0237-01	3	1	4/15/2021 4:08:27 PM	TURNER\PEService
89	CCB	3	1	4/15/2021 4:11:57 PM	TURNER\PEService
90	CCV	3	1	4/15/2021 4:15:28 PM	TURNER\PEService
91	21D0241-01	3	1	4/15/2021 4:19:01 PM	TURNER\PEService
92	21D0242-01	3	1	4/15/2021 4:22:32 PM	TURNER\PEService

iCAP RQ Report

4/16/2021 9:14:58 AM



Index:	Label:	Main runs:	Survey runs:	Start time:	User name:
93	21D0243-01	3	1	4/15/2021 4:26:02 PM	TURNER\PEService
94	21D0244-01	3	1	4/15/2021 4:29:33 PM	TURNER\PEService
95	21D0260-01	3	1	4/15/2021 4:33:04 PM	TURNER\PEService
96	21D0261-01	3	1	4/15/2021 4:36:36 PM	TURNER\PEService
97	21D0262-01	3	1	4/15/2021 4:40:07 PM	TURNER\PEService
98	21D0263-01	3	1	4/15/2021 4:43:39 PM	TURNER\PEService
99	21D0351-01	3	1	4/15/2021 4:47:12 PM	TURNER\PEService
100	21D0355-01	3	1	4/15/2021 4:50:45 PM	TURNER\PEService
101	CCB	3	1	4/15/2021 4:54:18 PM	TURNER\PEService
102	CCV	3	1	4/15/2021 4:57:49 PM	TURNER\PEService
103	21D0254-01	3	1	4/15/2021 5:01:23 PM	TURNER\PEService
104	21D0254-02	3	1	4/15/2021 5:04:55 PM	TURNER\PEService
105	21D0254-03	3	1	4/15/2021 5:08:27 PM	TURNER\PEService
106	21D0254-04	3	1	4/15/2021 5:11:58 PM	TURNER\PEService
107	21D0254-05	3	1	4/15/2021 5:15:30 PM	TURNER\PEService
108	CCB	3	1	4/15/2021 5:19:02 PM	TURNER\PEService
109	CCV	3	1	4/15/2021 5:22:33 PM	TURNER\PEService

Handwritten signature and date: [Signature] 4/16/21

iCAP RQ Report

4/16/2021 9:14:58 AM



Calibration Summary

Index	5
Label	Cal Std 4
Category	Correlation Coefficient
6Li (STDR)	
9Be (STDR)	.9999859
27Al (STDR)	.9999904
45Sc (STDR)	
45Sc (KEDR)	
51V (STDR)	.9998932
51V (KEDR)	.9999988
52Cr (STDR)	.9999459
52Cr (KEDR)	.9999824
55Mn (STDR)	.9999674
55Mn (KEDR)	.9999956
59Co (STDR)	.9999594
59Co (KEDR)	.9999725
60Ni (STDR)	.9999229
60Ni (KEDR)	.9999259
63Cu (STDR)	.9998841
63Cu (KEDR)	.9998754
66Zn (STDR)	.9995226
66Zn (KEDR)	.999514
74Ge (STDR)	
74Ge (KEDR)	
75As (STDR)	.9999765
75As (KEDR)	.9998122
82Se (STDR)	.9999252
82Se (KEDR)	.9998487
98Mo (STDR)	.9999844
98Mo (KEDR)	.9998599
107Ag (STDR)	.9999599
107Ag (KEDR)	.9998162
111Cd (STDR)	.9999739
111Cd (KEDR)	.9999052
115In (STDR)	
115In (KEDR)	
121Sb (STDR)	.999953
121Sb (KEDR)	.9999645
137Ba (STDR)	.9999576
137Ba (KEDR)	.9999663
205Tl (STDR)	.9998788
205Tl (KEDR)	.9999925
208Pb (STDR)	.9999335
208Pb (KEDR)	.9999731
209Bi (STDR)	
209Bi (KEDR)	
238U (STDR)	.9999387
238U (KEDR)	.9999957

W
4/16/21

Turner Report Sample Summary

4/15/2021 10:36:17 AM
iCAP RQ ICP-MS



Analysis index: 1
Analysis name: Blank
Analysis started at: 4/15/2021 10:32:51 AM

Category	Intensity average	Raw Intensity average
6Li (STDR) [cps]	107,519	107,519
9Be (STDR) [cps]	73	73
27Al (STDR) [cps]	20,624	20,624
45Sc (STDR) [cps]	288,324	324,203
45Sc (KEDR) [cps]	10,306	10,306
51V (STDR) [cps]	1,850	45,438
51V (KEDR) [cps]	72	72
55Mn (STDR) [cps]	2,815	2,815
55Mn (KEDR) [cps]	118	118
52Cr (STDR) [cps]	11,610	11,814
52Cr (KEDR) [cps]	179	179
59Co (STDR) [cps]	337	337
59Co (KEDR) [cps]	31	31
60Ni (STDR) [cps]	513	513
60Ni (KEDR) [cps]	158	158
63Cu (STDR) [cps]	2,372	2,372
63Cu (KEDR) [cps]	440	440
66Zn (STDR) [cps]	6,342	6,342
66Zn (KEDR) [cps]	1,693	1,693
74Ge (STDR) [cps]	585,705	585,818
74Ge (KEDR) [cps]	92,930	92,930
75As (STDR) [cps]	-828	1,783
75As (KEDR) [cps]	7	7
82Se (STDR) [cps]	-267	163
82Se (KEDR) [cps]	13	13
98Mo (STDR) [cps]	231	233
98Mo (KEDR) [cps]	128	128
107Ag (STDR) [cps]	203	203
107Ag (KEDR) [cps]	153	153
111Cd (STDR) [cps]	424	0
111Cd (KEDR) [cps]	1	1
115In (STDR) [cps]	857,052	857,057
115In (KEDR) [cps]	194,294	194,294
121Sb (STDR) [cps]	83	83
121Sb (KEDR) [cps]	19	19
137Ba (STDR) [cps]	190	190
137Ba (KEDR) [cps]	57	57
205Tl (STDR) [cps]	1,087	1,087
205Tl (KEDR) [cps]	1,117	1,117
208Pb (STDR) [cps]	1,020	557
208Pb (KEDR) [cps]	640	640
209Bi (STDR) [cps]	1,096,732	1,096,732
209Bi (KEDR) [cps]	1,064,727	1,064,727
238U (STDR) [cps]	107	107
238U (KEDR) [cps]	133	133

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4/16/21

Turner Report Sample Summary

4/15/2021 10:39:44 AM
iCAP RQ ICP-MS



W. H. H. H. H.

Analysis index: 2
Analysis name: Cal Std 1
Analysis started at: 4/15/2021 10:36:17 AM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	100.894 %	0.6 %	108,481 cps	108,481 cps
9Be (STDR)	1.000 ppb	0.7 %	5,650 cps	5,650 cps
27Al (STDR)	1.000 ppb	1.4 %	57,691 cps	57,691 cps
45Sc (STDR)	101.157 %	1.9 %	291,661 cps	326,054 cps
45Sc (KEDR)	103.439 %	1.0 %	10,660 cps	10,660 cps
51V (STDR)	1.000 ppb	2.3 %	51,916 cps	85,124 cps
51V (KEDR)	1.000 ppb	0.7 %	7,210 cps	7,210 cps
55Mn (STDR)	1.000 ppb	1.0 %	75,957 cps	75,957 cps
55Mn (KEDR)	1.000 ppb	1.9 %	5,494 cps	5,494 cps
52Cr (STDR)	1.000 ppb	0.9 %	59,364 cps	59,533 cps
52Cr (KEDR)	1.000 ppb	1.2 %	11,071 cps	11,071 cps
59Co (STDR)	1.000 ppb	1.4 %	55,932 cps	55,932 cps
59Co (KEDR)	1.000 ppb	1.3 %	19,569 cps	19,569 cps
60Ni (STDR)	1.000 ppb	4.8 %	13,129 cps	13,129 cps
60Ni (KEDR)	1.000 ppb	3.3 %	5,570 cps	5,570 cps
63Cu (STDR)	1.000 ppb	1.5 %	33,590 cps	33,590 cps
63Cu (KEDR)	1.000 ppb	1.1 %	15,696 cps	15,696 cps
66Zn (STDR)	1.000 ppb	5.0 %	26,969 cps	26,969 cps
66Zn (KEDR)	1.000 ppb	2.6 %	7,349 cps	7,349 cps
74Ge (STDR)	100.753 %	0.5 %	590,115 cps	590,298 cps
74Ge (KEDR)	100.402 %	0.6 %	93,303 cps	93,303 cps
75As (STDR)	1.000 ppb	3.0 %	8,791 cps	10,723 cps
75As (KEDR)	1.000 ppb	1.9 %	1,437 cps	1,437 cps
82Se (STDR)	1.000 ppb	17.1 %	732 cps	1,168 cps
82Se (KEDR)	1.000 ppb	9.6 %	74 cps	74 cps
98Mo (STDR)	1.000 ppb	2.7 %	30,311 cps	30,312 cps
98Mo (KEDR)	1.000 ppb	0.6 %	17,652 cps	17,652 cps
107Ag (STDR)	1.000 ppb	1.6 %	55,259 cps	55,259 cps
107Ag (KEDR)	1.000 ppb	0.8 %	39,356 cps	39,356 cps
111Cd (STDR)	1.000 ppb	1.5 %	14,697 cps	14,447 cps
111Cd (KEDR)	1.000 ppb	2.7 %	6,927 cps	6,927 cps
115In (STDR)	100.427 %	0.9 %	860,708 cps	860,722 cps
115In (KEDR)	101.955 %	1.1 %	198,094 cps	198,094 cps
121Sb (STDR)	1.000 ppb	0.7 %	49,325 cps	49,326 cps
121Sb (KEDR)	1.000 ppb	0.5 %	15,273 cps	15,273 cps
137Ba (STDR)	1.000 ppb	2.3 %	19,841 cps	19,841 cps
137Ba (KEDR)	1.000 ppb	2.0 %	5,455 cps	5,455 cps
205Tl (STDR)	1.000 ppb	2.3 %	168,417 cps	168,417 cps
205Tl (KEDR)	1.000 ppb	1.3 %	176,981 cps	176,981 cps
208Pb (STDR)	1.000 ppb	1.3 %	233,345 cps	124,042 cps
208Pb (KEDR)	1.000 ppb	0.3 %	129,182 cps	129,182 cps
209Bi (STDR)	101.031 %	0.9 %	1,108,038 cps	1,108,038 cps
209Bi (KEDR)	102.665 %	0.6 %	1,093,101 cps	1,093,101 cps
238U (STDR)	1.000 ppb	0.3 %	255,319 cps	255,319 cps
238U (KEDR)	1.000 ppb	0.0 %	289,222 cps	289,222 cps

Turner Report Sample Summary

4/15/2021 10:43:11 AM
iCAP RQ ICP-MS



W. C. H. / 4/16/21

Analysis index: 3
Analysis name: Cal Std 2
Analysis started at: 4/15/2021 10:39:44 AM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	99.733 %	1.6 %	107,232 cps	107,232 cps
9Be (STDR)	10.003 ppb	2.2 %	57,060 cps	57,060 cps
27Al (STDR)	9.974 ppb	0.2 %	308,156 cps	308,156 cps
45Sc (STDR)	99.231 %	0.5 %	286,108 cps	319,175 cps
45Sc (KEDR)	101.869 %	1.8 %	10,499 cps	10,499 cps
51V (STDR)	9.994 ppb	1.1 %	466,207 cps	501,490 cps
51V (KEDR)	9.997 ppb	1.3 %	68,715 cps	68,715 cps
55Mn (STDR)	9.996 ppb	0.8 %	696,311 cps	696,311 cps
55Mn (KEDR)	9.993 ppb	2.2 %	49,751 cps	49,751 cps
52Cr (STDR)	9.995 ppb	1.1 %	459,341 cps	459,465 cps
52Cr (KEDR)	9.995 ppb	1.9 %	102,732 cps	102,732 cps
59Co (STDR)	9.997 ppb	1.2 %	534,478 cps	534,478 cps
59Co (KEDR)	9.999 ppb	0.8 %	191,917 cps	191,917 cps
60Ni (STDR)	9.996 ppb	1.6 %	120,364 cps	120,364 cps
60Ni (KEDR)	9.998 ppb	0.9 %	52,749 cps	52,749 cps
63Cu (STDR)	9.999 ppb	1.6 %	309,364 cps	309,364 cps
63Cu (KEDR)	10.000 ppb	0.9 %	151,836 cps	151,836 cps
66Zn (STDR)	9.949 ppb	0.3 %	140,319 cps	140,319 cps
66Zn (KEDR)	9.944 ppb	0.6 %	37,462 cps	37,462 cps
74Ge (STDR)	100.306 %	0.7 %	587,497 cps	588,563 cps
74Ge (KEDR)	99.948 %	1.3 %	92,881 cps	92,881 cps
75As (STDR)	10.001 ppb	1.0 %	96,323 cps	95,964 cps
75As (KEDR)	10.001 ppb	1.2 %	14,411 cps	14,411 cps
82Se (STDR)	10.011 ppb	1.4 %	10,961 cps	11,345 cps
82Se (KEDR)	10.012 ppb	6.7 %	699 cps	699 cps
98Mo (STDR)	9.996 ppb	0.1 %	287,172 cps	287,173 cps
98Mo (KEDR)	9.997 ppb	1.0 %	167,805 cps	167,805 cps
107Ag (STDR)	9.998 ppb	1.0 %	534,526 cps	534,526 cps
107Ag (KEDR)	9.998 ppb	0.1 %	380,263 cps	380,263 cps
111Cd (STDR)	10.004 ppb	0.9 %	147,080 cps	147,128 cps
111Cd (KEDR)	10.003 ppb	0.8 %	70,742 cps	70,742 cps
115In (STDR)	98.875 %	0.7 %	847,407 cps	847,424 cps
115In (KEDR)	100.686 %	0.7 %	195,627 cps	195,627 cps
121Sb (STDR)	10.001 ppb	0.5 %	490,557 cps	490,557 cps
121Sb (KEDR)	10.000 ppb	0.5 %	150,975 cps	150,975 cps
137Ba (STDR)	9.999 ppb	1.3 %	191,898 cps	191,898 cps
137Ba (KEDR)	10.000 ppb	1.2 %	53,618 cps	53,618 cps
205Tl (STDR)	9.998 ppb	1.7 %	1,626,975 cps	1,626,975 cps
205Tl (KEDR)	9.998 ppb	1.5 %	1,720,001 cps	1,720,001 cps
208Pb (STDR)	9.997 ppb	0.9 %	2,227,203 cps	1,183,628 cps
208Pb (KEDR)	9.997 ppb	1.2 %	1,251,606 cps	1,251,606 cps
209Bi (STDR)	99.907 %	1.1 %	1,095,707 cps	1,095,707 cps
209Bi (KEDR)	102.845 %	0.7 %	1,095,015 cps	1,095,015 cps
238U (STDR)	9.999 ppb	3.3 %	2,497,367 cps	2,497,367 cps
238U (KEDR)	9.997 ppb	1.8 %	2,815,101 cps	2,815,101 cps

Turner Report Sample Summary

4/15/2021 10:46:40 AM
iCAP RQ ICP-MS



W. Ulrich

Analysis index: 4
Analysis name: Cal Std 3
Analysis started at: 4/15/2021 10:43:12 AM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	99.442 %	0.8 %	106,919 cps	106,919 cps
9Be (STDR)	49.978 ppb	0.9 %	280,459 cps	280,459 cps
27Al (STDR)	49.962 ppb	0.8 %	1,416,040 cps	1,416,040 cps
45Sc (STDR)	97.073 %	0.8 %	279,885 cps	311,776 cps
45Sc (KEDR)	98.365 %	2.0 %	10,137 cps	10,137 cps
51V (STDR)	50.026 ppb	0.3 %	2,297,894 cps	2,341,184 cps
51V (KEDR)	50.025 ppb	1.9 %	336,745 cps	336,745 cps
55Mn (STDR)	50.060 ppb	1.1 %	3,485,437 cps	3,485,437 cps
55Mn (KEDR)	50.036 ppb	1.4 %	245,434 cps	245,434 cps
52Cr (STDR)	50.073 ppb	1.0 %	2,280,101 cps	2,280,219 cps
52Cr (KEDR)	50.031 ppb	1.3 %	505,104 cps	505,104 cps
59Co (STDR)	50.067 ppb	0.9 %	2,687,950 cps	2,687,950 cps
59Co (KEDR)	50.018 ppb	1.7 %	940,640 cps	940,640 cps
60Ni (STDR)	50.050 ppb	0.4 %	597,807 cps	597,807 cps
60Ni (KEDR)	50.033 ppb	1.0 %	260,166 cps	260,166 cps
63Cu (STDR)	49.999 ppb	0.6 %	1,489,220 cps	1,489,220 cps
63Cu (KEDR)	49.995 ppb	0.7 %	735,024 cps	735,024 cps
66Zn (STDR)	49.550 ppb	0.8 %	534,375 cps	534,375 cps
66Zn (KEDR)	49.546 ppb	0.6 %	143,437 cps	143,437 cps
74Ge (STDR)	96.689 %	0.6 %	566,310 cps	570,673 cps
74Ge (KEDR)	97.745 %	1.0 %	90,834 cps	90,834 cps
75As (STDR)	49.965 ppb	0.8 %	459,256 cps	447,812 cps
75As (KEDR)	49.984 ppb	0.4 %	69,856 cps	69,856 cps
82Se (STDR)	49.845 ppb	1.1 %	49,925 cps	50,383 cps
82Se (KEDR)	49.848 ppb	1.2 %	3,116 cps	3,116 cps
98Mo (STDR)	50.047 ppb	1.6 %	1,431,332 cps	1,431,335 cps
98Mo (KEDR)	50.054 ppb	0.5 %	842,151 cps	842,151 cps
107Ag (STDR)	50.119 ppb	1.1 %	2,778,974 cps	2,778,974 cps
107Ag (KEDR)	50.086 ppb	1.3 %	1,940,409 cps	1,940,409 cps
111Cd (STDR)	49.971 ppb	0.5 %	706,525 cps	708,769 cps
111Cd (KEDR)	49.985 ppb	1.0 %	342,245 cps	342,245 cps
115In (STDR)	96.823 %	0.6 %	829,826 cps	829,845 cps
115In (KEDR)	98.173 %	0.3 %	190,745 cps	190,745 cps
121Sb (STDR)	50.054 ppb	0.6 %	2,471,478 cps	2,471,479 cps
121Sb (KEDR)	50.015 ppb	0.6 %	742,481 cps	742,481 cps
137Ba (STDR)	50.033 ppb	0.3 %	957,318 cps	957,318 cps
137Ba (KEDR)	50.009 ppb	1.6 %	263,212 cps	263,212 cps
205Tl (STDR)	50.073 ppb	1.7 %	8,341,706 cps	8,341,706 cps
205Tl (KEDR)	49.952 ppb	1.0 %	8,289,340 cps	8,289,340 cps
208Pb (STDR)	50.059 ppb	1.5 %	11,339,187 cps	5,988,584 cps
208Pb (KEDR)	49.960 ppb	1.7 %	6,059,906 cps	6,059,906 cps
209Bi (STDR)	98.656 %	0.3 %	1,081,990 cps	1,081,990 cps
209Bi (KEDR)	101.681 %	1.1 %	1,082,631 cps	1,082,631 cps
238U (STDR)	50.125 ppb	0.9 %	13,176,796 cps	13,176,796 cps
238U (KEDR)	50.035 ppb	0.6 %	14,175,121 cps	14,175,121 cps

Turner Report Sample Summary

4/15/2021 10:50:08 AM
iCAP RQ ICP-MS



W. J. J. J.

Analysis index: 5
Analysis name: Cal Std 4
Analysis started at: 4/15/2021 10:46:40 AM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	95.501 %	0.2 %	102,682 cps	102,682 cps
9Be (STDR)	99.800 ppb	0.3 %	533,823 cps	533,823 cps
27Al (STDR)	99.916 ppb	1.2 %	2,697,173 cps	2,697,173 cps
45Sc (STDR)	93.594 %	0.5 %	269,854 cps	300,489 cps
45Sc (KEDR)	93.631 %	1.7 %	9,650 cps	9,650 cps
51V (STDR)	100.570 ppb	0.7 %	4,547,629 cps	4,614,215 cps
51V (KEDR)	99.992 ppb	1.0 %	644,387 cps	644,387 cps
55Mn (STDR)	99.717 ppb	0.3 %	6,609,003 cps	6,609,003 cps
55Mn (KEDR)	99.924 ppb	0.7 %	469,763 cps	469,763 cps
52Cr (STDR)	99.632 ppb	0.4 %	4,297,923 cps	4,298,026 cps
52Cr (KEDR)	99.781 ppb	1.1 %	957,457 cps	957,457 cps
59Co (STDR)	99.685 ppb	0.4 %	5,086,287 cps	5,086,287 cps
59Co (KEDR)	99.713 ppb	0.6 %	1,790,350 cps	1,790,350 cps
60Ni (STDR)	99.530 ppb	0.6 %	1,122,632 cps	1,122,632 cps
60Ni (KEDR)	99.531 ppb	1.1 %	491,069 cps	491,069 cps
63Cu (STDR)	99.406 ppb	1.9 %	2,780,916 cps	2,780,916 cps
63Cu (KEDR)	99.385 ppb	1.4 %	1,382,762 cps	1,382,762 cps
66Zn (STDR)	99.530 ppb	0.4 %	1,007,319 cps	1,007,319 cps
66Zn (KEDR)	99.539 ppb	0.9 %	273,616 cps	273,616 cps
74Ge (STDR)	92.780 %	1.2 %	543,417 cps	551,610 cps
74Ge (KEDR)	95.744 %	0.4 %	88,974 cps	88,974 cps
75As (STDR)	99.745 ppb	0.7 %	872,075 cps	848,314 cps
75As (KEDR)	99.246 ppb	0.7 %	132,019 cps	132,019 cps
82Se (STDR)	99.696 ppb	0.3 %	95,084 cps	95,512 cps
82Se (KEDR)	99.429 ppb	3.5 %	5,942 cps	5,942 cps
98Mo (STDR)	99.812 ppb	1.5 %	2,730,419 cps	2,730,421 cps
98Mo (KEDR)	99.359 ppb	1.2 %	1,595,045 cps	1,595,045 cps
107Ag (STDR)	99.785 ppb	1.5 %	5,295,200 cps	5,295,200 cps
107Ag (KEDR)	99.280 ppb	1.5 %	3,656,556 cps	3,656,556 cps
111Cd (STDR)	99.727 ppb	0.5 %	1,346,764 cps	1,352,788 cps
111Cd (KEDR)	99.464 ppb	1.2 %	651,779 cps	651,779 cps
115In (STDR)	93.545 %	1.0 %	801,730 cps	801,748 cps
115In (KEDR)	95.868 %	1.0 %	186,267 cps	186,267 cps
121Sb (STDR)	100.360 ppb	0.3 %	4,858,784 cps	4,858,785 cps
121Sb (KEDR)	99.673 ppb	1.0 %	1,426,437 cps	1,426,437 cps
137Ba (STDR)	99.649 ppb	0.9 %	1,822,940 cps	1,822,940 cps
137Ba (KEDR)	99.680 ppb	1.5 %	505,429 cps	505,429 cps
205Tl (STDR)	99.417 ppb	1.7 %	15,844,295 cps	15,844,295 cps
205Tl (KEDR)	99.898 ppb	0.5 %	16,045,003 cps	16,045,003 cps
208Pb (STDR)	99.571 ppb	1.8 %	21,712,237 cps	11,427,152 cps
208Pb (KEDR)	99.730 ppb	0.7 %	11,631,177 cps	11,631,177 cps
209Bi (STDR)	96.557 %	0.6 %	1,058,976 cps	1,058,976 cps
209Bi (KEDR)	98.779 %	0.7 %	1,051,724 cps	1,051,724 cps
238U (STDR)	99.679 ppb	0.1 %	25,333,631 cps	25,333,631 cps
238U (KEDR)	100.081 ppb	1.5 %	27,629,846 cps	27,629,846 cps

Turner Report Sample Summary

4/15/2021 10:53:35 AM
iCAP RQ ICP-MS



W
4/16/21

Analysis index: 6
Analysis name: ICB
Analysis started at: 4/15/2021 10:50:09 AM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	95.443 %	0.8 %	102,620 cps	102,620 cps
9Be (STDR)	0.006 ppb	68.4 %	103 cps	103 cps
27Al (STDR)	-0.306 ppb	3.1 %	11,218 cps	11,218 cps
45Sc (STDR)	92.370 %	0.7 %	266,324 cps	295,947 cps
45Sc (KEDR)	93.833 %	1.5 %	9,670 cps	9,670 cps
51V (STDR)	0.054 ppb	22.1 %	4,127 cps	19,285 cps
51V (KEDR)	0.022 ppb	3.7 %	206 cps	206 cps
55Mn (STDR)	0.009 ppb	38.6 %	3,200 cps	3,200 cps
55Mn (KEDR)	0.011 ppb	18.1 %	163 cps	163 cps
52Cr (STDR)	-0.018 ppb	29.5 %	9,972 cps	10,064 cps
52Cr (KEDR)	0.014 ppb	35.4 %	303 cps	303 cps
59Co (STDR)	0.009 ppb	6.9 %	742 cps	742 cps
59Co (KEDR)	0.013 ppb	18.7 %	262 cps	262 cps
60Ni (STDR)	0.005 ppb	129.4 %	527 cps	527 cps
60Ni (KEDR)	0.017 ppb	37.6 %	228 cps	228 cps
63Cu (STDR)	0.023 ppb	25.2 %	2,825 cps	2,825 cps
63Cu (KEDR)	0.014 ppb	13.1 %	598 cps	598 cps
66Zn (STDR)	0.026 ppb	136.9 %	6,127 cps	6,127 cps
66Zn (KEDR)	0.015 ppb	280.6 %	1,602 cps	1,602 cps
74Ge (STDR)	92.487 %	0.9 %	541,702 cps	541,780 cps
74Ge (KEDR)	91.594 %	0.7 %	85,117 cps	85,117 cps
75As (STDR)	0.032 ppb	106.3 %	-492 cps	1,073 cps
75As (KEDR)	0.021 ppb	24.6 %	33 cps	33 cps
82Se (STDR)	0.090 ppb	25.8 %	-161 cps	202 cps
82Se (KEDR)	-0.039 ppb	223.5 %	10 cps	10 cps
98Mo (STDR)	0.122 ppb	7.6 %	3,524 cps	3,526 cps
98Mo (KEDR)	0.141 ppb	11.5 %	2,309 cps	2,309 cps
107Ag (STDR)	0.019 ppb	5.8 %	1,217 cps	1,217 cps
107Ag (KEDR)	0.027 ppb	17.8 %	1,103 cps	1,103 cps
111Cd (STDR)	0.014 ppb	30.4 %	582 cps	163 cps
111Cd (KEDR)	0.013 ppb	4.8 %	82 cps	82 cps
115In (STDR)	92.993 %	0.6 %	796,998 cps	797,002 cps
115In (KEDR)	93.114 %	1.3 %	180,915 cps	180,915 cps
121Sb (STDR)	0.014 ppb	9.9 %	768 cps	768 cps
121Sb (KEDR)	0.020 ppb	2.5 %	302 cps	302 cps
137Ba (STDR)	0.008 ppb	14.2 %	322 cps	322 cps
137Ba (KEDR)	0.010 ppb	11.0 %	104 cps	104 cps
205Tl (STDR)	0.016 ppb	6.2 %	3,639 cps	3,639 cps
205Tl (KEDR)	0.023 ppb	6.5 %	4,609 cps	4,609 cps
208Pb (STDR)	0.011 ppb	9.1 %	3,347 cps	1,788 cps
208Pb (KEDR)	0.015 ppb	5.0 %	2,335 cps	2,335 cps
209Bi (STDR)	96.156 %	0.6 %	1,054,573 cps	1,054,573 cps
209Bi (KEDR)	96.269 %	0.4 %	1,025,000 cps	1,025,000 cps
238U (STDR)	0.013 ppb	4.3 %	3,279 cps	3,279 cps
238U (KEDR)	0.017 ppb	7.2 %	4,653 cps	4,653 cps

Turner Report Sample Summary

4/15/2021 10:57:03 AM
iCAP RQ ICP-MS



W. W. W. W.

Analysis index: 7
Analysis name: IPC
Analysis started at: 4/15/2021 10:53:35 AM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	95.831 %	0.4 %	103,037 cps	103,037 cps
9Be (STDR)	49.141 ppb	0.6 %	263,463 cps	263,463 cps
27Al (STDR)	49.533 ppb	0.8 %	1,339,407 cps	1,339,407 cps
45Sc (STDR)	92.323 %	0.6 %	266,191 cps	295,412 cps
45Sc (KEDR)	93.680 %	2.0 %	9,655 cps	9,655 cps
51V (STDR)	50.198 ppb	2.2 %	2,247,569 cps	2,289,045 cps
51V (KEDR)	50.196 ppb	1.2 %	322,078 cps	322,078 cps
55Mn (STDR)	50.037 ppb	0.2 %	3,291,538 cps	3,291,538 cps
55Mn (KEDR)	50.621 ppb	2.4 %	236,212 cps	236,212 cps
52Cr (STDR)	50.312 ppb	0.9 %	2,154,939 cps	2,155,018 cps
52Cr (KEDR)	50.406 ppb	1.5 %	481,210 cps	481,210 cps
59Co (STDR)	50.398 ppb	1.0 %	2,557,443 cps	2,557,443 cps
59Co (KEDR)	50.533 ppb	0.9 %	897,577 cps	897,577 cps
60Ni (STDR)	50.684 ppb	0.8 %	569,091 cps	569,091 cps
60Ni (KEDR)	50.606 ppb	1.2 %	246,856 cps	246,856 cps
63Cu (STDR)	50.540 ppb	0.9 %	1,410,308 cps	1,410,308 cps
63Cu (KEDR)	50.721 ppb	1.2 %	696,083 cps	696,083 cps
66Zn (STDR)	49.914 ppb	0.1 %	507,330 cps	507,330 cps
66Zn (KEDR)	50.367 ppb	0.4 %	136,985 cps	136,985 cps
74Ge (STDR)	93.070 %	0.7 %	545,116 cps	549,314 cps
74Ge (KEDR)	93.595 %	0.4 %	86,978 cps	86,978 cps
75As (STDR)	49.595 ppb	0.7 %	434,515 cps	425,788 cps
75As (KEDR)	50.757 ppb	0.9 %	66,029 cps	66,029 cps
82Se (STDR)	49.480 ppb	1.5 %	47,135 cps	47,584 cps
82Se (KEDR)	50.564 ppb	4.8 %	2,970 cps	2,970 cps
98Mo (STDR)	50.110 ppb	0.6 %	1,368,036 cps	1,368,038 cps
98Mo (KEDR)	50.835 ppb	0.2 %	805,214 cps	805,214 cps
107Ag (STDR)	50.269 ppb	0.4 %	2,656,988 cps	2,656,988 cps
107Ag (KEDR)	50.905 ppb	0.5 %	1,856,197 cps	1,856,197 cps
111Cd (STDR)	50.516 ppb	1.0 %	679,099 cps	681,081 cps
111Cd (KEDR)	50.497 ppb	0.8 %	328,089 cps	328,089 cps
115In (STDR)	93.019 %	1.4 %	797,221 cps	797,239 cps
115In (KEDR)	95.192 %	0.9 %	184,952 cps	184,952 cps
121Sb (STDR)	49.634 ppb	1.2 %	2,390,198 cps	2,390,198 cps
121Sb (KEDR)	50.492 ppb	1.8 %	717,202 cps	717,202 cps
137Ba (STDR)	50.628 ppb	1.7 %	922,248 cps	922,248 cps
137Ba (KEDR)	51.092 ppb	1.1 %	256,930 cps	256,930 cps
205Tl (STDR)	50.552 ppb	1.5 %	8,055,828 cps	8,055,828 cps
205Tl (KEDR)	50.821 ppb	0.3 %	8,064,296 cps	8,064,296 cps
208Pb (STDR)	50.504 ppb	0.8 %	11,014,171 cps	5,833,673 cps
208Pb (KEDR)	50.676 ppb	0.6 %	5,838,193 cps	5,838,193 cps
209Bi (STDR)	96.574 %	1.8 %	1,059,155 cps	1,059,155 cps
209Bi (KEDR)	97.562 %	0.4 %	1,038,766 cps	1,038,766 cps
238U (STDR)	50.374 ppb	1.2 %	12,803,975 cps	12,803,975 cps
238U (KEDR)	50.824 ppb	0.8 %	13,858,560 cps	13,858,560 cps

Turner Report Sample Summary

4/15/2021 11:00:32 AM
iCAP RQ ICP-MS



W. W. W. W.

Analysis index: 8
Analysis name: ICV
Analysis started at: 4/15/2021 10:57:03 AM

Kevin

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	93.902 %	0.4 %	100,963 cps	100,963 cps
9Be (STDR)	46.377 ppb	1.1 %	243,779 cps	243,779 cps
27Al (STDR)	92.949 ppb	0.7 %	2,456,253 cps	2,456,253 cps
45Sc (STDR)	91.174 %	1.1 %	262,877 cps	292,081 cps
45Sc (KEDR)	93.995 %	1.2 %	9,687 cps	9,687 cps
51V (STDR)	46.776 ppb	1.7 %	2,066,041 cps	2,099,102 cps
51V (KEDR)	46.180 ppb	0.7 %	296,642 cps	296,642 cps
55Mn (STDR)	46.675 ppb	1.3 %	3,026,968 cps	3,026,968 cps
55Mn (KEDR)	46.585 ppb	0.9 %	217,305 cps	217,305 cps
52Cr (STDR)	46.907 ppb	1.5 %	1,982,080 cps	1,982,151 cps
52Cr (KEDR)	46.219 ppb	0.3 %	441,597 cps	441,597 cps
59Co (STDR)	46.985 ppb	1.9 %	2,348,515 cps	2,348,515 cps
59Co (KEDR)	46.068 ppb	0.7 %	816,609 cps	816,609 cps
60Ni (STDR)	47.307 ppb	0.5 %	523,162 cps	523,162 cps
60Ni (KEDR)	46.448 ppb	0.6 %	226,040 cps	226,040 cps
63Cu (STDR)	47.478 ppb	0.6 %	1,304,210 cps	1,304,210 cps
63Cu (KEDR)	46.852 ppb	0.9 %	640,719 cps	640,719 cps
66Zn (STDR)	94.458 ppb	1.4 %	939,298 cps	939,298 cps
66Zn (KEDR)	93.973 ppb	1.0 %	252,997 cps	252,997 cps
74Ge (STDR)	91.434 %	0.9 %	535,533 cps	539,490 cps
74Ge (KEDR)	92.851 %	1.0 %	86,286 cps	86,286 cps
75As (STDR)	47.051 ppb	0.8 %	405,052 cps	395,798 cps
75As (KEDR)	47.980 ppb	1.1 %	61,917 cps	61,917 cps
82Se (STDR)	47.847 ppb	1.2 %	44,866 cps	45,260 cps
82Se (KEDR)	48.533 ppb	2.1 %	2,827 cps	2,827 cps
98Mo (STDR)	46.857 ppb	1.1 %	1,264,886 cps	1,264,888 cps
98Mo (KEDR)	46.625 ppb	1.8 %	732,147 cps	732,147 cps
107Ag (STDR)	45.986 ppb	0.7 %	2,408,921 cps	2,408,921 cps
107Ag (KEDR)	45.804 ppb	0.8 %	1,655,699 cps	1,655,699 cps
111Cd (STDR)	47.211 ppb	1.0 %	629,766 cps	632,517 cps
111Cd (KEDR)	46.889 ppb	0.9 %	301,963 cps	301,963 cps
115In (STDR)	92.388 %	0.4 %	791,814 cps	791,840 cps
115In (KEDR)	94.358 %	2.4 %	183,332 cps	183,332 cps
121Sb (STDR)	44.970 ↑	0.8	2,151,462 cps	2,151,467 cps
121Sb (KEDR)	47.444 ppb	2.1 %	668,097 cps	668,097 cps
137Ba (STDR)	47.112 ppb	0.9 %	852,979 cps	852,979 cps
137Ba (KEDR)	47.526 ppb	1.8 %	237,160 cps	237,160 cps
205Tl (STDR)	49.505 ppb	1.4 %	7,854,886 cps	7,854,886 cps
205Tl (KEDR)	49.735 ppb	1.6 %	7,861,089 cps	7,861,089 cps
208Pb (STDR)	46.627 ppb	0.4 %	10,125,160 cps	5,365,203 cps
208Pb (KEDR)	46.804 ppb	1.3 %	5,371,987 cps	5,371,987 cps
209Bi (STDR)	96.154 %	0.4 %	1,054,549 cps	1,054,549 cps
209Bi (KEDR)	97.210 %	1.1 %	1,035,023 cps	1,035,023 cps
238U (STDR)	47.994 ppb	0.3 %	12,146,874 cps	12,146,874 cps
238U (KEDR)	48.477 ppb	0.7 %	13,170,431 cps	13,170,431 cps

Turner Report Sample Summary

4/15/2021 11:04:02 AM
iCAP RQ ICP-MS



W. W. W. W.

Analysis index: 9
Analysis name: ICV
Analysis started at: 4/15/2021 11:00:32 AM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	94.254 %	0.9 %	101,341 cps	101,341 cps
9Be (STDR)	46.274 ppb	0.2 %	244,012 cps	244,012 cps
27Al (STDR)	92.282 ppb	0.9 %	2,437,953 cps	2,437,953 cps
45Sc (STDR)	90.823 %	0.8 %	261,865 cps	290,661 cps
45Sc (KEDR)	91.980 %	1.0 %	9,479 cps	9,479 cps
51V (STDR)	47.228 ppb	1.9 %	2,077,911 cps	2,109,084 cps
51V (KEDR)	46.875 ppb	1.7 %	295,037 cps	295,037 cps
55Mn (STDR)	46.407 ppb	0.8 %	2,997,577 cps	2,997,577 cps
55Mn (KEDR)	48.029 ppb	0.8 %	219,721 cps	219,721 cps
52Cr (STDR)	46.604 ppb	2.1 %	1,961,616 cps	1,961,684 cps
52Cr (KEDR)	46.810 ppb	1.8 %	438,311 cps	438,311 cps
59Co (STDR)	46.660 ppb	0.8 %	2,322,871 cps	2,322,871 cps
59Co (KEDR)	47.425 ppb	0.3 %	825,195 cps	825,195 cps
60Ni (STDR)	46.804 ppb	0.2 %	515,509 cps	515,509 cps
60Ni (KEDR)	47.615 ppb	0.7 %	227,506 cps	227,506 cps
63Cu (STDR)	46.862 ppb	1.2 %	1,282,095 cps	1,282,095 cps
63Cu (KEDR)	47.696 ppb	0.7 %	640,811 cps	640,811 cps
66Zn (STDR)	93.809 ppb	0.6 %	929,104 cps	929,104 cps
66Zn (KEDR)	94.896 ppb	0.4 %	251,149 cps	251,149 cps
74Ge (STDR)	91.048 %	0.4 %	533,270 cps	537,145 cps
74Ge (KEDR)	91.448 %	0.6 %	84,982 cps	84,982 cps
75As (STDR)	47.214 ppb	1.2 %	404,655 cps	394,078 cps
75As (KEDR)	48.320 ppb	0.6 %	61,432 cps	61,432 cps
82Se (STDR)	47.749 ppb	1.3 %	44,518 cps	44,906 cps
82Se (KEDR)	49.351 ppb	1.4 %	2,836 cps	2,836 cps
98Mo (STDR)	46.480 ppb	0.4 %	1,244,031 cps	1,244,033 cps
98Mo (KEDR)	46.850 ppb	0.6 %	728,285 cps	728,285 cps
107Ag (STDR)	45.919 ppb	0.9 %	2,381,131 cps	2,381,131 cps
107Ag (KEDR)	45.905 ppb	0.7 %	1,645,448 cps	1,645,448 cps
111Cd (STDR)	47.151 ppb	0.7 %	622,172 cps	624,768 cps
111Cd (KEDR)	46.719 ppb	0.7 %	298,596 cps	298,596 cps
115In (STDR)	91.326 %	0.9 %	782,715 cps	782,741 cps
115In (KEDR)	93.707 %	0.4 %	182,067 cps	182,067 cps
121Sb (STDR)	45.328 ppb	0.6 %	2,143,795 cps	2,143,797 cps
121Sb (KEDR)	47.464 ppb	0.5 %	664,201 cps	664,201 cps
137Ba (STDR)	47.389 ppb	1.0 %	848,397 cps	848,397 cps
137Ba (KEDR)	46.822 ppb	1.3 %	232,384 cps	232,384 cps
205Tl (STDR)	49.367 ppb	1.6 %	7,753,710 cps	7,753,710 cps
205Tl (KEDR)	49.677 ppb	0.9 %	7,838,748 cps	7,838,748 cps
208Pb (STDR)	46.526 ppb	1.0 %	10,000,843 cps	5,326,742 cps
208Pb (KEDR)	46.568 ppb	0.6 %	5,336,799 cps	5,336,799 cps
209Bi (STDR)	95.187 %	1.0 %	1,043,943 cps	1,043,943 cps
209Bi (KEDR)	97.060 %	0.3 %	1,033,430 cps	1,033,430 cps
238U (STDR)	48.254 ppb	0.5 %	12,089,641 cps	12,089,641 cps
238U (KEDR)	48.211 ppb	0.9 %	13,078,894 cps	13,078,894 cps

Turner Report Sample Summary

4/15/2021 11:07:28 AM
ICAP RQ ICP-MS



W. W. W. W.

Analysis index: 10
Analysis name: 0.25 CHK STD
Analysis started at: 4/15/2021 11:04:02 AM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	93.538 %	1.2 %	100,572 cps	100,572 cps
9Be (STDR)	0.246 ppb	10.6 %	1,352 cps	1,352 cps
27Al (STDR)	-0.105 ppb	15.0 %	16,150 cps	16,150 cps
45Sc (STDR)	89.580 %	0.9 %	258,280 cps	288,160 cps
45Sc (KEDR)	91.131 %	2.7 %	9,392 cps	9,392 cps
51V (STDR)	0.276 ppb	3.9 %	13,611 cps	36,684 cps
51V (KEDR)	0.274 ppb	1.4 %	1,770 cps	1,770 cps
55Mn (STDR)	0.232 ppb	0.2 %	17,242 cps	17,242 cps
55Mn (KEDR)	0.239 ppb	1.3 %	1,188 cps	1,188 cps
52Cr (STDR)	0.173 ppb	7.2 %	17,510 cps	19,145 cps
52Cr (KEDR)	0.248 ppb	2.2 %	2,464 cps	2,464 cps
59Co (STDR)	0.237 ppb	1.0 %	11,892 cps	11,892 cps
59Co (KEDR)	0.242 ppb	2.9 %	4,190 cps	4,190 cps
60Ni (STDR)	0.233 ppb	1.4 %	2,982 cps	2,982 cps
60Ni (KEDR)	0.220 ppb	9.6 %	1,183 cps	1,183 cps
63Cu (STDR)	0.250 ppb	3.2 %	8,826 cps	8,826 cps
63Cu (KEDR)	0.238 ppb	3.7 %	3,562 cps	3,562 cps
66Zn (STDR)	0.186 ppb	19.0 %	7,467 cps	7,467 cps
66Zn (KEDR)	0.199 ppb	20.5 %	2,052 cps	2,052 cps
74Ge (STDR)	89.346 %	1.1 %	523,307 cps	523,401 cps
74Ge (KEDR)	90.494 %	1.1 %	84,096 cps	84,096 cps
75As (STDR)	0.287 ppb	8.5 %	1,674 cps	3,154 cps
75As (KEDR)	0.253 ppb	5.0 %	324 cps	324 cps
82Se (STDR)	0.267 ppb	20.7 %	7 cps	413 cps
82Se (KEDR)	0.139 ppb	82.0 %	20 cps	20 cps
98Mo (STDR)	0.337 ppb	1.8 %	9,088 cps	9,088 cps
98Mo (KEDR)	0.350 ppb	2.1 %	5,498 cps	5,498 cps
107Ag (STDR)	0.259 ppb	3.0 %	13,429 cps	13,429 cps
107Ag (KEDR)	0.269 ppb	1.8 %	9,673 cps	9,673 cps
111Cd (STDR)	0.252 ppb	1.2 %	3,664 cps	3,315 cps
111Cd (KEDR)	0.245 ppb	3.5 %	1,549 cps	1,549 cps
115In (STDR)	90.250 %	1.1 %	773,489 cps	773,491 cps
115In (KEDR)	92.845 %	1.0 %	180,393 cps	180,393 cps
121Sb (STDR)	0.245 ppb	3.0 %	11,519 cps	11,519 cps
121Sb (KEDR)	0.251 ppb	0.9 %	3,495 cps	3,495 cps
137Ba (STDR)	0.237 ppb	3.5 %	4,377 cps	4,377 cps
137Ba (KEDR)	0.252 ppb	1.9 %	1,286 cps	1,286 cps
205Tl (STDR)	0.250 ppb	0.7 %	40,004 cps	40,004 cps
205Tl (KEDR)	0.263 ppb	0.8 %	41,705 cps	41,705 cps
208Pb (STDR)	0.239 ppb	0.4 %	51,994 cps	27,353 cps
208Pb (KEDR)	0.256 ppb	1.2 %	29,288 cps	29,288 cps
209Bi (STDR)	94.523 %	0.1 %	1,036,661 cps	1,036,661 cps
209Bi (KEDR)	95.012 %	0.7 %	1,011,617 cps	1,011,617 cps
238U (STDR)	0.235 ppb	1.5 %	58,562 cps	58,562 cps
238U (KEDR)	0.245 ppb	0.8 %	65,308 cps	65,308 cps

Turner Report Sample Summary

4/15/2021 11:10:55 AM
iCAP RQ ICP-MS



W. W. W. W.

Analysis index: 11
Analysis name: 0.50 CHK STD
Analysis started at: 4/15/2021 11:07:29 AM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	94.866 %	1.0 %	102,000 cps	102,000 cps
9Be (STDR)	0.434 ppb	4.3 %	2,369 cps	2,369 cps
27Al (STDR)	0.309 ppb	5.4 %	26,872 cps	26,872 cps
45Sc (STDR)	88.418 %	0.7 %	254,931 cps	284,902 cps
45Sc (KEDR)	90.218 %	7.3 %	9,298 cps	9,298 cps
51V (STDR)	0.421 ppb	4.9 %	19,691 cps	55,050 cps
51V (KEDR)	0.451 ppb	5.9 %	2,834 cps	2,834 cps
55Mn (STDR)	0.417 ppb	1.4 %	28,781 cps	28,781 cps
55Mn (KEDR)	0.427 ppb	7.6 %	2,013 cps	2,013 cps
52Cr (STDR)	0.353 ppb	2.1 %	24,726 cps	27,634 cps
52Cr (KEDR)	0.462 ppb	7.7 %	4,382 cps	4,382 cps
59Co (STDR)	0.432 ppb	1.0 %	21,343 cps	21,343 cps
59Co (KEDR)	0.446 ppb	6.8 %	7,597 cps	7,597 cps
60Ni (STDR)	0.418 ppb	4.2 %	4,961 cps	4,961 cps
60Ni (KEDR)	0.416 ppb	7.1 %	2,077 cps	2,077 cps
63Cu (STDR)	0.447 ppb	2.2 %	14,081 cps	14,081 cps
63Cu (KEDR)	0.452 ppb	10.1 %	6,296 cps	6,296 cps
66Zn (STDR)	0.106 ppb	5.7 %	6,693 cps	6,693 cps
66Zn (KEDR)	0.121 ppb	53.0 %	1,817 cps	1,817 cps
74Ge (STDR)	89.667 %	1.0 %	525,186 cps	525,298 cps
74Ge (KEDR)	89.108 %	6.1 %	82,808 cps	82,808 cps
75As (STDR)	0.448 ppb	1.7 %	3,043 cps	4,658 cps
75As (KEDR)	0.460 ppb	7.8 %	574 cps	574 cps
82Se (STDR)	0.425 ppb	12.7 %	154 cps	538 cps
82Se (KEDR)	0.366 ppb	46.1 %	33 cps	33 cps
98Mo (STDR)	0.462 ppb	2.3 %	12,445 cps	12,446 cps
98Mo (KEDR)	0.485 ppb	5.4 %	7,335 cps	7,335 cps
107Ag (STDR)	0.433 ppb	1.3 %	22,459 cps	22,459 cps
107Ag (KEDR)	0.448 ppb	7.2 %	15,420 cps	15,420 cps
111Cd (STDR)	0.433 ppb	3.6 %	6,054 cps	5,775 cps
111Cd (KEDR)	0.460 ppb	9.7 %	2,788 cps	2,788 cps
115In (STDR)	90.671 %	1.0 %	777,095 cps	777,099 cps
115In (KEDR)	88.972 %	6.2 %	172,867 cps	172,867 cps
121Sb (STDR)	0.431 ppb	1.0 %	20,311 cps	20,312 cps
121Sb (KEDR)	0.465 ppb	9.0 %	6,186 cps	6,186 cps
137Ba (STDR)	0.442 ppb	2.9 %	8,021 cps	8,021 cps
137Ba (KEDR)	0.460 ppb	9.8 %	2,221 cps	2,221 cps
205Tl (STDR)	0.430 ppb	2.4 %	67,539 cps	67,539 cps
205Tl (KEDR)	0.457 ppb	7.2 %	70,520 cps	70,520 cps
208Pb (STDR)	0.434 ppb	1.1 %	92,906 cps	49,475 cps
208Pb (KEDR)	0.467 ppb	7.3 %	52,188 cps	52,188 cps
209Bi (STDR)	93.755 %	1.3 %	1,028,241 cps	1,028,241 cps
209Bi (KEDR)	93.958 %	6.2 %	1,000,394 cps	1,000,394 cps
238U (STDR)	0.418 ppb	0.6 %	103,316 cps	103,316 cps
238U (KEDR)	0.445 ppb	7.7 %	116,493 cps	116,493 cps

Turner Report Sample Summary

4/15/2021 11:14:22 AM
iCAP RQ ICP-MS



W. W. W. W.

Analysis index: 12
Analysis name: 40 CHK STD
Analysis started at: 4/15/2021 11:10:55 AM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	92.537 %	11.7 %	99,495 cps	99,495 cps
9Be (STDR)	36.321 ppb	19.0 %	185,341 cps	185,341 cps
27Al (STDR)	36.322 ppb	23.3 %	938,000 cps	938,000 cps
45Sc (STDR)	90.582 %	19.8 %	261,170 cps	289,955 cps
45Sc (KEDR)	92.741 %	2.5 %	9,558 cps	9,558 cps
51V (STDR)	35.966 ppb	25.6 %	1,522,162 cps	1,558,111 cps
51V (KEDR)	35.945 ppb	0.7 %	226,464 cps	226,464 cps
55Mn (STDR)	36.118 ppb	23.1 %	2,247,091 cps	2,247,091 cps
55Mn (KEDR)	36.738 ppb	1.1 %	167,420 cps	167,420 cps
52Cr (STDR)	36.228 ppb	25.7 %	1,468,275 cps	1,468,348 cps
52Cr (KEDR)	35.856 ppb	1.1 %	335,664 cps	335,664 cps
59Co (STDR)	36.016 ppb	23.0 %	1,723,988 cps	1,723,988 cps
59Co (KEDR)	36.462 ppb	0.9 %	628,824 cps	628,824 cps
60Ni (STDR)	36.949 ppb	22.5 %	391,418 cps	391,418 cps
60Ni (KEDR)	36.743 ppb	0.7 %	173,818 cps	173,818 cps
63Cu (STDR)	36.806 ppb	21.1 %	968,950 cps	968,950 cps
63Cu (KEDR)	36.404 ppb	0.2 %	482,492 cps	482,492 cps
66Zn (STDR)	35.393 ppb	21.1 %	340,249 cps	340,249 cps
66Zn (KEDR)	35.112 ppb	1.5 %	92,265 cps	92,265 cps
74Ge (STDR)	88.825 %	13.6 %	520,251 cps	523,074 cps
74Ge (KEDR)	88.955 %	0.1 %	82,666 cps	82,666 cps
75As (STDR)	36.213 ppb	18.8 %	297,617 cps	290,518 cps
75As (KEDR)	36.893 ppb	1.2 %	45,656 cps	45,656 cps
82Se (STDR)	35.893 ppb	20.7 %	32,101 cps	32,479 cps
82Se (KEDR)	37.858 ppb	1.6 %	2,130 cps	2,130 cps
98Mo (STDR)	36.874 ppb	23.3 %	952,628 cps	952,630 cps
98Mo (KEDR)	36.661 ppb	2.1 %	563,017 cps	563,017 cps
107Ag (STDR)	35.575 ppb	22.0 %	1,790,524 cps	1,790,524 cps
107Ag (KEDR)	36.293 ppb	1.6 %	1,292,457 cps	1,292,457 cps
111Cd (STDR)	36.814 ppb	25.1 %	470,467 cps	471,668 cps
111Cd (KEDR)	35.886 ppb	0.4 %	228,438 cps	228,438 cps
115In (STDR)	91.498 %	19.1 %	784,184 cps	784,188 cps
115In (KEDR)	93.563 %	1.0 %	181,787 cps	181,787 cps
121Sb (STDR)	34.781 ppb	24.5 %	1,597,007 cps	1,597,008 cps
121Sb (KEDR)	36.145 ppb	1.5 %	504,195 cps	504,195 cps
137Ba (STDR)	36.609 ppb	24.6 %	636,586 cps	636,586 cps
137Ba (KEDR)	36.723 ppb	1.5 %	180,934 cps	180,934 cps
205Tl (STDR)	36.045 ppb	19.4 %	5,539,321 cps	5,539,321 cps
205Tl (KEDR)	36.658 ppb	0.3 %	5,643,347 cps	5,643,347 cps
208Pb (STDR)	36.062 ppb	21.1 %	7,570,165 cps	4,023,143 cps
208Pb (KEDR)	36.457 ppb	0.9 %	4,073,079 cps	4,073,079 cps
209Bi (STDR)	95.181 %	16.7 %	1,043,881 cps	1,043,881 cps
209Bi (KEDR)	94.590 %	0.8 %	1,007,129 cps	1,007,129 cps
238U (STDR)	36.238 ppb	24.0 %	8,836,117 cps	8,836,117 cps
238U (KEDR)	36.615 ppb	0.7 %	9,680,569 cps	9,680,569 cps

Turner Report Sample Summary

4/15/2021 11:17:49 AM
iCAP RQ ICP-MS



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Analysis index: 13
Analysis name: 2104129-BLK1
Analysis started at: 4/15/2021 11:14:22 AM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	91.057 %	0.3 %	97,904 cps	97,904 cps
9Be (STDR)	0.002 ppb	259.4 %	75 cps	75 cps
27Al (STDR)	0.024 ppb	31.5 %	19,066 cps	19,066 cps
45Sc (STDR)	87.935 %	0.5 %	253,538 cps	282,159 cps
45Sc (KEDR)	88.915 %	13.0 %	9,164 cps	9,164 cps
51V (STDR)	0.042 ppb	29.3 %	3,417 cps	12,728 cps
51V (KEDR)	0.003 ppb	50.6 %	83 cps	83 cps
55Mn (STDR)	0.021 ppb	7.7 %	3,801 cps	3,801 cps
55Mn (KEDR)	0.027 ppb	25.8 %	222 cps	222 cps
52Cr (STDR)	-0.039 ppb	9.2 %	8,624 cps	8,683 cps
52Cr (KEDR)	0.002 ppb	83.2 %	176 cps	176 cps
59Co (STDR)	0.003 ppb	19.9 %	420 cps	420 cps
59Co (KEDR)	0.002 ppb	21.4 %	58 cps	58 cps
60Ni (STDR)	-0.004 ppb	59.7 %	412 cps	412 cps
60Ni (KEDR)	0.003 ppb	122.6 %	151 cps	151 cps
63Cu (STDR)	0.014 ppb	12.3 %	2,439 cps	2,439 cps
63Cu (KEDR)	0.000 ppb	1,992.7 %	379 cps	379 cps
66Zn (STDR)	0.448 ppb	1.6 %	9,806 cps	9,806 cps
66Zn (KEDR)	0.489 ppb	27.8 %	2,698 cps	2,698 cps
74Ge (STDR)	87.501 %	1.0 %	512,495 cps	512,554 cps
74Ge (KEDR)	87.343 %	7.7 %	81,168 cps	81,168 cps
75As (STDR)	0.028 ppb	100.2 %	-494 cps	653 cps
75As (KEDR)	0.008 ppb	69.4 %	15 cps	15 cps
82Se (STDR)	0.003 ppb	3,494.5 %	-231 cps	172 cps
82Se (KEDR)	-0.001 ppb	5,980.6 %	12 cps	12 cps
98Mo (STDR)	0.040 ppb	3.6 %	1,236 cps	1,237 cps
98Mo (KEDR)	0.049 ppb	16.0 %	838 cps	838 cps
107Ag (STDR)	0.006 ppb	12.3 %	475 cps	475 cps
107Ag (KEDR)	0.008 ppb	17.9 %	415 cps	415 cps
111Cd (STDR)	-0.002 ppb	56.2 %	355 cps	20 cps
111Cd (KEDR)	0.002 ppb	30.0 %	11 cps	11 cps
115In (STDR)	89.738 %	1.0 %	769,101 cps	769,104 cps
115In (KEDR)	88.874 %	9.7 %	172,677 cps	172,677 cps
121Sb (STDR)	0.007 ppb	17.2 %	378 cps	378 cps
121Sb (KEDR)	0.009 ppb	9.9 %	138 cps	138 cps
137Ba (STDR)	-0.001 ppb	365.2 %	155 cps	155 cps
137Ba (KEDR)	0.000 ppb	2,910.1 %	50 cps	50 cps
205Tl (STDR)	0.004 ppb	5.3 %	1,673 cps	1,673 cps
205Tl (KEDR)	0.005 ppb	19.4 %	1,808 cps	1,808 cps
208Pb (STDR)	0.003 ppb	12.9 %	1,643 cps	850 cps
208Pb (KEDR)	0.005 ppb	8.2 %	1,133 cps	1,133 cps
209Bi (STDR)	92.268 %	0.4 %	1,011,937 cps	1,011,937 cps
209Bi (KEDR)	91.781 %	8.5 %	977,213 cps	977,213 cps
238U (STDR)	0.002 ppb	9.4 %	638 cps	638 cps
238U (KEDR)	0.003 ppb	12.6 %	830 cps	830 cps

Turner Report Sample Summary

4/15/2021 11:21:17 AM
iCAP RQ ICP-MS



W. W. W. W. W.

Analysis index: 14
Analysis name: 2104129-BS1
Analysis started at: 4/15/2021 11:17:50 AM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	91.243 %	2.0 %	98,104 cps	98,104 cps
9Be (STDR)	46.161 ppb	1.5 %	235,639 cps	235,639 cps
27Al (STDR)	92.717 ppb	1.5 %	2,373,795 cps	2,373,795 cps
45Sc (STDR)	88.124 %	0.9 %	254,084 cps	282,217 cps
45Sc (KEDR)	85.281 %	9.3 %	8,789 cps	8,789 cps
51V (STDR)	44.638 ppb	0.7 %	1,906,335 cps	1,953,687 cps
51V (KEDR)	49.277 ppb	12.3 %	286,692 cps	286,692 cps
55Mn (STDR)	45.156 ppb	0.6 %	2,831,466 cps	2,831,466 cps
55Mn (KEDR)	49.937 ppb	12.0 %	211,822 cps	211,822 cps
52Cr (STDR)	44.949 ppb	0.9 %	1,836,809 cps	1,836,863 cps
52Cr (KEDR)	49.805 ppb	12.0 %	431,459 cps	431,459 cps
59Co (STDR)	45.352 ppb	0.4 %	2,192,186 cps	2,192,186 cps
59Co (KEDR)	48.519 ppb	11.7 %	785,337 cps	785,337 cps
60Ni (STDR)	45.638 ppb	0.6 %	488,097 cps	488,097 cps
60Ni (KEDR)	48.702 ppb	11.5 %	216,641 cps	216,641 cps
63Cu (STDR)	45.344 ppb	0.4 %	1,204,792 cps	1,204,792 cps
63Cu (KEDR)	48.749 ppb	11.3 %	611,182 cps	611,182 cps
66Zn (STDR)	93.865 ppb	0.7 %	902,943 cps	902,943 cps
66Zn (KEDR)	100.579 ppb	10.4 %	248,996 cps	248,996 cps
74Ge (STDR)	88.464 %	0.3 %	518,141 cps	521,829 cps
74Ge (KEDR)	86.575 %	8.4 %	80,454 cps	80,454 cps
75As (STDR)	45.805 ppb	1.5 %	381,479 cps	372,976 cps
75As (KEDR)	48.300 ppb	9.9 %	57,782 cps	57,782 cps
82Se (STDR)	46.023 ppb	1.7 %	41,738 cps	42,128 cps
82Se (KEDR)	50.956 ppb	11.1 %	2,744 cps	2,744 cps
98Mo (STDR)	45.814 ppb	1.0 %	1,196,214 cps	1,196,216 cps
98Mo (KEDR)	48.971 ppb	12.5 %	707,045 cps	707,045 cps
107Ag (STDR)	45.186 ppb	0.4 %	2,289,255 cps	2,289,255 cps
107Ag (KEDR)	48.168 ppb	12.2 %	1,596,680 cps	1,596,680 cps
111Cd (STDR)	46.364 ppb	0.9 %	598,145 cps	599,585 cps
111Cd (KEDR)	49.286 ppb	13.1 %	290,519 cps	290,519 cps
115In (STDR)	89.343 %	0.9 %	765,712 cps	765,717 cps
115In (KEDR)	87.102 %	11.2 %	169,234 cps	169,234 cps
121Sb (STDR)	43.764 ppb	0.7 %	2,024,848 cps	2,024,849 cps
121Sb (KEDR)	49.029 ppb	13.7 %	631,270 cps	631,270 cps
137Ba (STDR)	45.748 ppb	0.7 %	801,195 cps	801,195 cps
137Ba (KEDR)	49.585 ppb	12.3 %	226,689 cps	226,689 cps
205Tl (STDR)	45.232 ppb	1.0 %	6,948,175 cps	6,948,175 cps
205Tl (KEDR)	48.155 ppb	11.4 %	7,007,745 cps	7,007,745 cps
208Pb (STDR)	45.373 ppb	1.0 %	9,537,757 cps	5,062,127 cps
208Pb (KEDR)	48.325 ppb	12.2 %	5,104,735 cps	5,104,735 cps
209Bi (STDR)	93.086 %	1.0 %	1,020,902 cps	1,020,902 cps
209Bi (KEDR)	90.211 %	10.2 %	960,499 cps	960,499 cps
238U (STDR)	45.316 ppb	0.7 %	11,102,679 cps	11,102,679 cps
238U (KEDR)	48.801 ppb	12.9 %	12,196,528 cps	12,196,528 cps

Turner Report Sample Summary

4/15/2021 11:24:45 AM
iCAP RQ ICP-MS



W. M. M. M.

Analysis index: 15
Analysis name: 2104129-BSD1
Analysis started at: 4/15/2021 11:21:17 AM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	91.841 %	1.4 %	98,747 cps	98,747 cps
9Be (STDR)	44.543 ppb	0.9 %	228,397 cps	228,397 cps
27Al (STDR)	90.393 ppb	0.8 %	2,294,026 cps	2,294,026 cps
45Sc (STDR)	86.096 %	0.3 %	248,235 cps	275,968 cps
45Sc (KEDR)	91.470 %	2.7 %	9,427 cps	9,427 cps
51V (STDR)	44.172 ppb	1.8 %	1,844,489 cps	1,886,318 cps
51V (KEDR)	44.102 ppb	0.9 %	275,424 cps	275,424 cps
55Mn (STDR)	44.399 ppb	0.1 %	2,723,638 cps	2,723,638 cps
55Mn (KEDR)	44.476 ppb	1.0 %	201,586 cps	201,586 cps
52Cr (STDR)	44.602 ppb	1.5 %	1,782,402 cps	1,782,452 cps
52Cr (KEDR)	44.139 ppb	0.7 %	409,952 cps	409,952 cps
59Co (STDR)	44.847 ppb	1.6 %	2,121,756 cps	2,121,756 cps
59Co (KEDR)	43.998 ppb	0.9 %	757,373 cps	757,373 cps
60Ni (STDR)	45.320 ppb	0.7 %	474,475 cps	474,475 cps
60Ni (KEDR)	44.116 ppb	0.3 %	208,467 cps	208,467 cps
63Cu (STDR)	44.709 ppb	1.1 %	1,163,317 cps	1,163,317 cps
63Cu (KEDR)	44.132 ppb	0.3 %	585,748 cps	585,748 cps
66Zn (STDR)	92.611 ppb	0.1 %	872,889 cps	872,889 cps
66Zn (KEDR)	92.147 ppb	0.3 %	240,679 cps	240,679 cps
74Ge (STDR)	86.763 %	1.5 %	508,178 cps	511,750 cps
74Ge (KEDR)	89.964 %	0.3 %	83,603 cps	83,603 cps
75As (STDR)	44.762 ppb	0.4 %	365,683 cps	357,281 cps
75As (KEDR)	45.052 ppb	0.7 %	56,356 cps	56,356 cps
82Se (STDR)	45.426 ppb	1.0 %	40,475 cps	40,868 cps
82Se (KEDR)	46.384 ppb	1.7 %	2,627 cps	2,627 cps
98Mo (STDR)	45.092 ppb	1.4 %	1,161,193 cps	1,161,194 cps
98Mo (KEDR)	44.525 ppb	0.5 %	684,031 cps	684,031 cps
107Ag (STDR)	43.726 ppb	1.3 %	2,189,339 cps	2,189,339 cps
107Ag (KEDR)	44.056 ppb	1.1 %	1,563,256 cps	1,563,256 cps
111Cd (STDR)	45.279 ppb	0.7 %	577,849 cps	579,599 cps
111Cd (KEDR)	44.629 ppb	1.6 %	282,568 cps	282,568 cps
115In (STDR)	88.466 %	1.2 %	758,197 cps	758,203 cps
115In (KEDR)	92.904 %	1.0 %	180,508 cps	180,508 cps
121Sb (STDR)	42.589 ppb	0.2 %	1,952,329 cps	1,952,330 cps
121Sb (KEDR)	44.629 ppb	0.6 %	618,789 cps	618,789 cps
137Ba (STDR)	44.746 ppb	0.5 %	777,571 cps	777,571 cps
137Ba (KEDR)	44.679 ppb	0.3 %	219,354 cps	219,354 cps
205Tl (STDR)	44.742 ppb	1.6 %	6,861,654 cps	6,861,654 cps
205Tl (KEDR)	44.234 ppb	1.0 %	6,857,920 cps	6,857,920 cps
208Pb (STDR)	44.242 ppb	1.4 %	9,288,331 cps	4,914,644 cps
208Pb (KEDR)	44.542 ppb	1.2 %	5,013,788 cps	5,013,788 cps
209Bi (STDR)	92.974 %	0.5 %	1,019,671 cps	1,019,671 cps
209Bi (KEDR)	95.327 %	0.7 %	1,014,969 cps	1,014,969 cps
238U (STDR)	44.756 ppb	0.4 %	10,952,776 cps	10,952,776 cps
238U (KEDR)	44.573 ppb	1.0 %	11,875,209 cps	11,875,209 cps

Turner Report Sample Summary

4/15/2021 11:28:13 AM
iCAP RQ ICP-MS



W 4/15/21

Analysis index: 16
Analysis name: 21D0200-01@20
Analysis started at: 4/15/2021 11:24:45 AM

NR, Report from 5x & 1x

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	✓ 91.202 %	0.6 %	98,060 cps	98,060 cps
9Be (STDR)	0.007 ppb	23.1 %	102 cps	102 cps
27Al (STDR)	0.324 ppb	8.5 %	25,919 cps	25,919 cps
45Sc (STDR)	✓ 83.152 %	1.2 %	239,748 cps	278,025 cps
45Sc (KEDR)	88.485 %	3.2 %	9,119 cps	9,119 cps
51V (STDR)	0.074 ppb	27.1 %	4,581 cps	12,805 cps
51V (KEDR)	0.042 ppb	9.9 %	320 cps	320 cps
55Mn (STDR)	6.044 ppb	0.5 %	364,784 cps	364,784 cps
55Mn (KEDR)	6.026 ppb	1.3 %	26,603 cps	26,603 cps
52Cr (STDR)	-0.021 ppb	55.8 %	8,931 cps	8,988 cps
52Cr (KEDR)	0.012 ppb	24.8 %	263 cps	263 cps
59Co (STDR)	0.010 ppb	4.4 %	773 cps	773 cps
59Co (KEDR)	0.010 ppb	17.9 %	188 cps	188 cps
60Ni (STDR)	0.024 ppb	21.7 %	685 cps	685 cps
60Ni (KEDR)	0.012 ppb	17.8 %	197 cps	197 cps
63Cu (STDR)	0.047 ppb	6.3 %	3,224 cps	3,224 cps
63Cu (KEDR)	-0.002 ppb	95.2 %	363 cps	363 cps
66Zn (STDR)	-0.298 ppb	1.5 %	2,682 cps	2,682 cps
66Zn (KEDR)	-0.303 ppb	2.7 %	725 cps	725 cps
74Ge (STDR)	86.949 %	1.1 %	509,266 cps	509,326 cps
74Ge (KEDR)	✓ 87.940 %	0.7 %	81,722 cps	81,722 cps
75As (STDR)	0.383 ppb	7.1 %	2,420 cps	3,561 cps
75As (KEDR)	0.395 ppb	11.8 %	489 cps	489 cps
82Se (STDR)	0.077 ppb	121.2 %	-163 cps	178 cps
82Se (KEDR)	-0.092 ppb	76.2 %	7 cps	7 cps
98Mo (STDR)	0.181 ppb	3.1 %	4,831 cps	4,833 cps
98Mo (KEDR)	0.186 ppb	6.7 %	2,875 cps	2,875 cps
107Ag (STDR)	0.006 ppb	19.8 %	492 cps	492 cps
107Ag (KEDR)	0.008 ppb	29.7 %	420 cps	420 cps
111Cd (STDR)	0.001 ppb	340.8 %	381 cps	42 cps
111Cd (KEDR)	0.003 ppb	29.2 %	19 cps	19 cps
115In (STDR)	✓ 87.507 %	0.2 %	749,984 cps	749,997 cps
115In (KEDR)	89.351 %	0.9 %	173,604 cps	173,604 cps
121Sb (STDR)	0.010 ppb	19.2 %	543 cps	543 cps
121Sb (KEDR)	0.011 ppb	7.2 %	169 cps	169 cps
137Ba (STDR)	0.813 ppb	1.9 %	14,078 cps	14,078 cps
137Ba (KEDR)	0.802 ppb	3.3 %	3,836 cps	3,836 cps
205Tl (STDR)	0.007 ppb	1.8 %	1,990 cps	1,990 cps
205Tl (KEDR)	0.009 ppb	9.9 %	2,329 cps	2,329 cps
208Pb (STDR)	0.007 ppb	3.9 %	2,270 cps	1,230 cps
208Pb (KEDR)	0.008 ppb	6.1 %	1,446 cps	1,446 cps
209Bi (STDR)	✓ 90.462 %	1.5 %	992,121 cps	992,121 cps
209Bi (KEDR)	91.537 %	0.5 %	974,625 cps	974,625 cps
238U (STDR)	0.074 ppb	1.7 %	17,808 cps	17,808 cps
238U (KEDR)	0.080 ppb	1.2 %	20,542 cps	20,542 cps

Turner Report Sample Summary

4/15/2021 11:31:42 AM
iCAP RQ ICP-MS



W. W. W. W. W.

Analysis index: 17
Analysis name: 2104129-MS1@20
Analysis started at: 4/15/2021 11:28:14 AM

NR, Rebit from 5x + 1x

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	✓ 92.057 %	0.8 %	98,979 cps	98,979 cps
9Be (STDR)	1.924 ppb	1.9 %	9,942 cps	9,942 cps
27Al (STDR)	4.009 ppb	1.5 %	118,392 cps	118,392 cps
45Sc (STDR)	✓ 84.720 %	0.3 %	244,268 cps	283,373 cps
45Sc (KEDR)	92.239 %	2.3 %	9,506 cps	9,506 cps
51V (STDR)	2.005 ppb	2.2 %	84,393 cps	93,492 cps
51V (KEDR)	1.887 ppb	1.6 %	11,942 cps	11,942 cps
55Mn (STDR)	7.481 ppb	0.9 %	458,048 cps	458,048 cps
55Mn (KEDR)	7.585 ppb	2.4 %	34,730 cps	34,730 cps
52Cr (STDR)	1.871 ppb	1.7 %	83,611 cps	83,670 cps
52Cr (KEDR)	1.870 ppb	0.4 %	17,661 cps	17,661 cps
59Co (STDR)	1.905 ppb	1.1 %	90,191 cps	90,191 cps
59Co (KEDR)	1.885 ppb	2.8 %	32,704 cps	32,704 cps
60Ni (STDR)	1.943 ppb	2.3 %	20,734 cps	20,734 cps
60Ni (KEDR)	1.847 ppb	3.0 %	8,932 cps	8,932 cps
63Cu (STDR)	1.735 ppb	0.7 %	47,191 cps	47,191 cps
63Cu (KEDR)	1.607 ppb	2.5 %	21,865 cps	21,865 cps
66Zn (STDR)	3.635 ppb	1.9 %	39,711 cps	39,711 cps
66Zn (KEDR)	3.550 ppb	2.8 %	10,818 cps	10,818 cps
74Ge (STDR)	✓ 87.808 %	0.5 %	514,297 cps	514,491 cps
74Ge (KEDR)	90.543 %	1.2 %	84,142 cps	84,142 cps
75As (STDR)	2.272 ppb	1.5 %	18,084 cps	18,651 cps
75As (KEDR)	2.258 ppb	3.7 %	2,846 cps	2,846 cps
82Se (STDR)	1.811 ppb	4.3 %	1,404 cps	1,817 cps
82Se (KEDR)	1.897 ppb	1.2 %	119 cps	119 cps
98Mo (STDR)	2.050 ppb	0.8 %	53,214 cps	53,215 cps
98Mo (KEDR)	2.014 ppb	1.8 %	30,775 cps	30,775 cps
107Ag (STDR)	1.338 ppb	1.7 %	67,275 cps	67,275 cps
107Ag (KEDR)	1.406 ppb	4.4 %	49,296 cps	49,296 cps
111Cd (STDR)	1.925 ppb	2.0 %	24,933 cps	24,714 cps
111Cd (KEDR)	1.911 ppb	1.3 %	11,896 cps	11,896 cps
115In (STDR)	✓ 88.386 %	0.5 %	757,517 cps	757,529 cps
115In (KEDR)	91.113 %	0.5 %	177,027 cps	177,027 cps
121Sb (STDR)	1.839 ppb	0.9 %	84,179 cps	84,180 cps
121Sb (KEDR)	1.924 ppb	2.4 %	26,175 cps	26,175 cps
137Ba (STDR)	2.667 ppb	1.4 %	46,230 cps	46,230 cps
137Ba (KEDR)	2.667 ppb	1.6 %	12,879 cps	12,879 cps
205Tl (STDR)	1.917 ppb	2.0 %	288,898 cps	288,898 cps
205Tl (KEDR)	1.988 ppb	1.4 %	302,452 cps	302,452 cps
208Pb (STDR)	1.911 ppb	0.5 %	393,641 cps	207,656 cps
208Pb (KEDR)	2.014 ppb	0.6 %	222,244 cps	222,244 cps
209Bi (STDR)	✓ 91.013 %	1.1 %	998,165 cps	998,165 cps
209Bi (KEDR)	93.228 %	0.6 %	992,626 cps	992,626 cps
238U (STDR)	1.888 ppb	1.8 %	452,323 cps	452,323 cps
238U (KEDR)	1.983 ppb	0.8 %	516,728 cps	516,728 cps

Turner Report Sample Summary

4/15/2021 11:35:11 AM
iCAP RQ ICP-MS



W. K. K. K. K. K.

Analysis index: 18
Analysis name: 21D0200-01
Analysis started at: 4/15/2021 11:31:42 AM

Report KED

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	✓ 102.965 %	1.3 %	110,707 cps	110,707 cps
9Be (STDR)	0.000 ppb	686.0 %	75 cps	75 cps
27Al (STDR)	4.865 ppb	3.3 %	117,590 cps	117,590 cps
45Sc (STDR)	↓ 49.391	2.7	142,408 cps	354,144 cps
45Sc (KEDR)	✓ 88.743 %	0.8 %	9,146 cps	9,146 cps
51V (STDR)	1.093 ppb	2.3 %	31,199 cps	39,892 cps
51V (KEDR)	0.653 ppb	0.2 %	4,022 cps	4,022 cps
55Mn (STDR)	162.129 ppb	2.0 %	7,154,115 cps	7,154,115 cps
55Mn (KEDR)	117.281 ppb	0.6 %	515,944 cps	515,944 cps
52Cr (STDR)	0.421 ppb	5.2 %	18,081 cps	18,283 cps
52Cr (KEDR)	0.175 ppb	1.3 %	1,732 cps	1,732 cps
59Co (STDR)	0.181 ppb	2.8 %	6,890 cps	6,890 cps
59Co (KEDR)	0.115 ppb	8.4 %	1,948 cps	1,948 cps
60Ni (STDR)	0.621 ppb	3.2 %	5,500 cps	5,500 cps
60Ni (KEDR)	0.171 ppb	8.3 %	925 cps	925 cps
63Cu (STDR)	1.116 ppb	0.8 %	25,970 cps	25,970 cps
63Cu (KEDR)	0.223 ppb	1.7 %	3,262 cps	3,262 cps
66Zn (STDR)	2.122 ppb	0.2 %	22,317 cps	22,317 cps
66Zn (KEDR)	1.739 ppb	2.2 %	5,871 cps	5,871 cps
74Ge (STDR)	86.401 %	0.9 %	506,055 cps	506,133 cps
74Ge (KEDR)	✓ 87.447 %	0.6 %	81,264 cps	81,264 cps
75As (STDR)	7.250 ppb	1.1 %	58,316 cps	59,312 cps
75As (KEDR)	7.596 ppb	1.2 %	9,228 cps	9,228 cps
82Se (STDR)	0.202 ppb	25.1 %	-50 cps	425 cps
82Se (KEDR)	0.232 ppb	29.8 %	24 cps	24 cps
98Mo (STDR)	2.691 ppb	0.4 %	67,294 cps	67,298 cps
98Mo (KEDR)	2.672 ppb	0.5 %	38,712 cps	38,712 cps
107Ag (STDR)	0.048 ppb	7.2 %	2,454 cps	2,454 cps
107Ag (KEDR)	0.071 ppb	20.6 %	2,469 cps	2,469 cps
111Cd (STDR)	0.002 ppb	198.2 %	385 cps	82 cps
111Cd (KEDR)	0.004 ppb	24.3 %	23 cps	23 cps
115In (STDR)	83.971 %	1.0 %	719,678 cps	719,870 cps
115In (KEDR)	✓ 85.374 %	1.4 %	165,878 cps	165,878 cps
121Sb (STDR)	0.126 ppb	1.7 %	5,317 cps	5,318 cps
121Sb (KEDR)	0.137 ppb	3.5 %	1,702 cps	1,702 cps
137Ba (STDR)	19.284 ppb	0.7 %	269,584 cps	269,584 cps
137Ba (KEDR)	19.054 ppb	0.6 %	74,311 cps	74,311 cps
205Tl (STDR)	0.017 ppb	20.4 %	1,345 cps	1,345 cps
205Tl (KEDR)	0.014 ppb	12.7 %	1,349 cps	1,349 cps
208Pb (STDR)	0.280 ppb	1.1 %	21,411 cps	11,557 cps
208Pb (KEDR)	0.255 ppb	7.1 %	11,726 cps	11,726 cps
209Bi (STDR)	32.765	2.7	359,339 cps	359,339 cps
209Bi (KEDR)	↓ 37.734	6.1	401,766 cps	401,766 cps
238U (STDR)	3.843 ppb	3.2 %	331,302 cps	331,302 cps
238U (KEDR)	3.500 ppb	5.7 %	368,320 cps	368,320 cps

Turner Report Sample Summary

4/15/2021 11:38:41 AM
iCAP RQ ICP-MS



W. M. K. / n

Analysis index: 19
Analysis name: 2104129-MS1
Analysis started at: 4/15/2021 11:35:11 AM

Report KED

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	103.542 %	1.4 %	111,328 cps	111,328 cps
9Be (STDR)	46.949 ppb	1.2 %	261,791 cps	261,791 cps
27Al (STDR)	122.390 ppb	0.7 %	2,603,623 cps	2,603,623 cps
45Sc (STDR)	↓ 49.702	0.8	143,302 cps	354,488 cps
45Sc (KEDR)	✓ 90.548 %	1.2 %	9,332 cps	9,332 cps
51V (STDR)	76.743 ppb	1.5 %	2,139,865 cps	2,174,986 cps
51V (KEDR)	50.310 ppb	0.9 %	309,753 cps	309,753 cps
55Mn (STDR)	225.768 ppb	1.4 %	10,078,966 cps	10,078,966 cps
55Mn (KEDR)	162.525 ppb	2.8 %	723,847 cps	723,847 cps
52Cr (STDR)	72.676 ppb	0.6 %	1,979,524 cps	1,979,724 cps
52Cr (KEDR)	47.491 ppb	0.3 %	434,540 cps	434,540 cps
59Co (STDR)	61.286 ppb	0.7 %	2,286,260 cps	2,286,260 cps
59Co (KEDR)	47.202 ppb	2.1 %	796,486 cps	796,486 cps
60Ni (STDR)	59.666 ppb	0.9 %	501,835 cps	501,835 cps
60Ni (KEDR)	46.551 ppb	1.0 %	215,480 cps	215,480 cps
63Cu (STDR)	51.190 ppb	2.4 %	1,130,334 cps	1,130,334 cps
63Cu (KEDR)	42.310 ppb	1.5 %	548,961 cps	548,961 cps
66Zn (STDR)	113.604 ppb	0.6 %	955,756 cps	955,756 cps
66Zn (KEDR)	99.062 ppb	1.2 %	252,291 cps	252,291 cps
74Ge (STDR)	87.919 %	1.1 %	514,948 cps	518,808 cps
74Ge (KEDR)	✓ 87.258 %	0.6 %	81,088 cps	81,088 cps
75As (STDR)	58.978 ppb	0.2 %	487,855 cps	477,790 cps
75As (KEDR)	59.912 ppb	1.4 %	72,593 cps	72,593 cps
82Se (STDR)	49.294 ppb	0.9 %	44,067 cps	44,551 cps
82Se (KEDR)	51.041 ppb	0.5 %	2,774 cps	2,774 cps
98Mo (STDR)	53.708 ppb	0.6 %	1,358,107 cps	1,358,109 cps
98Mo (KEDR)	54.276 ppb	1.3 %	783,941 cps	783,941 cps
107Ag (STDR)	39.373 ppb	1.6 %	1,913,055 cps	1,913,055 cps
107Ag (KEDR)	40.278 ppb	1.9 %	1,328,328 cps	1,328,328 cps
111Cd (STDR)	50.463 ppb	0.6 %	621,610 cps	623,653 cps
111Cd (KEDR)	50.303 ppb	0.7 %	294,486 cps	294,486 cps
115In (STDR)	84.944 %	1.1 %	728,016 cps	728,211 cps
115In (KEDR)	✓ 85.455 %	0.5 %	166,035 cps	166,035 cps
121Sb (STDR)	52.477 ppb	2.1 %	2,210,790 cps	2,210,791 cps
121Sb (KEDR)	54.939 ppb	0.6 %	672,681 cps	672,681 cps
137Ba (STDR)	79.556 ppb	1.6 %	1,120,991 cps	1,120,991 cps
137Ba (KEDR)	78.682 ppb	1.5 %	303,440 cps	303,440 cps
205Tl (STDR)	131.409 ppb	1.6 %	7,471,285 cps	7,471,285 cps
205Tl (KEDR)	125.504 ppb	2.3 %	7,402,387 cps	7,402,387 cps
208Pb (STDR)	133.589 ppb	1.4 %	9,873,502 cps	5,233,833 cps
208Pb (KEDR)	125.949 ppb	2.4 %	5,145,126 cps	5,145,126 cps
209Bi (STDR)	↓ 32.154	1.3	352,647 cps	352,647 cps
209Bi (KEDR)	✓ 34.046	1.4	362,502 cps	362,502 cps
238U (STDR)	141.800 ppb	1.3 %	11,999,853 cps	11,999,853 cps
238U (KEDR)	133.746 ppb	2.0 %	12,724,603 cps	12,724,603 cps

Turner Report Sample Summary

4/15/2021 11:46:14 AM
iCAP RQ ICP-MS



W. W. W. W.

Analysis index: 20
Analysis name: RINSE
Analysis started at: 4/15/2021 11:42:47 AM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	99.953 %	0.4 %	107,469 cps	107,469 cps
9Be (STDR)	0.007 ppb	87.9 %	113 cps	113 cps
27Al (STDR)	-0.298 ppb	6.5 %	11,881 cps	11,881 cps
45Sc (STDR)	95.546 %	1.1 %	275,482 cps	305,384 cps
45Sc (KEDR)	96.609 %	2.5 %	9,956 cps	9,956 cps
51V (STDR)	0.048 ppb	29.4 %	3,955 cps	10,326 cps
51V (KEDR)	0.009 ppb	38.1 %	125 cps	125 cps
55Mn (STDR)	0.004 ppb	30.7 %	2,939 cps	2,939 cps
55Mn (KEDR)	0.010 ppb	32.8 %	160 cps	160 cps
52Cr (STDR)	-0.016 ppb	46.4 %	10,358 cps	10,411 cps
52Cr (KEDR)	0.004 ppb	21.3 %	215 cps	215 cps
59Co (STDR)	0.001 ppb	75.7 %	358 cps	358 cps
59Co (KEDR)	0.001 ppb	59.0 %	51 cps	51 cps
60Ni (STDR)	-0.002 ppb	340.7 %	467 cps	467 cps
60Ni (KEDR)	-0.001 ppb	315.0 %	144 cps	144 cps
63Cu (STDR)	0.079 ppb	3.7 %	4,501 cps	4,501 cps
63Cu (KEDR)	0.049 ppb	17.1 %	1,093 cps	1,093 cps
66Zn (STDR)	0.025 ppb	49.9 %	6,243 cps	6,243 cps
66Zn (KEDR)	-0.012 ppb	335.7 %	1,566 cps	1,566 cps
74Ge (STDR)	94.053 %	0.3 %	550,872 cps	550,947 cps
74Ge (KEDR)	93.657 %	1.1 %	87,035 cps	87,035 cps
75As (STDR)	0.019 ppb	191.8 %	-611 cps	600 cps
75As (KEDR)	0.002 ppb	251.0 %	9 cps	9 cps
82Se (STDR)	0.127 ppb	37.3 %	-128 cps	318 cps
82Se (KEDR)	0.029 ppb	226.6 %	14 cps	14 cps
98Mo (STDR)	0.034 ppb	11.8 %	1,176 cps	1,177 cps
98Mo (KEDR)	0.030 ppb	11.2 %	591 cps	591 cps
107Ag (STDR)	0.007 ppb	95.6 %	568 cps	568 cps
107Ag (KEDR)	0.008 ppb	116.5 %	432 cps	432 cps
111Cd (STDR)	-0.001 ppb	263.5 %	382 cps	13 cps
111Cd (KEDR)	0.002 ppb	34.7 %	15 cps	15 cps
115In (STDR)	95.070 %	0.6 %	814,798 cps	814,803 cps
115In (KEDR)	94.453 %	0.6 %	183,516 cps	183,516 cps
121Sb (STDR)	0.003 ppb	19.8 %	220 cps	220 cps
121Sb (KEDR)	0.002 ppb	38.5 %	51 cps	51 cps
137Ba (STDR)	0.000 ppb	544.7 %	177 cps	177 cps
137Ba (KEDR)	0.001 ppb	150.7 %	61 cps	61 cps
205Tl (STDR)	0.002 ppb	15.7 %	1,328 cps	1,328 cps
205Tl (KEDR)	0.002 ppb	14.1 %	1,401 cps	1,401 cps
208Pb (STDR)	0.001 ppb	18.8 %	1,262 cps	658 cps
208Pb (KEDR)	0.000 ppb	230.6 %	671 cps	671 cps
209Bi (STDR)	98.495 %	1.2 %	1,080,227 cps	1,080,227 cps
209Bi (KEDR)	99.696 %	0.8 %	1,061,490 cps	1,061,490 cps
238U (STDR)	0.002 ppb	7.8 %	680 cps	680 cps
238U (KEDR)	0.002 ppb	4.2 %	767 cps	767 cps

Turner Report Sample Summary

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iCAP RQ ICP-MS



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Analysis index: 21
Analysis name: 21D0200-01@5
Analysis started at: 4/15/2021 11:46:14 AM

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Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	96.987 %	1.1 %	104,280 cps	104,280 cps
9Be (STDR)	0.008 ppb	29.1 %	112 cps	112 cps
27Al (STDR)	1.015 ppb	42.5 %	43,753 cps	43,753 cps
45Sc (STDR)	81.420 %	0.7 %	234,752 cps	295,851 cps
45Sc (KEDR)	90.742 %	2.0 %	9,352 cps	9,352 cps
51V (STDR)	0.176 ppb	1.2 %	8,585 cps	14,742 cps
51V (KEDR)	0.124 ppb	5.2 %	831 cps	831 cps
55Mn (STDR)	24.071 ppb	0.7 %	1,434,821 cps	1,434,821 cps
55Mn (KEDR)	23.057 ppb	0.4 %	103,678 cps	103,678 cps
52Cr (STDR)	0.153 ppb	3.5 %	15,501 cps	15,575 cps
52Cr (KEDR)	0.149 ppb	9.5 %	1,529 cps	1,529 cps
59Co (STDR)	0.034 ppb	10.3 %	1,880 cps	1,880 cps
59Co (KEDR)	0.025 ppb	3.0 %	461 cps	461 cps
60Ni (STDR)	0.260 ppb	8.0 %	3,105 cps	3,105 cps
60Ni (KEDR)	0.190 ppb	5.7 %	1,031 cps	1,031 cps
63Cu (STDR)	0.404 ppb	1.2 %	12,448 cps	12,448 cps
63Cu (KEDR)	0.235 ppb	4.1 %	3,490 cps	3,490 cps
66Zn (STDR)	0.227 ppb	16.8 %	7,602 cps	7,602 cps
66Zn (KEDR)	0.183 ppb	11.0 %	1,985 cps	1,985 cps
74Ge (STDR)	88.396 %	1.7 %	517,737 cps	517,805 cps
74Ge (KEDR)	89.100 %	1.6 %	82,800 cps	82,800 cps
75As (STDR)	1.359 ppb	4.6 %	10,592 cps	11,622 cps
75As (KEDR)	1.465 ppb	3.7 %	1,819 cps	1,819 cps
82Se (STDR)	0.113 ppb	91.6 %	-132 cps	312 cps
82Se (KEDR)	0.056 ppb	347.0 %	15 cps	15 cps
98Mo (STDR)	0.527 ppb	1.5 %	13,776 cps	13,778 cps
98Mo (KEDR)	0.531 ppb	1.4 %	8,008 cps	8,008 cps
107Ag (STDR)	-0.001 ppb	69.8 %	112 cps	112 cps
107Ag (KEDR)	0.002 ppb	225.1 %	217 cps	217 cps
111Cd (STDR)	-0.003 ppb	186.4 %	334 cps	25 cps
111Cd (KEDR)	0.000 ppb	56.2 %	3 cps	3 cps
115In (STDR)	87.301 %	0.2 %	748,217 cps	748,259 cps
115In (KEDR)	88.553 %	0.2 %	172,054 cps	172,054 cps
121Sb (STDR)	0.024 ppb	10.3 %	1,128 cps	1,128 cps
121Sb (KEDR)	0.026 ppb	9.6 %	362 cps	362 cps
137Ba (STDR)	3.324 ppb	1.3 %	54,261 cps	54,261 cps
137Ba (KEDR)	3.332 ppb	0.5 %	14,978 cps	14,978 cps
205Tl (STDR)	0.001 ppb	75.0 %	902 cps	902 cps
205Tl (KEDR)	0.001 ppb	36.9 %	960 cps	960 cps
208Pb (STDR)	0.033 ppb	0.4 %	6,166 cps	3,320 cps
208Pb (KEDR)	0.035 ppb	4.6 %	3,566 cps	3,566 cps
209Bi (STDR)	72.621 %	0.7 %	796,461 cps	796,461 cps
209Bi (KEDR)	74.735 %	0.3 %	795,728 cps	795,728 cps
238U (STDR)	0.355 ppb	1.3 %	68,020 cps	68,020 cps
238U (KEDR)	0.358 ppb	0.3 %	74,952 cps	74,952 cps

Turner Report Sample Summary

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iCAP RQ ICP-MS



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Analysis index: 22
Analysis name: 2104129-MS1@5
Analysis started at: 4/15/2021 11:49:42 AM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	95.011 %	0.8 %	102,155 cps	102,155 cps
9Be (STDR)	8.857 ppb	0.4 %	46,657 cps	46,657 cps
27Al (STDR)	19.007 ppb	0.3 %	483,633 cps	483,633 cps
45Sc (STDR)	79.001 %	0.6 %	227,779 cps	288,738 cps
45Sc (KEDR)	88.404 %	0.8 %	9,111 cps	9,111 cps
51V (STDR)	9.558 ppb	0.8 %	373,396 cps	385,685 cps
51V (KEDR)	8.989 ppb	0.6 %	54,346 cps	54,346 cps
55Mn (STDR)	33.701 ppb	1.2 %	1,949,260 cps	1,949,260 cps
55Mn (KEDR)	32.257 ppb	2.0 %	141,513 cps	141,513 cps
52Cr (STDR)	9.186 ppb	0.5 %	350,718 cps	350,791 cps
52Cr (KEDR)	8.720 ppb	1.3 %	78,462 cps	78,462 cps
59Co (STDR)	9.034 ppb	0.7 %	407,375 cps	407,375 cps
59Co (KEDR)	8.758 ppb	1.2 %	145,977 cps	145,977 cps
60Ni (STDR)	9.222 ppb	1.3 %	92,548 cps	92,548 cps
60Ni (KEDR)	8.665 ppb	1.8 %	39,748 cps	39,748 cps
63Cu (STDR)	8.089 ppb	3.0 %	204,257 cps	204,257 cps
63Cu (KEDR)	7.912 ppb	0.7 %	102,023 cps	102,023 cps
66Zn (STDR)	18.680 ppb	0.4 %	175,036 cps	175,036 cps
66Zn (KEDR)	18.348 ppb	1.7 %	47,612 cps	47,612 cps
74Ge (STDR)	85.884 %	0.8 %	503,026 cps	503,701 cps
74Ge (KEDR)	87.245 %	2.1 %	81,077 cps	81,077 cps
75As (STDR)	10.381 ppb	0.8 %	83,376 cps	82,753 cps
75As (KEDR)	10.421 ppb	1.1 %	12,635 cps	12,635 cps
82Se (STDR)	8.083 ppb	2.3 %	6,922 cps	7,342 cps
82Se (KEDR)	8.028 ppb	5.2 %	448 cps	448 cps
98Mo (STDR)	9.612 ppb	0.6 %	243,241 cps	243,242 cps
98Mo (KEDR)	9.701 ppb	1.4 %	141,623 cps	141,623 cps
107Ag (STDR)	6.970 ppb	2.0 %	341,909 cps	341,909 cps
107Ag (KEDR)	7.242 ppb	2.0 %	242,290 cps	242,290 cps
111Cd (STDR)	9.094 ppb	1.9 %	113,768 cps	113,778 cps
111Cd (KEDR)	9.154 ppb	1.2 %	54,439 cps	54,439 cps
115In (STDR)	86.396 %	1.1 %	740,455 cps	740,496 cps
115In (KEDR)	86.959 %	0.6 %	168,957 cps	168,957 cps
121Sb (STDR)	8.875 ppb	1.2 %	392,003 cps	392,003 cps
121Sb (KEDR)	9.302 ppb	1.0 %	119,459 cps	119,459 cps
137Ba (STDR)	12.861 ppb	0.3 %	207,723 cps	207,723 cps
137Ba (KEDR)	12.849 ppb	1.7 %	56,808 cps	56,808 cps
205Tl (STDR)	10.913 ppb	1.1 %	1,320,098 cps	1,320,098 cps
205Tl (KEDR)	11.159 ppb	1.2 %	1,369,552 cps	1,369,552 cps
208Pb (STDR)	11.019 ppb	0.5 %	1,810,656 cps	958,911 cps
208Pb (KEDR)	11.346 ppb	0.7 %	1,004,853 cps	1,004,853 cps
209Bi (STDR)	72.558 %	0.6 %	795,765 cps	795,765 cps
209Bi (KEDR)	74.828 %	0.8 %	796,716 cps	796,716 cps
238U (STDR)	11.182 ppb	0.8 %	2,135,578 cps	2,135,578 cps
238U (KEDR)	11.385 ppb	2.7 %	2,380,845 cps	2,380,845 cps

Turner Report Sample Summary

4/15/2021 12:01:03 PM
ICAP RQ ICP-MS



W/16/1n

Analysis index: 23
Analysis name: CCB
Analysis started at: 4/15/2021 11:57:37 AM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	96.367 %	0.9 %	103,613 cps	103,613 cps
9Be (STDR)	0.002 ppb	123.4 %	78 cps	78 cps
27Al (STDR)	-0.301 ppb	6.2 %	11,147 cps	11,147 cps
45Sc (STDR)	88.209 %	0.5 %	254,329 cps	282,766 cps
45Sc (KEDR)	87.376 %	7.3 %	9,005 cps	9,005 cps
51V (STDR)	0.036 ppb	44.6 %	3,191 cps	8,838 cps
51V (KEDR)	0.005 ppb	4.5 %	93 cps	93 cps
55Mn (STDR)	-0.001 ppb	260.5 %	2,432 cps	2,432 cps
55Mn (KEDR)	0.003 ppb	142.9 %	118 cps	118 cps
52Cr (STDR)	-0.021 ppb	18.7 %	9,401 cps	9,449 cps
52Cr (KEDR)	0.005 ppb	47.2 %	196 cps	196 cps
59Co (STDR)	0.000 ppb	82.8 %	307 cps	307 cps
59Co (KEDR)	0.000 ppb	2,118.4 %	28 cps	28 cps
60Ni (STDR)	-0.004 ppb	34.6 %	408 cps	408 cps
60Ni (KEDR)	0.006 ppb	60.7 %	164 cps	164 cps
63Cu (STDR)	0.046 ppb	22.3 %	3,332 cps	3,332 cps
63Cu (KEDR)	0.034 ppb	8.8 %	820 cps	820 cps
66Zn (STDR)	-0.012 ppb	246.7 %	5,510 cps	5,510 cps
66Zn (KEDR)	0.025 ppb	116.3 %	1,537 cps	1,537 cps
74Ge (STDR)	88.840 %	1.0 %	520,340 cps	520,402 cps
74Ge (KEDR)	87.047 %	3.1 %	80,892 cps	80,892 cps
75As (STDR)	0.008 ppb	153.4 %	-668 cps	472 cps
75As (KEDR)	-0.003 ppb	73.6 %	3 cps	3 cps
82Se (STDR)	-0.024 ppb	248.0 %	-259 cps	205 cps
82Se (KEDR)	-0.075 ppb	67.4 %	8 cps	8 cps
98Mo (STDR)	0.010 ppb	15.5 %	454 cps	455 cps
98Mo (KEDR)	0.010 ppb	22.9 %	253 cps	253 cps
107Ag (STDR)	-0.001 ppb	28.2 %	107 cps	107 cps
107Ag (KEDR)	0.000 ppb	11,497.3 %	133 cps	133 cps
111Cd (STDR)	-0.001 ppb	138.2 %	360 cps	7 cps
111Cd (KEDR)	0.000 ppb	2,398.5 %	1 cps	1 cps
115In (STDR)	88.977 %	0.3 %	762,575 cps	762,579 cps
115In (KEDR)	87.844 %	5.2 %	170,675 cps	170,675 cps
121Sb (STDR)	0.001 ppb	28.4 %	101 cps	102 cps
121Sb (KEDR)	0.000 ppb	292.4 %	19 cps	19 cps
137Ba (STDR)	0.003 ppb	90.0 %	215 cps	215 cps
137Ba (KEDR)	0.000 ppb	89.7 %	52 cps	52 cps
205Tl (STDR)	0.000 ppb	311.1 %	983 cps	983 cps
205Tl (KEDR)	0.000 ppb	105.7 %	982 cps	982 cps
208Pb (STDR)	0.000 ppb	142.7 %	880 cps	445 cps
208Pb (KEDR)	-0.001 ppb	33.9 %	508 cps	508 cps
209Bi (STDR)	93.519 %	0.3 %	1,025,649 cps	1,025,649 cps
209Bi (KEDR)	91.515 %	4.5 %	974,389 cps	974,389 cps
238U (STDR)	0.000 ppb	45.2 %	198 cps	198 cps
238U (KEDR)	0.000 ppb	49.4 %	209 cps	209 cps

Turner Report Sample Summary

4/15/2021 12:04:34 PM
iCAP RQ ICP-MS



W. W. W.

Analysis index: 24
Analysis name: CCV
Analysis started at: 4/15/2021 12:01:04 PM

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Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	93.898 %	2.0 %	100,959 cps	100,959 cps
9Be (STDR)	45.941 ppb	2.1 %	240,459 cps	240,459 cps
27Al (STDR)	91.750 ppb	1.9 %	2,356,129 cps	2,356,129 cps
45Sc (STDR)	86.350 %	1.4 %	248,969 cps	276,513 cps
45Sc (KEDR)	90.799 %	0.7 %	9,358 cps	9,358 cps
51V (STDR)	45.033 ppb	1.0 %	1,884,980 cps	1,932,871 cps
51V (KEDR)	45.582 ppb	1.0 %	281,939 cps	281,939 cps
55Mn (STDR)	46.650 ppb	0.7 %	2,867,598 cps	2,867,598 cps
55Mn (KEDR)	46.835 ppb	1.3 %	209,910 cps	209,910 cps
52Cr (STDR)	45.671 ppb	1.6 %	1,829,340 cps	1,829,380 cps
52Cr (KEDR)	45.568 ppb	1.2 %	418,991 cps	418,991 cps
59Co (STDR)	45.858 ppb	1.4 %	2,173,694 cps	2,173,694 cps
59Co (KEDR)	46.116 ppb	1.2 %	783,711 cps	783,711 cps
60Ni (STDR)	46.800 ppb	1.3 %	490,851 cps	490,851 cps
60Ni (KEDR)	46.421 ppb	0.6 %	216,458 cps	216,458 cps
63Cu (STDR)	49.127 ppb	0.8 %	1,280,098 cps	1,280,098 cps
63Cu (KEDR)	50.552 ppb	2.1 %	661,300 cps	661,300 cps
66Zn (STDR)	94.686 ppb	0.9 %	893,348 cps	893,348 cps
66Zn (KEDR)	93.993 ppb	0.8 %	241,655 cps	241,655 cps
74Ge (STDR)	86.808 %	1.9 %	508,438 cps	512,118 cps
74Ge (KEDR)	88.276 %	1.0 %	82,034 cps	82,034 cps
75As (STDR)	47.119 ppb	0.9 %	385,120 cps	375,513 cps
75As (KEDR)	48.072 ppb	0.5 %	58,978 cps	58,978 cps
82Se (STDR)	47.219 ppb	0.1 %	42,064 cps	42,479 cps
82Se (KEDR)	49.553 ppb	2.6 %	2,743 cps	2,743 cps
98Mo (STDR)	46.015 ppb	1.3 %	1,182,114 cps	1,182,115 cps
98Mo (KEDR)	46.936 ppb	0.6 %	699,479 cps	699,479 cps
107Ag (STDR)	31.298	2.8	1,561,708 cps	1,561,708 cps
107Ag (KEDR)	24.695	12.9	846,104 cps	846,104 cps
111Cd (STDR)	47.354 ppb	0.8 %	601,902 cps	603,921 cps
111Cd (KEDR)	47.110 ppb	0.4 %	287,613 cps	287,613 cps
115In (STDR)	88.068 %	0.6 %	754,785 cps	754,810 cps
115In (KEDR)	89.413 %	1.2 %	173,724 cps	173,724 cps
121Sb (STDR)	43.033 ppb	0.4 %	2,058,834 cps	2,058,835 cps
121Sb (KEDR)	44.399 ppb	0.5 %	640,134 cps	640,134 cps
137Ba (STDR)	39.735	0.6	808,361 cps	808,361 cps
137Ba (KEDR)	37.019	2.4	226,137 cps	226,137 cps
205Tl (STDR)	28.857	2.4	7,465,664 cps	7,465,664 cps
205Tl (KEDR)	23.249	6.5	7,537,060 cps	7,537,060 cps
208Pb (STDR)	26.949	3.2	9,666,948 cps	5,141,398 cps
208Pb (KEDR)	21.506	6.8	5,150,185 cps	5,150,185 cps
209Bi (STDR)	159.600	2.3	1,750,389 cps	1,750,389 cps
209Bi (KEDR)	204.640	7.6	2,178,854 cps	2,178,854 cps
238U (STDR)	26.141	2.5	10,977,178 cps	10,977,178 cps
238U (KEDR)	21.006	6.9	11,972,750 cps	11,972,750 cps

Turner Report Sample Summary

4/15/2021 12:08:05 PM
ICAP RQ ICP-MS



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Analysis index: 25
Analysis name: CCV
Analysis started at: 4/15/2021 12:04:34 PM

Report + Review

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	91.505 %	1.2 %	98,386 cps	98,386 cps
9Be (STDR)	46.059 ppb	0.7 %	235,111 cps	235,111 cps
27Al (STDR)	92.740 ppb	0.9 %	2,329,726 cps	2,329,726 cps
45Sc (STDR)	84.752 %	0.5 %	244,362 cps	271,589 cps
45Sc (KEDR)	89.189 %	0.7 %	9,192 cps	9,192 cps
51V (STDR)	45.131 ppb	1.1 %	1,850,416 cps	1,888,145 cps
51V (KEDR)	45.949 ppb	0.1 %	278,824 cps	278,824 cps
55Mn (STDR)	46.530 ppb	1.0 %	2,797,536 cps	2,797,536 cps
55Mn (KEDR)	46.691 ppb	0.9 %	205,126 cps	205,126 cps
52Cr (STDR)	46.177 ppb	1.1 %	1,810,768 cps	1,810,807 cps
52Cr (KEDR)	45.885 ppb	0.4 %	413,834 cps	413,834 cps
59Co (STDR)	47.047 ppb	0.4 %	2,177,967 cps	2,177,967 cps
59Co (KEDR)	45.993 ppb	0.3 %	765,523 cps	765,523 cps
60Ni (STDR)	47.117 ppb	1.7 %	482,452 cps	482,452 cps
60Ni (KEDR)	46.383 ppb	0.2 %	211,788 cps	211,788 cps
63Cu (STDR)	47.366 ppb	1.7 %	1,203,794 cps	1,203,794 cps
63Cu (KEDR)	46.812 ppb	0.3 %	599,288 cps	599,288 cps
66Zn (STDR)	94.833 ppb	1.0 %	871,820 cps	871,820 cps
66Zn (KEDR)	93.753 ppb	0.6 %	235,743 cps	235,743 cps
74Ge (STDR)	84.347 %	0.1 %	494,023 cps	497,658 cps
74Ge (KEDR)	86.187 %	0.9 %	80,094 cps	80,094 cps
75As (STDR)	47.592 ppb	1.0 %	378,093 cps	366,963 cps
75As (KEDR)	48.341 ppb	1.5 %	57,927 cps	57,927 cps
82Se (STDR)	48.640 ppb	1.2 %	42,205 cps	42,601 cps
82Se (KEDR)	49.909 ppb	5.1 %	2,706 cps	2,706 cps
98Mo (STDR)	46.439 ppb	0.5 %	1,166,957 cps	1,166,959 cps
98Mo (KEDR)	46.619 ppb	1.6 %	685,218 cps	685,218 cps
107Ag (STDR)	41.939 ↓	1.5	2,051,987 cps	2,051,987 cps
107Ag (KEDR)	42.694 ppb	1.7 %	1,448,690 cps	1,448,690 cps
111Cd (STDR)	47.405 ppb	0.5 %	591,519 cps	593,646 cps
111Cd (KEDR)	46.581 ppb	1.1 %	282,000 cps	282,000 cps
115In (STDR)	86.550 %	0.4 %	741,777 cps	741,801 cps
115In (KEDR)	88.821 %	2.1 %	172,574 cps	172,574 cps
121Sb (STDR)	44.964 ppb	0.5 %	2,035,219 cps	2,035,223 cps
121Sb (KEDR)	46.848 ppb	1.6 %	629,490 cps	629,490 cps
137Ba (STDR)	45.637 ppb	0.7 %	801,993 cps	801,993 cps
137Ba (KEDR)	45.334 ppb	2.0 %	223,513 cps	223,513 cps
205Tl (STDR)	43.805 ppb	0.6 %	7,445,296 cps	7,445,296 cps
205Tl (KEDR)	41.741 ↓	2.2	7,444,569 cps	7,444,569 cps
208Pb (STDR)	41.292 ↓	1.1	9,642,624 cps	5,114,050 cps
208Pb (KEDR)	39.417 ↓	2.0	5,132,540 cps	5,132,540 cps
209Bi (STDR)	103.543 %	1.0 %	1,135,591 cps	1,135,591 cps
209Bi (KEDR)	110.507 %	2.7 %	1,176,596 cps	1,176,596 cps
238U (STDR)	40.743 ↓	0.3	11,104,148 cps	11,104,148 cps
238U (KEDR)	38.823	1.6	11,987,786 cps	11,987,786 cps

Turner Report Sample Summary

4/15/2021 12:14:00 PM
iCAP RQ ICP-MS



W. W. W. W.

Analysis index: 26
Analysis name: CCV
Analysis started at: 4/15/2021 12:10:30 PM

Category	Concentration average	Concentration RSD	Intensity average	Raw Intensity average
6Li (STDR)	90.827 %	0.3 %	97,657 cps	97,657 cps
9Be (STDR)	46.117 ppb	1.3 %	233,469 cps	233,469 cps
27Al (STDR)	92.166 ppb	0.2 %	2,284,254 cps	2,284,254 cps
45Sc (STDR)	83.137 %	0.9 %	239,704 cps	265,994 cps
45Sc (KEDR)	86.842 %	1.2 %	8,950 cps	8,950 cps
51V (STDR)	45.593 ppb	1.6 %	1,832,315 cps	1,875,129 cps
51V (KEDR)	46.112 ppb	1.1 %	273,121 cps	273,121 cps
55Mn (STDR)	46.819 ppb	1.6 %	2,758,149 cps	2,758,149 cps
55Mn (KEDR)	47.311 ppb	0.3 %	203,225 cps	203,225 cps
52Cr (STDR)	45.999 ppb	1.0 %	1,768,043 cps	1,768,081 cps
52Cr (KEDR)	46.363 ppb	1.6 %	408,280 cps	408,280 cps
59Co (STDR)	46.945 ppb	0.5 %	2,128,568 cps	2,128,568 cps
59Co (KEDR)	46.541 ppb	0.5 %	758,632 cps	758,632 cps
60Ni (STDR)	47.282 ppb	0.7 %	474,127 cps	474,127 cps
60Ni (KEDR)	46.751 ppb	1.2 %	209,136 cps	209,136 cps
63Cu (STDR)	47.002 ppb	0.9 %	1,169,444 cps	1,169,444 cps
63Cu (KEDR)	46.943 ppb	1.4 %	589,491 cps	589,491 cps
66Zn (STDR)	95.000 ppb	1.2 %	854,691 cps	854,691 cps
66Zn (KEDR)	94.633 ppb	0.3 %	233,708 cps	233,708 cps
74Ge (STDR)	82.474 %	0.1 %	483,053 cps	486,675 cps
74Ge (KEDR)	84.946 %	0.3 %	78,940 cps	78,940 cps
75As (STDR)	47.503 ppb	1.0 %	368,942 cps	361,724 cps
75As (KEDR)	47.631 ppb	0.5 %	56,259 cps	56,259 cps
82Se (STDR)	47.880 ppb	0.9 %	40,567 cps	40,937 cps
82Se (KEDR)	46.696 ppb	2.0 %	2,497 cps	2,497 cps
98Mo (STDR)	47.133 ppb	0.9 %	1,153,735 cps	1,153,737 cps
98Mo (KEDR)	46.636 ppb	1.1 %	676,324 cps	676,324 cps
107Ag (STDR)	43.843 ppb	0.7 %	2,086,802 cps	2,086,802 cps
107Ag (KEDR)	44.665 ppb	0.8 %	1,495,890 cps	1,495,890 cps
111Cd (STDR)	48.065 ppb	0.3 %	583,064 cps	585,261 cps
111Cd (KEDR)	47.068 ppb	0.3 %	281,279 cps	281,279 cps
115In (STDR)	84.091 %	0.7 %	720,704 cps	720,728 cps
115In (KEDR)	87.680 %	1.0 %	170,357 cps	170,357 cps
121Sb (STDR)	45.858 ppb	0.9 %	2,004,496 cps	2,004,498 cps
121Sb (KEDR)	48.045 ppb	0.3 %	631,377 cps	631,377 cps
137Ba (STDR)	47.204 ppb	1.0 %	788,714 cps	788,714 cps
137Ba (KEDR)	46.695 ppb	0.2 %	219,708 cps	219,708 cps
205Tl (STDR)	47.880 ppb	2.1 %	7,297,673 cps	7,297,673 cps
205Tl (KEDR)	47.286 ppb	1.8 %	7,348,061 cps	7,348,061 cps
208Pb (STDR)	45.457 ppb	1.4 %	9,498,325 cps	5,051,866 cps
208Pb (KEDR)	44.733 ppb	1.6 %	5,056,518 cps	5,056,518 cps
209Bi (STDR)	92.583 %	1.0 %	1,015,384 cps	1,015,384 cps
209Bi (KEDR)	95.809 %	2.2 %	1,020,101 cps	1,020,101 cps
238U (STDR)	44.609 ppb	2.3 %	10,869,492 cps	10,869,492 cps
238U (KEDR)	44.612 ppb	0.5 %	11,945,797 cps	11,945,797 cps

Analytical Standard Record

Turner Laboratories, Inc.

2101339

Description: ICP MS iCAP RQ Cal Standard #1	Expires: 02/14/2022
Standard Type: Calibration Standard	Prepared: 04/08/2021
Solvent: 2% HNO3 & 0.5% HCL	Prepared By: Crystal Ramirez
Final Volume (mls): 100	Department: ICP/MS
Vials: 1	Last Edit: 04/08/2021 19:09 by CR

All analytes at 1 ppb
 Made up as a 10x dilution of ICP MS iCAP RQ Cal Standard #2 (2101340)

Analyte	CAS Number	Concentration	Units
Manganese	7439-96-5	0.001	ug/mL
Antimony	7440-36-0	0.001	ug/mL
Arsenic	7440-38-2	0.001	ug/mL
Barium	7440-39-3	0.001	ug/mL
Beryllium	7440-41-7	0.001	ug/mL
Cadmium	7440-43-9	0.001	ug/mL
Chromium	7440-47-3	0.001	ug/mL
Cobalt	7440-48-4	0.001	ug/mL
Aluminum	7429-90-5	0.001	ug/mL
Lead	7439-92-1	0.001	ug/mL
Zinc	7440-66-6	0.001	ug/mL
Molybdenum	7439-98-7	0.001	ug/mL
Nickel	7440-02-0	0.001	ug/mL
Selenium	7782-49-2	0.001	ug/mL
Silver	7440-22-4	0.001	ug/mL
Thallium	7440-28-0	0.001	ug/mL
Uranium	7440-61-1	0.001	ug/mL
Vanadium	7440-62-2	0.001	ug/mL
Copper	7440-50-8	0.001	ug/mL

Lot #: 10117268-2
 Vendor: n/a

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2003633	ICP MS Calibration Stock Std QCS	08/21/2020	** Vendor **	02/14/2022	08/21/2020 15:11 by CR	0.005

Analytical Standard Record

Turner Laboratories, Inc.

2101340

Description: ICP MS iCAP RQ Cal Standard #2	Expires: 02/14/2022
Standard Type: Calibration Standard	Prepared: 04/08/2021
Solvent: 2% HNO3 & 0.5% HCL	Prepared By: Crystal Ramirez
Final Volume (mls): 100	Department: ICP/MS
Vials: 1	Last Edit: 04/08/2021 19:09 by CR

All analytes at 10 ppb
 Made up as a 10x dilution of ICP MS iCAP RQ Cal Standard #4 (2101342)

Analyte	CAS Number	Concentration	Units
Manganese	7439-96-5	0.01	ug/mL
Antimony	7440-36-0	0.01	ug/mL
Arsenic	7440-38-2	0.01	ug/mL
Barium	7440-39-3	0.01	ug/mL
Beryllium	7440-41-7	0.01	ug/mL
Cadmium	7440-43-9	0.01	ug/mL
Chromium	7440-47-3	0.01	ug/mL
Cobalt	7440-48-4	0.01	ug/mL
Aluminum	7429-90-5	0.01	ug/mL
Lead	7439-92-1	0.01	ug/mL
Zinc	7440-66-6	0.01	ug/mL
Molybdenum	7439-98-7	0.01	ug/mL
Nickel	7440-02-0	0.01	ug/mL
Selenium	7782-49-2	0.01	ug/mL
Silver	7440-22-4	0.01	ug/mL
Thallium	7440-28-0	0.01	ug/mL
Uranium	7440-61-1	0.01	ug/mL
Vanadium	7440-62-2	0.01	ug/mL
Copper	7440-50-8	0.01	ug/mL

Lot #: 10117268-2
 Vendor: n/a

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2003633	ICP MS Calibration Stock Std QCS	08/21/2020	** Vendor **	02/14/2022	08/21/2020 15:11 by CR	0.05

Analytical Standard Record

Turner Laboratories, Inc.

2101341

Description: ICP MS iCAP RQ Cal Standard #3	Expires: 02/14/2022
Standard Type: Calibration Standard	Prepared: 04/08/2021
Solvent: 2% HNO3 & 0.5% HCL	Prepared By: Crystal Ramirez
Final Volume (mls): 100	Department: ICP/MS
Vials: 1	Last Edit: 04/08/2021 19:07 by CR

All analytes at 50 ppb

Analyte	CAS Number	Concentration	Units
Manganese	7439-96-5	0.05	ug/mL
Antimony	7440-36-0	0.05	ug/mL
Arsenic	7440-38-2	0.05	ug/mL
Barium	7440-39-3	0.05	ug/mL
Beryllium	7440-41-7	0.05	ug/mL
Cadmium	7440-43-9	0.05	ug/mL
Chromium	7440-47-3	0.05	ug/mL
Cobalt	7440-48-4	0.05	ug/mL
Aluminum	7429-90-5	0.05	ug/mL
Lead	7439-92-1	0.05	ug/mL
Zinc	7440-66-6	0.05	ug/mL
Molybdenum	7439-98-7	0.05	ug/mL
Nickel	7440-02-0	0.05	ug/mL
Selenium	7782-49-2	0.05	ug/mL
Silver	7440-22-4	0.05	ug/mL
Thallium	7440-28-0	0.05	ug/mL
Uranium	7440-61-1	0.05	ug/mL
Vanadium	7440-62-2	0.05	ug/mL
Copper	7440-50-8	0.05	ug/mL

Lot #: 10117268-2

Vendor: n/a

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2003633	ICP MS Calibration Stock Std QCS	08/21/2020	** Vendor **	02/14/2022	08/21/2020 15:11 by CR	0.25

Analytical Standard Record

Turner Laboratories, Inc.

2101342

Description: ICP MS iCAP RQ Cal Standard #4
 Standard Type: Calibration Standard
 Solvent: 2% HNO3 & 0.5% HCL
 Final Volume (mls): 100
 Vials: 1

Expires: 02/14/2022
 Prepared: 04/08/2021
 Prepared By: Crystal Ramirez
 Department: ICP/MS
 Last Edit: 04/08/2021 19:08 by CR

All analytes at 100 ppb

Analyte	CAS Number	Concentration	Units
Manganese	7439-96-5	0.1	ug/mL
Antimony	7440-36-0	0.1	ug/mL
Arsenic	7440-38-2	0.1	ug/mL
Barium	7440-39-3	0.1	ug/mL
Beryllium	7440-41-7	0.1	ug/mL
Cadmium	7440-43-9	0.1	ug/mL
Chromium	7440-47-3	0.1	ug/mL
Cobalt	7440-48-4	0.1	ug/mL
Aluminum	7429-90-5	0.1	ug/mL
Lead	7439-92-1	0.1	ug/mL
Zinc	7440-66-6	0.1	ug/mL
Molybdenum	7439-98-7	0.1	ug/mL
Nickel	7440-02-0	0.1	ug/mL
Selenium	7782-49-2	0.1	ug/mL
Silver	7440-22-4	0.1	ug/mL
Thallium	7440-28-0	0.1	ug/mL
Uranium	7440-61-1	0.1	ug/mL
Vanadium	7440-62-2	0.1	ug/mL
Copper	7440-50-8	0.1	ug/mL

Lot #: 10117268-2

Vendor: n/a

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2003633	ICP MS Calibration Stock Std QCS	08/21/2020	** Vendor **	02/14/2022	08/21/2020 15:11 by CR	0.5

Analytical Standard Record

Turner Laboratories, Inc.

2101110

Description: ICP MS iCAP RQ Cal Standard #1 (1% HNO3)	Expires: 02/14/2022
Standard Type: Calibration Standard	Prepared: 03/25/2021
Solvent: 1% HNO3	Prepared By: Marissa Huff
Final Volume (mls): 100	Department: ICP/MS
Vials: 1	Last Edit: 03/25/2021 12:07 by MH

All analytes at 1 ppb
 Made up as a 10x dilution of ICP MS iCAP RQ Cal Standard #2 (2101109)

Analyte	CAS Number	Concentration	Units
Manganese	7439-96-5	0.001	ug/mL
Antimony	7440-36-0	0.001	ug/mL
Arsenic	7440-38-2	0.001	ug/mL
Barium	7440-39-3	0.001	ug/mL
Beryllium	7440-41-7	0.001	ug/mL
Cadmium	7440-43-9	0.001	ug/mL
Chromium	7440-47-3	0.001	ug/mL
Cobalt	7440-48-4	0.001	ug/mL
Aluminum	7429-90-5	0.001	ug/mL
Lead	7439-92-1	0.001	ug/mL
Zinc	7440-66-6	0.001	ug/mL
Molybdenum	7439-98-7	0.001	ug/mL
Nickel	7440-02-0	0.001	ug/mL
Selenium	7782-49-2	0.001	ug/mL
Silver	7440-22-4	0.001	ug/mL
Thallium	7440-28-0	0.001	ug/mL
Uranium	7440-61-1	0.001	ug/mL
Vanadium	7440-62-2	0.001	ug/mL
Copper	7440-50-8	0.001	ug/mL

Lot #: 10117268-2
 Vendor: n/a

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2003633	ICP MS Calibration Stock Std QCS	08/21/2020	** Vendor **	02/14/2022	08/21/2020 15:11 by CR	0.005

Analytical Standard Record

Turner Laboratories, Inc.

2101109

Description: ICP MS iCAP RQ Cal Standard #2 (1% HNO3)	Expires: 02/14/2022
Standard Type: Calibration Standard	Prepared: 03/25/2021
Solvent: 1% HNO3	Prepared By: Marissa Huff
Final Volume (mls): 100	Department: ICP/MS
Vials: 1	Last Edit: 03/25/2021 12:07 by MH

All analytes at 10 ppb
 Made up as a 10x dilution of ICP MS iCAP RQ Cal Standard #4 (2101107)

Analyte	CAS Number	Concentration	Units
Manganese	7439-96-5	0.01	ug/mL
Antimony	7440-36-0	0.01	ug/mL
Arsenic	7440-38-2	0.01	ug/mL
Barium	7440-39-3	0.01	ug/mL
Beryllium	7440-41-7	0.01	ug/mL
Cadmium	7440-43-9	0.01	ug/mL
Chromium	7440-47-3	0.01	ug/mL
Cobalt	7440-48-4	0.01	ug/mL
Aluminum	7429-90-5	0.01	ug/mL
Lead	7439-92-1	0.01	ug/mL
Zinc	7440-66-6	0.01	ug/mL
Molybdenum	7439-98-7	0.01	ug/mL
Nickel	7440-02-0	0.01	ug/mL
Selenium	7782-49-2	0.01	ug/mL
Silver	7440-22-4	0.01	ug/mL
Thallium	7440-28-0	0.01	ug/mL
Uranium	7440-61-1	0.01	ug/mL
Vanadium	7440-62-2	0.01	ug/mL
Copper	7440-50-8	0.01	ug/mL

Lot #: 10117268-2
 Vendor: n/a

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2003633	ICP MS Calibration Stock Std QCS	08/21/2020	** Vendor **	02/14/2022	08/21/2020 15:11 by CR	0.05

Analytical Standard Record

Turner Laboratories, Inc.

2101118

Description: ICP MS iCAP RQ Cal Standard #3 (1% HNO3)	Expires: 02/14/2022
Standard Type: Calibration Standard	Prepared: 03/25/2021
Solvent: 1% HNO3	Prepared By: Marissa Huff
Final Volume (mls): 100	Department: ICP/MS
Vials: 1	Last Edit: 03/25/2021 14:57 by MH

All analytes at 50 ppb

Analyte	CAS Number	Concentration	Units
Manganese	7439-96-5	0.05	ug/mL
Antimony	7440-36-0	0.05	ug/mL
Arsenic	7440-38-2	0.05	ug/mL
Barium	7440-39-3	0.05	ug/mL
Beryllium	7440-41-7	0.05	ug/mL
Cadmium	7440-43-9	0.05	ug/mL
Chromium	7440-47-3	0.05	ug/mL
Cobalt	7440-48-4	0.05	ug/mL
Aluminum	7429-90-5	0.05	ug/mL
Lead	7439-92-1	0.05	ug/mL
Zinc	7440-66-6	0.05	ug/mL
Molybdenum	7439-98-7	0.05	ug/mL
Nickel	7440-02-0	0.05	ug/mL
Selenium	7782-49-2	0.05	ug/mL
Silver	7440-22-4	0.05	ug/mL
Thallium	7440-28-0	0.05	ug/mL
Uranium	7440-61-1	0.05	ug/mL
Vanadium	7440-62-2	0.05	ug/mL
Copper	7440-50-8	0.05	ug/mL

Lot #: 10117268-2

Vendor: n/a

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2003633	ICP MS Calibration Stock Std QCS	08/21/2020	** Vendor **	02/14/2022	08/21/2020 15:11 by CR	0.25

Analytical Standard Record

Turner Laboratories, Inc.

2101107

Description: ICP MS iCAP RQ Cal Standard #4 (1% HNO3)	Expires: 02/14/2022
Standard Type: Calibration Standard	Prepared: 03/25/2021
Solvent: 1% HNO3	Prepared By: Marissa Huff
Final Volume (mls): 100	Department: ICP/MS
Vials: 1	Last Edit: 03/25/2021 12:05 by MH

All analytes at 100 ppb

Analyte	CAS Number	Concentration	Units
Manganese	7439-96-5	0.1	ug/mL
Antimony	7440-36-0	0.1	ug/mL
Arsenic	7440-38-2	0.1	ug/mL
Barium	7440-39-3	0.1	ug/mL
Beryllium	7440-41-7	0.1	ug/mL
Cadmium	7440-43-9	0.1	ug/mL
Chromium	7440-47-3	0.1	ug/mL
Cobalt	7440-48-4	0.1	ug/mL
Aluminum	7429-90-5	0.1	ug/mL
Lead	7439-92-1	0.1	ug/mL
Zinc	7440-66-6	0.1	ug/mL
Molybdenum	7439-98-7	0.1	ug/mL
Nickel	7440-02-0	0.1	ug/mL
Selenium	7782-49-2	0.1	ug/mL
Silver	7440-22-4	0.1	ug/mL
Thallium	7440-28-0	0.1	ug/mL
Uranium	7440-61-1	0.1	ug/mL
Vanadium	7440-62-2	0.1	ug/mL
Copper	7440-50-8	0.1	ug/mL

Lot #: 10117268-2
 Vendor: n/a

Parent Standards used in this standard:						
Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2003633	ICP MS Calibration Stock Std QCS	08/21/2020	** Vendor **	02/14/2022	08/21/2020 15:11 by CR	0.5

Analytical Standard Record

Turner Laboratories, Inc.

2100805

Description: ICP MS iCAP RQ PQL Check Standard	Expires: 02/14/2022
Standard Type: Other	Prepared: 03/04/2021
Solvent: 2% HNO3 & 0.5% HCL	Prepared By: Crystal Ramirez
Final Volume (mls): 50	Department: ICP/MS
Vials: 1	Last Edit: 03/04/2021 10:28 by CR

10 PPB Check Standard Solution

Analyte	CAS Number	Concentration	Units
Manganese	7439-96-5	0.01	ug/mL
Antimony	7440-36-0	0.01	ug/mL
Arsenic	7440-38-2	0.01	ug/mL
Barium	7440-39-3	0.01	ug/mL
Beryllium	7440-41-7	0.01	ug/mL
Cadmium	7440-43-9	0.01	ug/mL
Chromium	7440-47-3	0.01	ug/mL
Cobalt	7440-48-4	0.01	ug/mL
Aluminum	7429-90-5	0.01	ug/mL
Lead	7439-92-1	0.01	ug/mL
Zinc	7440-66-6	0.01	ug/mL
Molybdenum	7439-98-7	0.01	ug/mL
Nickel	7440-02-0	0.01	ug/mL
Selenium	7782-49-2	0.01	ug/mL
Silver	7440-22-4	0.01	ug/mL
Thallium	7440-28-0	0.01	ug/mL
Uranium	7440-61-1	0.01	ug/mL
Vanadium	7440-62-2	0.01	ug/mL
Copper	7440-50-8	0.01	ug/mL

Lot #: n/a
Vendor: CPI

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2003633	ICP MS Calibration Stock Std QCS	08/21/2020	** Vendor **	02/14/2022	08/21/2020 15:11 by CR	0.025

Analytical Standard Record

Turner Laboratories, Inc.

2003633

Description: ICP MS Calibration Stock Std QCS Expires: 02/14/2022
Standard Type: Calibration Standard Prepared: 08/21/2020
Solvent: 5% HNO3 + Tr Tart. Acid Prepared By: ** Vendor **
Final Volume (mls):100 Department: ICP/MS
Vials: 1 Last Edit: 08/21/2020 15:11 by CR

20 ppm of Al,As,Be,Cd,Co,Cr,Cu,Mn,Mo,Ni,Pb,Sb,Th,Tl,U,V,Zn,Ba,Ag,Se
P/N 4400-200710AM01

Analyte	CAS Number	Concentration	Units
Manganese	7439-96-5	20	ug/mL
Antimony	7440-36-0	20	ug/mL
Arsenic	7440-38-2	20	ug/mL
Barium	7440-39-3	20	ug/mL
Beryllium	7440-41-7	20	ug/mL
Cadmium	7440-43-9	20	ug/mL
Chromium	7440-47-3	20	ug/mL
Cobalt	7440-48-4	20	ug/mL
Aluminum	7429-90-5	20	ug/mL
Lead	7439-92-1	20	ug/mL
Zinc	7440-66-6	20	ug/mL
Molybdenum	7439-98-7	20	ug/mL
Nickel	7440-02-0	20	ug/mL
Selenium	7782-49-2	20	ug/mL
Silver	7440-22-4	20	ug/mL
Thallium	7440-28-0	20	ug/mL
Uranium	7440-61-1	20	ug/mL
Vanadium	7440-62-2	20	ug/mL
Copper	7440-50-8	20	ug/mL

Lot #: 10117268-2

Vendor: CPI

Analytical Standard Record

Turner Laboratories, Inc.

2101442

Description: ICP MS iCAP RQ ICV (50 ppb, 1% HNO3)	Expires: 06/30/2021
Standard Type: Other	Prepared: 04/15/2021
Solvent: 1% HNO3	Prepared By: Crystal Ramirez
Final Volume (mls): 100	Department: ICP/MS
Vials: 1	Last Edit: 04/15/2021 14:07 by CR

All analytes at 50 ppb except Al and Zn at 100 ppb

Analyte	CAS Number	Concentration	Units
Manganese	7439-96-5	0.05	ug/mL
Antimony	7440-36-0	0.05	ug/mL
Arsenic	7440-38-2	0.05	ug/mL
Barium	7440-39-3	0.05	ug/mL
Beryllium	7440-41-7	0.05	ug/mL
Cadmium	7440-43-9	0.05	ug/mL
Chromium	7440-47-3	0.05	ug/mL
Cobalt	7440-48-4	0.05	ug/mL
Aluminum	7429-90-5	0.1	ug/mL
Lead	7439-92-1	0.05	ug/mL
Zinc	7440-66-6	0.1	ug/mL
Molybdenum	7439-98-7	0.05	ug/mL
Nickel	7440-02-0	0.05	ug/mL
Selenium	7782-49-2	0.05	ug/mL
Silver	7440-22-4	0.05	ug/mL
Thallium	7440-28-0	0.05	ug/mL
Uranium	7440-61-1	0.05	ug/mL
Vanadium	7440-62-2	0.05	ug/mL
Copper	7440-50-8	0.05	ug/mL

Lot #: CL51-013CRY1

Vendor: n/a

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1905526	ICP MS Calibration Stock Std	12/31/2019	** Vendor **	06/30/2021	08/06/2020 08:26 by MH	0.25
2003736	ICP MS Standard C	08/31/2020	Crystal Ramirez	12/31/2021	01/19/2021 11:43 by MH	0.2

Analytical Standard Record

Turner Laboratories, Inc.

2101402

Description:	ICP MS iCAP RQ ICV (50 ppb)	Expires:	06/30/2021
Standard Type:	Other	Prepared:	04/13/2021
Solvent:	2% HNO3 & 0.5% HCL	Prepared By:	Crystal Ramirez
Final Volume (mls):	100	Department:	ICP/MS
Vials:	1	Last Edit:	04/13/2021 16:19 by CR

All analytes at 50 ppb except Al and Zn at 100 ppb

Analyte	CAS Number	Concentration	Units
Manganese	7439-96-5	0.05	ug/mL
Antimony	7440-36-0	0.05	ug/mL
Arsenic	7440-38-2	0.05	ug/mL
Barium	7440-39-3	0.05	ug/mL
Beryllium	7440-41-7	0.05	ug/mL
Cadmium	7440-43-9	0.05	ug/mL
Chromium	7440-47-3	0.05	ug/mL
Cobalt	7440-48-4	0.05	ug/mL
Aluminum	7429-90-5	0.1	ug/mL
Lead	7439-92-1	0.05	ug/mL
Zinc	7440-66-6	0.1	ug/mL
Molybdenum	7439-98-7	0.05	ug/mL
Nickel	7440-02-0	0.05	ug/mL
Selenium	7782-49-2	0.05	ug/mL
Silver	7440-22-4	0.05	ug/mL
Thallium	7440-28-0	0.05	ug/mL
Uranium	7440-61-1	0.05	ug/mL
Vanadium	7440-62-2	0.05	ug/mL
Copper	7440-50-8	0.05	ug/mL

Lot #: CL51-013CRY1

Vendor: n/a

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1905526	ICP MS Calibration Stock Std	12/31/2019	** Vendor **	06/30/2021	08/06/2020 08:26 by MH	0.25
2003736	ICP MS Standard C	08/31/2020	Crystal Ramirez	12/31/2021	01/19/2021 11:43 by MH	0.2

Analytical Standard Record

Turner Laboratories, Inc.

1905526

Description:	ICP MS Calibration Stock Std	Expires:	06/30/2021
Standard Type:	Calibration Standard	Prepared:	12/31/2019
Solvent:	5% HNO3 + Tr Tart. Acid	Prepared By:	** Vendor **
Final Volume (mls):	125	Department:	ICP/MS
Vials:	1	Last Edit:	08/06/2020 08:26 by MH

20 ppm of Al,As,Be,Cd,Co,Cr,Cu,Mn,Mo,Ni,Pb,Sb,Th,Tl,U,V,Zn,Ba,Ag,Se
P/N N9303816

Analyte	CAS Number	Concentration	Units
Manganese	7439-96-5	20	ug/mL
Antimony	7440-36-0	20	ug/mL
Arsenic	7440-38-2	20	ug/mL
Barium	7440-39-3	20	ug/mL
Beryllium	7440-41-7	20	ug/mL
Cadmium	7440-43-9	20	ug/mL
Chromium	7440-47-3	20	ug/mL
Cobalt	7440-48-4	20	ug/mL
Aluminum	7429-90-5	20	ug/mL
Lead	7439-92-1	20	ug/mL
Zinc	7440-66-6	20	ug/mL
Molybdenum	7439-98-7	20	ug/mL
Nickel	7440-02-0	20	ug/mL
Selenium	7782-49-2	20	ug/mL
Silver	7440-22-4	20	ug/mL
Thallium	7440-28-0	20	ug/mL
Uranium	7440-61-1	20	ug/mL
Vanadium	7440-62-2	20	ug/mL
Copper	7440-50-8	20	ug/mL

Lot #: CL51-013CRY1
Vendor: PERKIN ELMER

Analytical Standard Record

Turner Laboratories, Inc.

2003736

Description:	ICP MS Standard C	Expires:	12/31/2021
Standard Type:	Analyte Spike	Prepared:	08/31/2020
Solvent:	2% HNO3	Prepared By:	Crystal Ramirez
Final Volume (mls):	50	Department:	ICP/MS
Vials:	1	Last Edit:	01/19/2021 11:43 by MH

Al and Zn at 25 ppm

Analyte	CAS Number	Concentration	Units
Zinc	7440-66-6	25	ug/mL
Aluminum	7429-90-5	25	ug/mL

Lot #: 2005805/2007052

Vendor: CPI

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2002709	ICP 1000 ppm Aluminum Std	06/24/2020	** Vendor **	12/31/2021	06/24/2020 14:34 by MH	1.25
2003305	ICP 1000 ppm Zinc Standard	07/30/2020	** Vendor **	01/31/2022	01/19/2021 11:43 by MH	1.25

Analytical Standard Record

Turner Laboratories, Inc.

2002709

Description:	ICP 1000 ppm Aluminum Std	Expires:	12/31/2021
Standard Type:	Calibration Standard	Prepared:	06/24/2020
Solvent:	2% HNO3	Prepared By:	** Vendor **
Final Volume (mls):	100	Department:	ICP
Vials:	1	Last Edit:	06/24/2020 14:34 by MH

1000 ppm Aluminum Std
P/N S1-Al-1000xVol

Analyte	CAS Number	Concentration	Units
Aluminum	7429-90-5	1000	ug/mL

Lot #: 2005805-100
Vendor: ESI

Analytical Standard Record

Turner Laboratories, Inc.

2003305

Description:	ICP 1000 ppm Zinc Standard	Expires:	01/31/2022
Standard Type:	Calibration Standard	Prepared:	07/30/2020
Solvent:	2% HNO3	Prepared By:	** Vendor **
Final Volume (mls):	100	Department:	ICP
Vials:	1	Last Edit:	01/19/2021 11:43 by MH

P/N S1-Zn-1000xVol

Analyte	CAS Number	Concentration	Units
Zinc	7440-66-6	1000	ug/mL

Lot #: 2007052-100
Vendor: ESI

Analytical Standard Record

Turner Laboratories, Inc.

2101403

Description: ICP MS 25 PPB Inline Internal Standard Lithium 6 Expires: 02/27/2022
Standard Type: Internal Standard Prepared: 04/13/2021
Solvent: 2% HNO3 & 0.5 HCL Prepared By: Crystal Ramirez
Final Volume (mls):200 Department: ICP/MS
Vials: 1 Last Edit: 04/13/2021 17:54 by CR

25 PPB Li,Sc,Bi,In,Tb,Y,Rh ,50 PPM Ge, Note: Li 6

Analyte	CAS Number	Concentration	Units
Yttrium		0.025	ug/mL
Terbium		0.025	ug/mL
Scandium		0.025	ug/mL
Rhodium		0.025	ug/mL
Lithium	7439-93-2	0.025	ug/mL
Indium		0.025	ug/mL
Germanium		0.125	ug/mL
Bismuth	7440-69-9	0.025	ug/mL

Lot #: 10068904-6

Vendor: CPI

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2003823	ICP MS Internal Standard Lithium 6	09/02/2020	** Vendor **	02/27/2022	09/02/2020 15:25 by CR	0.5

Analytical Standard Record

Turner Laboratories, Inc.

2101443

Description:	ICP MS 25ppb Inline Int Std Li 6 (1% HNO3)	Expires:	02/27/2022
Standard Type:	Internal Standard	Prepared:	04/15/2021
Solvent:	1% HNO3	Prepared By:	Crystal Ramirez
Final Volume (mls):	200	Department:	ICP/MS
Vials:	1	Last Edit:	04/15/2021 14:08 by CR

25 PPB Li,Sc,Bi,In,Tb,Y,Rh ,50 PPM Ge, Note: Li 6

Analyte	CAS Number	Concentration	Units
Yttrium		0.025	ug/mL
Terbium		0.025	ug/mL
Scandium		0.025	ug/mL
Rhodium		0.025	ug/mL
Lithium	7439-93-2	0.025	ug/mL
Indium		0.025	ug/mL
Germanium		0.125	ug/mL
Bismuth	7440-69-9	0.025	ug/mL

Lot #: 10068904-6
Vendor: CPI

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2003823	ICP MS Internal Standard Lithium 6	09/02/2020	** Vendor **	02/27/2022	09/02/2020 15:25 by CR	0.5

Analytical Standard Record

Turner Laboratories, Inc.

2003823

Description:	ICP MS Internal Standard Lithium 6	Expires:	02/27/2022
Standard Type:	Internal Standard	Prepared:	09/02/2020
Solvent:	2% HNO3 + tr HCl	Prepared By:	** Vendor **
Final Volume (mls):	250	Department:	ICP/MS
Vials:	1	Last Edit:	09/02/2020 15:25 by CR

10 ppm Li,Sc,Bi,In,Tb,Y,Rh, 50 ppm Ge
Note: Li 6
P/N 4400-101019RH01

Analyte	CAS Number	Concentration	Units
Yttrium		10	ug/mL
Terbium		10	ug/mL
Scandium		10	ug/mL
Rhodium		10	ug/mL
Lithium	7439-93-2	10	ug/mL
Indium		10	ug/mL
Germanium		50	ug/mL
Bismuth	7440-69-9	10	ug/mL

Lot #: 10068904-6
Vendor: CPI

Analytical Standard Record

Turner Laboratories, Inc.

2100198

Description: ICP MS Cal Stock w/ Al & Zn (Virtual)
 Standard Type: Analyte Spike
 Solvent: 1% HNO3 + Trace HF
 Final Volume (mls): 1
 Vials: 1

Expires: 01/18/2022
 Prepared: 01/18/2021
 Prepared By: Marissa Huff
 Department: ICP/MS
 Last Edit: 04/02/2021 11:22 by CR

20 ppm of Al,As,Be,Cd,Co,Cr,Cu,Mn,Mo,Ni,Pb,Sb,Th,Tl,U,V,Zn,Ba,Ag,Se (2003633) Plus added Al and Zn from Std # 2003736
*# originally had STD 1205526
 corrected to the one being used on 4/2/21*

Analyte	CAS Number	Concentration	Units
Manganese	7439-96-5	20	ug/mL
Antimony	7440-36-0	20	ug/mL
Arsenic	7440-38-2	20	ug/mL
Barium	7440-39-3	20	ug/mL
Beryllium	7440-41-7	20	ug/mL
Cadmium	7440-43-9	20	ug/mL
Chromium	7440-47-3	20	ug/mL
Cobalt	7440-48-4	20	ug/mL
Aluminum	7429-90-5	40	ug/mL
Lead	7439-92-1	20	ug/mL
Zinc	7440-66-6	40	ug/mL
Molybdenum	7439-98-7	20	ug/mL
Nickel	7440-02-0	20	ug/mL
Selenium	7782-49-2	20	ug/mL
Silver	7440-22-4	20	ug/mL
Thallium	7440-28-0	20	ug/mL
Uranium	7440-61-1	20	ug/mL
Vanadium	7440-62-2	20	ug/mL
Copper	7440-50-8	20	ug/mL

Lot #: N/A
 Vendor: PERKIN ELMER

Analytical Standard Record

Turner Laboratories, Inc.

2003291

Description:	1:1 Ultrex HCl for 200.8 digestions	Expires:	07/30/2021
Standard Type:	Reagent	Prepared:	07/30/2020
Solvent:	1:1 HCl	Prepared By:	Ron DiCenzo
Final Volume (mls):	50	Department:	ICP/MS
Vials:	1	Last Edit:	07/30/2020 10:09 by RAD

1:1 HCl for 200.8 (ELAN) digestions Dilution of 2000589

Analyte	CAS Number	Concentration	Units
			ug/mL

Lot #: SHBI1117
Vendor: Sigma-Aldrich

Analytical Standard Record

Turner Laboratories, Inc.

2003512

Description:	1:1 Trace Metal Grade HNO ₃ for 200.8 digestions	Expires:	08/13/2021
Standard Type:	Reagent	Prepared:	08/13/2020
Solvent:	1:1 HNO ₃	Prepared By:	Ron DiCenzo
Final Volume (mls):	50	Department:	ICP/MS
Vials:	1	Last Edit:	08/13/2020 11:11 by RAD

1 to 1 Omnitrace Ultra Nitric Acid for 200.8 (ELAN) digestions Dilution of 2002386

Analyte	CAS Number	Concentration	Units
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ug/mL

Lot #: 1118120
Vendor: Fisher

Analytical Standard Record

Turner Laboratories, Inc.

2100676

Description:	Nitric Acid	Expires:	07/09/2022
Standard Type:	Reagent	Prepared:	02/23/2021
Solvent:	N/A	Prepared By:	** Vendor **
Final Volume (mls):	500	Department:	ICP/MS
Vials:	2	Last Edit:	02/23/2021 10:33 by CR

TraceMetal Grade
P/N A509-P500

Analyte	CAS Number	Concentration	Units
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ug/mL

Lot #: 1120060
Vendor: Fisher

Analytical Standard Record

Turner Laboratories, Inc.

2003878

Description:	ICP MS Omnitrace Ultra Pure HCL	Expires:	09/04/2025
Standard Type:	Reagent	Prepared:	09/04/2020
Solvent:	HCl	Prepared By:	** Vendor **
Final Volume (mls):	500	Department:	ICP/MS
Vials:	1	Last Edit:	09/04/2020 14:13 by MH

Ultra pure HCl for ICP-MS -- P/N 339253-500ML

Analyte	CAS Number	Concentration	Units
			ug/mL

Lot #: SHBL1117
Vendor: Sigma-Aldrich

Analytical Standard Record

Turner Laboratories, Inc.

2003408

Description:	Nitric Acid Trace Metal	Expires:	08/06/2021
Standard Type:	Reagent	Prepared:	08/06/2020
Solvent:	N/A	Prepared By:	** Vendor **
Final Volume (mls):	2500	Department:	ICP
Vials:	4	Last Edit:	08/06/2020 08:06 by JG

Received in lab 4) 2.5 L
P/N N-2802

Analyte	CAS Number	Concentration	Units
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ug/mL

Lot #: H2719
Vendor: ACP

TURNER LABORATORIES, INC.

DATA VALIDATION REPORT LEVEL IV

Work Order No.

21D0200-01
2104174-MS1
2104174-MSD1
2104175-MS1
2104175-MSD1

Dissolved & Total Mercury EPA 245.1

Analysis Date – April 14, 2021

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Date Prepared: 04/14/2021 10:05:00AM

Prep Batch: 2104174

Prep Code: E 245.1_DISS

Technician: LB

Sample ID	Sample ID and Source	Matrix	pH	Initial Volume (mL)	Spike 1 Added /uL	Final Vol (mL)	Spike 2 Added /uL	Final Vol (mL)	Comments
2104174-BLK Blank		Drinking Water		50	/	/		50	
2104174-BS1 LCS	LCS	Drinking Water		50	2100889/250	/		50	
2104174-BSD LCS Dup	LCS Dup	Drinking Water		50	2100889/250	/		50	
2104174-MS1 Matrix Spike [21D0342-01]	Matrix Spike [21D0342-01]	Drinking Water		50	2100889/250	/		50	
2104174-MSD Matrix Spike Dup [21D0342-01]	Matrix Spike Dup [21D0342-01]	Drinking Water		50	2100889/250	/		50	
21D0148-02 BW-1-20210405	BW-1-20210405	Drinking Water		50				50	Report samples/MB to MDL
21D0148-07 TW-542020-20210405	TW-542020-20210405	Drinking Water		50				50	Report samples/MB to MDL
21D0185-01 Tribal Herd DW62 Well Id 263	Tribal Herd DW62 Well Id 263	Drinking Water		50				50	
21D0200-01 MW-9-20210407	MW-9-20210407	Drinking Water		50				50	Report samples/MB to MDL
21D0248-01 PLS	PLS	Non-Potable Water		50				50	
21D0248-02 RAFF	RAFF	Non-Potable Water		50				50	
21D0250-01 Durham	Durham	Drinking Water		50				50	
21D0250-02 Hill	Hill	Drinking Water		50				50	
21D0250-03 Saddle	Saddle	Drinking Water		50				50	
21D0342-01 Range Well E1 Well Id #606	Range Well E1 Well Id #606	Drinking Water		50				50	

Digested per 245.1

Number	Reagent Name
2005234	Sulfuric Acid
2100577	Potassium Persulfate Solution for digestions
2100816	Nitric Acid Trace Metal
2101145	Hydroxylamine Sulfate/NaCl Solution
2101394	Potassium Permanganate Solution

Spike ID	Spike Name
2100889	Mercury Calib./CS/LCSD/MS/MSD Standard
	1000ppb

Number	Surrogate Name

Analysis: Mercury, Dissolved

Date Prepared: 04/14/2021 10:05:00AM

Prep Batch: 2104175

Prep Code: E 245.1

Technician: LB

Sample ID	Sample ID and Source Sample	Matrix	pH	Initial Volume (mL)	Spike 1 Added /uL	Spike 2 Added /uL	Final Vol (mL)	Comments
2104175-BLK Blank		Drinking Water		50	/	/	50	
2104175-BS1 LCS		Drinking Water		50	2100889/250	/	50	
2104175-BSD LCS Dup		Drinking Water		50	2100889/250	/	50	
2104175-MRL MRL Check		Drinking Water		50	2100889/50	/	50	
2104175-MS1 Matrix Spike [21D0307-01]		Drinking Water		50	2100889/250	/	50	
2104175-MS2 Matrix Spike [21D0307-01]		Drinking Water		50	2100889/250	/	50	
2104175-MSD Matrix Spike Dup [21D0307-01]		Drinking Water		50	2100889/250	/	50	
21D0007-01	Location 8 Composite	Non-Potable Water		50			50	
21D0007-03	Location 9 Composite	Non-Potable Water		50			50	
21D0115-01	Discharge	Non-Potable Water		50			50	
21D0148-02	BW-1-20210405	Drinking Water		50			50	Report samples/MB to MDL
21D0148-07	TW-542020-20210405	Drinking Water		50			50	Report samples/MB to MDL
21D0200-01	MW-9-20210407	Drinking Water		50			50	Report samples/MB to MDL
21D0217-01	500 S 3rd Ave	Drinking Water		50			50	
21D0256-01	Effluent	Non-Potable Water		50			50	
21D0275-01	Handsink	Drinking Water		50			50	
21D0307-01	POC #1	Drinking Water		50			50	

Digested per 245.1

Number	Reagent Name
2005234	Sulfuric Acid
2100577	Potassium Persulfate Solution for digestions
2100816	Nitric Acid Trace Metal
2101145	Hydroxylamine Sulfate/NaCl Solution
2101394	Potassium Permanganate Solution

Spike ID	Spike Name
2100889	Mercury Calib/LCS/LCSD/MS/MSD Standard
	1000ppb

Number	Surrogate Name

Analysis: Mercury, Total

Analytical Sequence

Method : Hg Main Method

Seq.	Loc.	Sample ID
1	1	Blank
2	2	0.1 PPB 2101234
3	3	1.0 PPB 2101235
4	4	2.0 PPB 2101236
5	5	5.0 PPB 2101237
6	6	10.0 PPB 2101238
7	1	ICB
8	7	ICV 2101240
9	8	QCS 2101239
10	9	2104175-MRL1
11	10	2104175-BLK1
12	11	2104175-BS1
13	12	2104175-BSD1
14	13	21D0307-01
15	14	2104175-MS1
16	15	2104175-MSD1
17	16	21D0007-01
18	17	21D0007-03
19	18	21D0115-01
20	19	21D0148-02
21	20	21D0148-07
22	21	21D0200-01
23	22	21D0217-01
24	23	21D0256-01
25	24	21D0275-01
26	7	CCV 2100938
27	1	CCB
28	25	2104174-BLK1
29	26	2104174-BS1
30	27	2104174-BSD1
31	28	21D0342-01
32	29	2104174-MS1
33	30	2104174-MSD1
34	31	21D0148-02
35	32	21D0148-07
36	33	21D0185-01
37	34	21D0200-01
38	35	21D0248-01
39	36	21D0248-02
40	37	21D0250-01
41	38	21D0250-02
42	39	21D0250-03
43	7	CCV 2100938
44	1	CCB

LSB
4/14/21

4/14/2021

Analysis Begun

Logged In Analyst: HGA Technique: AA FIMS-MHS
Spectrometer Model: FIMS-100, S/N B050-9550 Autosampler Model: AS-91

Sample Information File: C:\data-AA\HGA\Sample Information\210414_1.sif
Batch ID:
Results Data Set: 210414_1
Results Library: C:\data-AA\HGA\Results\Results.mdb

Handwritten signature and date 4/14/21

Method Loaded
Method Name: Hg Main Method Method Last Saved: 4/2/2021 1:36:26 PM
Method Description: Hg Main Method

Sequence No.: 45 Autosampler Location:
Sample ID: Manual FIAS Cycle Date Collected: 4/14/2021 2:29:10 PM
Analyst: Data Type: Original

Replicate Data: Manual FIAS Cycle

Table with 8 columns: Repl #, SampleConc, StndConc, BlnkCorr, Peak Area, Peak Height, Time, Peak Stored. Row 1: 1, ug/L, [0.00], 0.0002, 0.0004, 0.0002, 14:30:03, Yes

Analysis Begun

Logged In Analyst: HGA Technique: AA FIMS-MHS
Spectrometer Model: FIMS-100, S/N B050-9550 Autosampler Model: AS-91

Sample Information File: C:\data-AA\HGA\Sample Information\210414_1.sif
Batch ID:
Results Data Set: 210414_1
Results Library: C:\data-AA\HGA\Results\Results.mdb

Sequence No.: 1 Autosampler Location: 1
Sample ID: Blank Date Collected: 4/14/2021 2:30:59 PM
Analyst: Data Type: Original

Replicate Data: Blank

Table with 8 columns: Repl #, SampleConc, StndConc, BlnkCorr, Peak Area, Peak Height, Time, Peak Stored. Rows 1-2: 1, 2, [0.00], 0.0004, 0.0005, 0.0003, 14:31:57, 14:32:30, Yes, Yes

Mean: [0.00] 0.0003
SD: 0.00 0.0000
%RSD: 0.00 11.52

Auto-zero performed.

Sequence No.: 2 Autosampler Location: 2
Sample ID: 0.1 PPB 2101234 Date Collected: 4/14/2021 2:33:27 PM
Analyst: Data Type: Original

Replicate Data: 0.1 PPB 2101234

Table with 8 columns: Repl #, SampleConc, StndConc, BlnkCorr, Peak Area, Peak Height, Time, Peak Stored. Rows 1-3: 1, 2, 3, [0.1], 0.0002, 0.0004, 0.0003, 0.0009, 0.0007, 14:34:27, 14:35:00, 14:35:33, Yes, Yes, Yes

Mean: [0.1] 0.0003
SD: 0.0 0.0001
%RSD: 0.0 27.50

Standard number 1 applied. [0.1]

Correlation Coef.: 1.000000 Slope: 0.00321 Intercept: 0.00000

Sequence No.: 3 Autosampler Location: 3
Sample ID: 1.0 PPB 2101235 Date Collected: 4/14/2021 2:35:58 PM
Analyst: Data Type: Original

Replicate Data: 1.0 PPB 2101235

Table with 8 columns: Repl #, SampleConc ug/L, StndConc ug/L, BlnkCorr Signal, Peak Area, Peak Height, Time, Peak Stored. Contains 3 replicate rows and summary statistics (Mean, SD, %RSD).

Handwritten signature and date: 4/14/21

Standard number 2 applied. [1.0]
Correlation Coef.: 0.999991 Slope: 0.00307 Intercept: 0.00001

Sequence No.: 4 Autosampler Location: 4
Sample ID: 2.0 PPB 2101236 Date Collected: 4/14/2021 2:38:44 PM
Analyst: Data Type: Original

Replicate Data: 2.0 PPB 2101236

Table with 8 columns: Repl #, SampleConc ug/L, StndConc ug/L, BlnkCorr Signal, Peak Area, Peak Height, Time, Peak Stored. Contains 3 replicate rows and summary statistics (Mean, SD, %RSD).

Standard number 3 applied. [2.0]
Correlation Coef.: 0.998267 Slope: 0.00344 Intercept: -0.00008

Sequence No.: 5 Autosampler Location: 5
Sample ID: 5.0 PPB 2101237 Date Collected: 4/14/2021 2:41:31 PM
Analyst: Data Type: Original

Replicate Data: 5.0 PPB 2101237

Table with 8 columns: Repl #, SampleConc ug/L, StndConc ug/L, BlnkCorr Signal, Peak Area, Peak Height, Time, Peak Stored. Contains 3 replicate rows and summary statistics (Mean, SD, %RSD).

Standard number 4 applied. [5.0]
Correlation Coef.: 0.999278 Slope: 0.00371 Intercept: -0.00025

Sequence No.: 6 Autosampler Location: 6
Sample ID: 10.0 PPB 2101238 Date Collected: 4/14/2021 2:44:20 PM
Analyst: Data Type: Original

Replicate Data: 10.0 PPB 2101238

Table with 8 columns: Repl #, SampleConc ug/L, StndConc ug/L, BlnkCorr Signal, Peak Area, Peak Height, Time, Peak Stored. Contains 3 replicate rows and summary statistics (Mean, SD, %RSD).

Standard number 5 applied. [10.0]

Correlation Coef.: 0.999799 Slope: 0.00378 Intercept: -0.00033

Calibration data for Hg 253.7

Equation: Linear, Calculated Intercept

ID	Mean Signal (Abs)	Entered Conc. ug/L	Calculated Conc. ug/L	Standard Deviation	%RSD
Blank	0.0000	0	0.088	0.00	11.5
0.1 PPB 2101234	0.0003	0.1	0.173	0.00	27.5
1.0 PPB 2101235	0.0031	1.0	0.903	0.00	2.0
2.0 PPB 2101236	0.0069	2.0	1.923	0.00	2.0
5.0 PPB 2101237	0.0185	5.0	4.978	0.00	1.0
10.0 PPB 2101238	0.0376	10.0	10.036	0.00	0.4

Correlation Coef.: 0.999799 Slope: 0.00378 Intercept: -0.00033

Handwritten signature

Sequence No.: 7

Autosampler Location: 1

Sample ID: ICB

Date Collected: 4/14/2021 2:47:10 PM

Analyst:

Data Type: Original

Replicate Data: ICB

Repl #	SampleConc ug/L	StndConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.095	0.095	0.0000	-0.0001	0.0004	14:48:08	Yes
2	0.096	0.096	0.0000	-0.0004	0.0004	14:48:41	Yes
3	0.067	0.067	-0.0001	0.0001	0.0003	14:49:14	Yes
Mean:	0.086	0.086	-0.0000				
SD:	0.017	0.017	0.0001				
%RSD:	19.49	19.49	839.97				

QC value within limits for Hg 253.7 Recovery = Not calculated

All analyte(s) passed QC.

Sequence No.: 8

Autosampler Location: 7

Sample ID: ICV 2101240

Date Collected: 4/14/2021 2:49:38 PM

Analyst:

Data Type: Original

Replicate Data: ICV 2101240

Repl #	SampleConc ug/L	StndConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	6.982	6.982	0.0261	0.0703	0.0264	14:50:39	Yes
2	7.001	7.001	0.0261	0.0718	0.0265	14:51:12	Yes
3	7.017	7.017	0.0262	0.0720	0.0265	14:51:45	Yes
Mean:	7.000	7.000	0.0261				
SD:	0.017	0.017	0.0001				
%RSD:	0.250	0.250	0.25				

QC value less than the lower limit for Hg 253.7 Recovery = 93.33%

Analysis Begun

Logged In Analyst: HGA

Technique: AA FIMS-MHS

Spectrometer Model: FIMS-100, S/N B050-9550

Autosampler Model: AS-91

Sample Information File: C:\data-AA\HGA\Sample Information\210414_1.sif

Batch ID:

Results Data Set: 210414_1

Results Library: C:\data-AA\HGA\Results\Results.mdb

Sequence No.: 8

Autosampler Location: 7

Sample ID: ICV 2101240

Date Collected: 4/14/2021 3:14:00 PM

Analyst:

Data Type: Original

Replicate Data: ICV 2101240

Repl #	SampleConc ug/L	StndConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	7.763	7.763	0.0290	0.0788	0.0294	15:15:01	Yes

2	7.696	7.696	0.0287	0.0789	0.0291	15:15:34	Yes
3	7.615	7.615	0.0284	0.0766	0.0288	15:16:07	Yes
Mean:	7.691	7.691	0.0287				
SD:	0.074	0.074	0.0003				
%RSD:	0.962	0.962	0.97				

QC value within limits for Hg 253.7 Recovery = 102.55%

All analyte(s) passed QC.

Sequence No.: 9
 Sample ID: QCS 2101239
 Analyst:

Autosampler Location: 8
 Date Collected: 4/14/2021 3:16:50 PM
 Data Type: Original

Replicate Data: QCS 2101239

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	7.648	7.648	0.0286	0.0772	0.0289	15:17:51	Yes
2	7.546	7.546	0.0282	0.0759	0.0285	15:18:24	Yes
3	7.644	7.644	0.0286	0.0763	0.0289	15:18:58	Yes
Mean:	7.612	7.612	0.0284				
SD:	0.057	0.057	0.0002				
%RSD:	0.754	0.754	0.76				

QC value within limits for Hg 253.7 Recovery = 101.50%

All analyte(s) passed QC.
User canceled analysis.

Handwritten signature and date: 4/14/21

Analysis Begun

Logged In Analyst: HGA
 Spectrometer Model: FIMS-100, S/N B050-9550

Technique: AA FIMS-MHS
 Autosampler Model: AS-91

Sample Information File: C:\data-AA\HGA\Sample Information\210414_1.sif
 Batch ID:
 Results Data Set: 210414_1
 Results Library: C:\data-AA\HGA\Results\Results.mdb

Sequence No.: 10
 Sample ID: 2104175-MRL1
 Analyst: LB

Autosampler Location: 9
 Date Collected: 4/14/2021 3:19:35 PM
 Data Type: Original

Replicate Data: 2104175-MRL1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	1.241	1.241	0.0044	0.0120	0.0047	15:20:33	Yes
2	1.233	1.233	0.0043	0.0120	0.0047	15:21:06	Yes
3	1.169	1.169	0.0041	0.0115	0.0044	15:21:39	Yes
Mean:	1.214	1.214	0.0043				
SD:	0.039	0.039	0.0001				
%RSD:	3.231	3.231	3.48				

Sequence No.: 11
 Sample ID: 2104175-BLK1
 Analyst: LB

Autosampler Location: 10
 Date Collected: 4/14/2021 3:22:18 PM
 Data Type: Original

Replicate Data: 2104175-BLK1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.106	0.106	0.0001	-0.0003	0.0004	15:23:16	Yes
2	0.149	0.149	0.0002	-0.0005	0.0006	15:23:49	Yes
3	0.191	0.191	0.0004	0.0004	0.0007	15:24:22	Yes
Mean:	0.149	0.149	0.0002				
SD:	0.042	0.042	0.0002				
%RSD:	28.53	28.53	70.28				

Sequence No.: 12
 Autosampler Location: 11

Sample ID: 2104175-BS1
Analyst: LB

Date Collected: 4/14/2021 3:24:46 PM
Data Type: Original

Replicate Data: 2104175-BS1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.430	5.430	0.0202	0.0524	0.0205	15:25:45	Yes
2	5.513	5.513	0.0205	0.0538	0.0209	15:26:18	Yes
3	5.473	5.473	0.0203	0.0544	0.0207	15:26:51	Yes

Matrix Recovery Check: 2104175-BS1

Analyte	Expected Conc.	Measured Conc.	Std. Dev.	Units	Recovery (%)
Hg 253.7	5.149	5.472	0.042	ug/L	106.5
Mean:	5.472	5.472	0.0203		
SD:	0.042	0.042	0.0002		
%RSD:	0.765	0.765	0.78		

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Sequence No.: 13
Sample ID: 2104175-BSD1
Analyst: LB

Autosampler Location: 12
Date Collected: 4/14/2021 3:27:31 PM
Data Type: Original

Replicate Data: 2104175-BSD1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.370	5.370	0.0200	0.0537	0.0203	15:28:31	Yes
2	5.558	5.558	0.0207	0.0544	0.0210	15:29:04	Yes
3	5.552	5.552	0.0206	0.0552	0.0210	15:29:37	Yes

Duplicate Check: 2104175-BSD1

Analyte	Expected Conc.	Measured Conc.	Std. Dev.	Units	Difference (%)
Hg 253.7	5.472	5.493	0.107	ug/L	0.4
Mean:	5.493	5.493	0.0204		
SD:	0.107	0.107	0.0004		
%RSD:	1.948	1.948	1.98		

Sequence No.: 14
Sample ID: 21D0307-01
Analyst: LB

Autosampler Location: 13
Date Collected: 4/14/2021 3:30:17 PM
Data Type: Original

Replicate Data: 21D0307-01

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.154	0.154	0.0002	0.0010	0.0006	15:31:16	Yes
2	0.126	0.126	0.0001	0.0003	0.0005	15:31:49	Yes
3	0.150	0.150	0.0002	-0.0000	0.0006	15:32:22	Yes
Mean:	0.143	0.143	0.0002				
SD:	0.015	0.015	0.0001				

Sequence No.: 15
Sample ID: 2104175-MS1
Analyst: LB

Autosampler Location: 14
Date Collected: 4/14/2021 3:32:47 PM
Data Type: Original

Replicate Data: 2104175-MS1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.371	5.371	0.0200	0.0518	0.0203	15:33:46	Yes
2	5.334	5.334	0.0198	0.0522	0.0202	15:34:19	Yes
3	5.316	5.316	0.0198	0.0524	0.0201	15:34:52	Yes

Matrix Recovery Check: 2104175-MS1

2	0.163	0.163	0.0003	0.0014	0.0006	15:44:56	Yes
3	0.175	0.175	0.0003	0.0009	0.0007	15:45:29	Yes
Mean:	0.139	0.139	0.0002				
SD:	0.053	0.053	0.0002				
%RSD:	37.86	37.86	103.91				

Sequence No.: 20
Sample ID: 21D0148-02
Analyst: LB

Autosampler Location: 19
Date Collected: 4/14/2021 3:45:54 PM
Data Type: Original

Replicate Data: 21D0148-02

Repl #	Sample Conc ug/L	Stnd Conc ug/L	Blk Corr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.206	0.206	0.0004	0.0004	0.0008	15:46:55	Yes
2	0.158	0.158	0.0003	0.0019	0.0006	15:47:28	Yes
3	0.101	0.101	0.0000	-0.0007	0.0004	15:48:01	Yes
Mean:	0.155	0.155	0.0003				
SD:	0.053	0.053	0.0002				
%RSD:	33.94	33.94	78.97				

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Sequence No.: 21
Sample ID: 21D0148-07
Analyst: LB

Autosampler Location: 20
Date Collected: 4/14/2021 3:48:27 PM
Data Type: Original

Replicate Data: 21D0148-07

Repl #	Sample Conc ug/L	Stnd Conc ug/L	Blk Corr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.120	0.120	0.0001	0.0001	0.0005	15:49:27	Yes
2	0.168	0.168	0.0003	0.0004	0.0007	15:50:01	Yes
3	0.074	0.074	-0.0001	-0.0005	0.0003	15:50:34	Yes
Mean:	0.121	0.121	0.0001				
SD:	0.047	0.047	0.0002				
%RSD:	39.23	39.23	146.04				

Sequence No.: 22
Sample ID: 21D0200-01
Analyst: LB

Autosampler Location: 21
Date Collected: 4/14/2021 3:51:00 PM
Data Type: Original

Replicate Data: 21D0200-01

Repl #	Sample Conc ug/L	Stnd Conc ug/L	Blk Corr Signal	Peak Area	Peak Height	Time	Peak Stored
2	0.519	0.519	0.0016	0.0044	0.0020	15:52:34	Yes
3	0.554	0.554	0.0018	0.0054	0.0021	15:53:07	Yes
Mean:	0.539	0.539	0.0017				
SD:	0.018	0.018	0.0001				
%RSD:	3.351	3.351	4.01				

Sequence No.: 23
Sample ID: 21D0217-01
Analyst: LB

Autosampler Location: 22
Date Collected: 4/14/2021 3:53:49 PM
Data Type: Original

Replicate Data: 21D0217-01

Repl #	Sample Conc ug/L	Stnd Conc ug/L	Blk Corr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.080	0.080	-0.0000	-0.0000	0.0003	15:54:51	Yes
2	0.111	0.111	0.0001	-0.0002	0.0004	15:55:24	Yes
3	0.079	0.079	-0.0000	-0.0004	0.0003	15:55:57	Yes
Mean:	0.090	0.090	0.0000				
SD:	0.018	0.018	0.0001				
%RSD:	20.06	20.06	978.79				

Sequence No.: 24

Autosampler Location: 23

Sample ID: 21D0256-01
Analyst: LB

Date Collected: 4/14/2021 3:56:24 PM
Data Type: Original

Replicate Data: 21D0256-01

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.145	0.145	0.0002	0.0002	0.0006	15:57:26	Yes
2	0.115	0.115	0.0001	-0.0004	0.0004	15:57:59	Yes
3	0.147	0.147	0.0002	0.0002	0.0006	15:58:32	Yes
Mean:	0.136	0.136	0.0002				
SD:	0.018	0.018	0.0001				
%RSD:	13.40	13.40	38.26				

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4/14/21

Sequence No.: 25
Sample ID: 21D0275-01
Analyst: LB

Autosampler Location: 24
Date Collected: 4/14/2021 3:58:59 PM
Data Type: Original

Replicate Data: 21D0275-01

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.147	0.147	0.0002	0.0005	0.0006	15:59:57	Yes
2	0.183	0.183	0.0004	0.0015	0.0007	16:00:30	Yes
3	0.196	0.196	0.0004	0.0007	0.0008	16:01:03	Yes
Mean:	0.175	0.175	0.0003				
SD:	0.025	0.025	0.0001				
%RSD:	14.28	14.28	28.76				

Sequence No.: 26
Sample ID: CCV 2100938
Analyst:

Autosampler Location: 7
Date Collected: 4/14/2021 4:01:26 PM
Data Type: Original

Replicate Data: CCV 2100938

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	7.932	7.932	0.0296	0.0773	0.0300	16:02:27	Yes
2	7.964	7.964	0.0298	0.0783	0.0301	16:03:00	Yes
3	7.927	7.927	0.0296	0.0771	0.0300	16:03:33	Yes
Mean:	7.941	7.941	0.0297				
SD:	0.020	0.020	0.0001				
%RSD:	0.251	0.251	0.25				

All analyte(s) passed QC.

Sequence No.: 27
Sample ID: CCB
Analyst:

Autosampler Location: 1
Date Collected: 4/14/2021 4:04:15 PM
Data Type: Original

Replicate Data: CCB

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.150	0.150	0.0002	0.0003	0.0006	16:05:14	Yes
2	0.139	0.139	0.0002	0.0006	0.0005	16:05:47	Yes
3	0.130	0.130	0.0002	0.0005	0.0005	16:06:20	Yes
Mean:	0.140	0.140	0.0002				
SD:	0.010	0.010	0.0000				
%RSD:	7.280	7.280	19.72				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 28
Sample ID: 2104174-BLK1
Analyst: LB

Autosampler Location: 25
Date Collected: 4/14/2021 4:06:44 PM
Data Type: Original

Replicate Data: 2104174-BLK1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.154	0.154	0.0002	-0.0005	0.0006	16:07:41	Yes
2	0.115	0.115	0.0001	0.0004	0.0004	16:08:15	Yes
3	0.120	0.120	0.0001	-0.0002	0.0005	16:08:48	Yes
Mean:	0.129	<u>0.129</u>	0.0002				
SD:	0.021	0.021	0.0001				
%RSD:	16.52	16.52	51.91				

Sequence No.: 29
 Sample ID: 2104174-BS1
 Analyst: LB

Autosampler Location: 26
 Date Collected: 4/14/2021 4:09:11 PM
 Data Type: Original

Replicate Data: 2104174-BS1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.442	5.442	0.0202	0.0552	0.0206	16:10:09	Yes
2	5.496	5.496	0.0204	0.0529	0.0208	16:10:42	Yes
3	5.421	5.421	0.0202	0.0535	0.0205	16:11:15	Yes

Handwritten: 4/14/21

Matrix Recovery Check: 2104174-BS1

Analyte	Expected Conc.	Measured Conc.	Std. Dev.	Units	Recovery (%)
Hg 253.7	5.129	5.453	0.039	ug/L	106.5
Mean:	5.453		0.0203		
SD:	0.039		0.0001		
%RSD:	0.708		0.72		

Sequence No.: 30
 Sample ID: 2104174-BSD1
 Analyst: LB

Autosampler Location: 27
 Date Collected: 4/14/2021 4:11:55 PM
 Data Type: Original

Replicate Data: 2104174-BSD1

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	5.562	5.562	0.0207	0.0556	0.0210	16:12:54	Yes
2	5.450	5.450	0.0203	0.0537	0.0206	16:13:27	Yes
3	5.494	5.494	0.0204	0.0537	0.0208	16:14:00	Yes

Duplicate Check: 2104174-BSD1

Analyte	Expected Conc.	Measured Conc.	Std. Dev.	Units	Difference (%)
Hg 253.7	5.453	5.502	0.056	ug/L	0.9
Mean:	5.502		0.0205		
SD:	0.056		0.0002		
%RSD:	1.021		1.04		

Sequence No.: 31
 Sample ID: 21D0342-01
 Analyst: LB

Autosampler Location: 28
 Date Collected: 4/14/2021 4:14:41 PM
 Data Type: Original

Replicate Data: 21D0342-01

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.076	0.076	-0.0000	-0.0006	0.0003	16:15:39	Yes
2	0.136	0.136	0.0002	0.0013	0.0005	16:16:13	Yes
3	0.162	0.162	0.0003	0.0002	0.0006	16:16:46	Yes
Mean:	<u>0.125</u>	0.125	0.0001				
SD:	0.044	0.044	0.0002				
%RSD:	35.38	35.38	120.93				

Sequence No.: 32

Autosampler Location: 29

%RSD: 34.34 34.34 93.58

Sequence No.: 36
Sample ID: 21D0185-01
Analyst: LB

Autosampler Location: 33
Date Collected: 4/14/2021 4:27:43 PM
Data Type: Original

Handwritten signature and date: 4/14/21

Replicate Data: 21D0185-01

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.093	0.093	0.0000	-0.0007	0.0004	16:28:43	Yes
2	0.145	0.145	0.0002	0.0006	0.0006	16:29:16	Yes
3	0.128	0.128	0.0001	0.0005	0.0005	16:29:49	Yes
Mean:	0.122	0.122	0.0001				
SD:	0.026	0.026	0.0001				
%RSD:	21.48	21.48	77.69				

Sequence No.: 37
Sample ID: 21D0200-01
Analyst: LB

Autosampler Location: 34
Date Collected: 4/14/2021 4:30:14 PM
Data Type: Original

Replicate Data: 21D0200-01

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.087	0.087	-0.0000	0.0006	0.0003	16:31:14	Yes
2	0.115	0.115	0.0001	0.0007	0.0005	16:31:48	Yes
3	0.107	0.107	0.0001	-0.0000	0.0004	16:32:21	Yes
Mean:	0.103	0.103	0.0001				
SD:	0.014	0.014	0.0001				
%RSD:	13.94	13.94	96.51				

Sequence No.: 38
Sample ID: 21D0248-01
Analyst: LB

Autosampler Location: 35
Date Collected: 4/14/2021 4:32:46 PM
Data Type: Original

Replicate Data: 21D0248-01

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.100	0.100	0.0000	0.0004	0.0004	16:33:46	Yes
2	0.096	0.096	0.0000	-0.0005	0.0004	16:34:19	Yes
3	0.136	0.136	0.0002	-0.0001	0.0005	16:34:52	Yes
Mean:	0.111	0.111	0.0001				
SD:	0.022	0.022	0.0001				
%RSD:	19.96	19.96	97.43				

Sequence No.: 39
Sample ID: 21D0248-02
Analyst: LB

Autosampler Location: 36
Date Collected: 4/14/2021 4:35:18 PM
Data Type: Original

Replicate Data: 21D0248-02

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	1.640	1.640	0.0059	0.0165	0.0062	16:36:19	Yes
2	1.644	1.644	0.0059	0.0167	0.0062	16:36:52	Yes
3	1.662	1.662	0.0059	0.0168	0.0063	16:37:25	Yes
Mean:	1.649	1.649	0.0059				
SD:	0.012	0.012	0.0000				
%RSD:	0.712	0.712	0.75				

Sequence No.: 40
Sample ID: 21D0250-01
Analyst: LB

Autosampler Location: 37
Date Collected: 4/14/2021 4:38:07 PM
Data Type: Original

Replicate Data: 21D0250-01

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	1.137	1.137	0.0040	0.0109	0.0043	16:39:08	Yes
2	1.113	1.113	0.0039	0.0116	0.0042	16:39:41	Yes
3	1.080	1.080	0.0037	0.0096	0.0041	16:40:14	Yes
Mean:	1.110	1.110	0.0039				
SD:	0.029	0.029	0.0001				
%RSD:	2.586	2.586	2.81				

Handwritten signature
4/14/21

Sequence No.: 41

Autosampler Location: 38

Sample ID: 21D0250-02

Date Collected: 4/14/2021 4:40:57 PM

Replicate Data: 21D0250-02

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.326	0.326	0.0009	0.0027	0.0012	16:41:58	Yes
2	0.357	0.357	0.0010	0.0035	0.0014	16:42:31	Yes
3	0.321	0.321	0.0009	0.0022	0.0012	16:43:04	Yes
Mean:	0.335	0.335	0.0009				
SD:	0.020	0.020	0.0001				
%RSD:	5.930	5.930	8.05				

Sequence No.: 42

Autosampler Location: 39

Sample ID: 21D0250-03

Date Collected: 4/14/2021 4:43:46 PM

Analyst: LB

Data Type: Original

Replicate Data: 21D0250-03

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.092	0.092	0.0000	0.0006	0.0004	16:44:48	Yes
2	0.139	0.139	0.0002	0.0008	0.0005	16:45:21	Yes
3	0.132	0.132	0.0002	0.0015	0.0005	16:45:54	Yes
Mean:	0.121	0.121	0.0001				
SD:	0.025	0.025	0.0001				
%RSD:	20.72	20.72	76.36				

Sequence No.: 43

Autosampler Location: 7

Sample ID: CCV 2100938

Date Collected: 4/14/2021 4:46:21 PM

Analyst:

Data Type: Original

Replicate Data: CCV 2100938

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	8.059	8.059	0.0301	0.0790	0.0305	16:47:22	Yes
2	0.706	0.706	0.0023	0.0052	0.0027	16:47:55	Yes
3	0.118	0.118	0.0001	0.0008	0.0005	16:48:28	Yes
Mean:	2.961	2.961	0.0109				
SD:	4.425	4.425	0.0167				
%RSD:	149.4	149.4	154.02				

QC value less than the lower limit for Hg 253.7 Recovery = 39.48%

Failed. Retry. ↓

Sequence No.: 44

Autosampler Location: 7

Sample ID: CCV 2100938

Date Collected: 4/14/2021 4:49:11 PM

Analyst:

Data Type: Original

Replicate Data: CCV 2100938

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.104	0.104	0.0001	-0.0003	0.0004	16:50:12	Yes
2	0.132	0.132	0.0002	-0.0001	0.0005	16:50:45	Yes
3	0.073	0.073	-0.0001	-0.0005	0.0003	16:51:18	Yes

Mean: 0.103 0.103 0.0001
 SD: 0.029 0.029 0.0001
 RSD: 28.43 28.43 199.69

QC value less than the lower limit for Hg 253.7 Recovery = 1.37%
 QC Failed. Stop the analysis.

=====
 Analysis Begun

Logged In Analyst: HGA Technique: AA FIMS-MHS
 Spectrometer Model: FIMS-100, S/N B050-9550 Autosampler Model: AS-91

Sample Information File: C:\data-AA\HGA\Sample Information\210414_1.sif
 Batch ID:
 Results Data Set: 210414_1
 Results Library: C:\data-AA\HGA\Results\Results.mdb

=====
 Sequence No.: 44 Autosampler Location: 7
 Sample ID: CCV 2100938 Date Collected: 4/14/2021 4:51:40 PM
 Analyst: Data Type: Original

=====
 Replicate Data: CCV 2100938

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	7.636	7.636	0.0285	0.0752	0.0289	16:52:42	Yes
2	7.824	7.824	0.0285	0.0756	0.0288	16:53:15	Yes
3	7.420	7.420	0.0277	0.0702	0.0281	16:53:48	Yes
Mean:	7.560	7.560	0.0282				
SD:	0.121	0.121	0.0005				
RSD:	1.602	1.602	1.62				

QC value within limits for Hg 253.7 Recovery = 100.80%
 All analyte(s) passed QC.

=====
 Sequence No.: 45 Autosampler Location: 1
 Sample ID: CCB Date Collected: 4/14/2021 4:54:30 PM
 Analyst: Data Type: Original

=====
 Replicate Data: CCB

Repl #	SampleConc ug/L	StdConc ug/L	BlkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.040	0.040	-0.0002	-0.0009	0.0002	16:55:29	Yes
2	0.087	0.087	-0.0000	0.0002	0.0003	16:56:02	Yes
3	0.093	0.093	0.0000	-0.0001	0.0004	16:56:35	Yes
Mean:	0.074	0.074	-0.0001				
SD:	0.029	0.029	0.0001				
RSD:	39.76	39.76	199.97				

QC value within limits for Hg 253.7 Recovery = Not calculated
 1 analyte(s) passed QC.

Analytical Standard Record

Turner Laboratories, Inc.

2100889

Description:	Mercury Calib/LCS/LCSD/MS/MSD Standard 1000ppb	Expires:	01/31/2022
Standard Type:	Analyte Spike	Prepared:	03/10/2021
Solvent:	2% HNO3	Prepared By:	Lilian Bodley
Final Volume (mls):	100	Department:	Hg
Vials:	1	Last Edit:	03/15/2021 17:30 by LB

Analyte	CAS Number	Concentration	Units
Mercury	7439-97-6	1	ug/mL

Lot #: 1009904-127

Vendor: ESI

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2003039	Mercury Stock Std. 1000 ppm	07/16/2020	** Vendor **	01/31/2022	10/06/2020 10:38 by MH	0.1

Analytical Standard Record

Turner Laboratories, Inc.

2003039

Description: Mercury Stock Std. 1000 ppm
Standard Type: Calibration Standard
Solvent: 2% HNO3
Final Volume (mls): 100
Vials: 1

Expires: 01/31/2022
Prepared: 07/16/2020
Prepared By: ** Vendor **
Department: Hg
Last Edit: 10/06/2020 10:38 by MH

P/N S2-Hg-1000xVol

Analyte	CAS Number	Concentration	Units
Mercury	7439-97-6	1000	ug/mL

Lot #: 1009904-127

Vendor: ESI

Analytical Standard Record

Turner Laboratories, Inc.

2100933

Description:	Hg - Cal #2	Expires:	01/31/2022
Standard Type:	Calibration Standard	Prepared:	03/12/2021
Solvent:	DI Water	Prepared By:	Lilian Bodley
Final Volume (mls):	100	Department:	Hg
Vials:	1	Last Edit:	03/15/2021 17:30 by LB

Prepared as specified in EPA 245.1 section 11.2.2 / Turner SOP METALS-9

Analyte	CAS Number	Concentration	Units
Mercury	7439-97-6	0.001	ug/mL

Lot #: 1009904-127

Vendor: ESI

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2100889	Mercury Calib/LCS/LCSD/MS/MSD Standard	03/10/2021	Lilian Bodley	01/31/2022	03/15/2021 17:30 by LB	0.1

Analytical Standard Record

Turner Laboratories, Inc.

2100934

Description:	Hg - Cal #3	Expires:	01/31/2022
Standard Type:	Calibration Standard	Prepared:	03/12/2021
Solvent:	DI Water	Prepared By:	Lilian Bodley
Final Volume (mls):	100	Department:	Hg
Vials:	.1	Last Edit:	03/15/2021 17:30 by LB

Prepared as specified in EPA 245.1 section 11.2.2 / Turner SOP METALS-9

Analyte	CAS Number	Concentration	Units
Mercury	7439-97-6	0.002	ug/mL

Lot #: 1009904-127

Vendor: ESI

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2100889	Mercury Calib/LCS/LCSD/MS/MSD Standard	03/10/2021	Lilian Bodley	01/31/2022	03/15/2021 17:30 by LB	0.2

Analytical Standard Record

Turner Laboratories, Inc.

2100935

Description:	Hg - Cal #4	Expires:	01/31/2022
Standard Type:	Calibration Standard	Prepared:	03/12/2021
Solvent:	DI Water	Prepared By:	Lilian Bodley
Final Volume (mls):	100	Department:	Hg
Vials:	1	Last Edit:	03/15/2021 17:30 by LB

Prepared as specified in EPA 245.1 section 11.2.2 / Turner SOP METALS-9

Analyte	CAS Number	Concentration	Units
Mercury	7439-97-6	0.005	ug/mL

Lot #: 1009904-127
Vendor: ESI

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2100889	Mercury Calib/LCS/LCSD/MS/MSD Standard	03/10/2021	Lilian Bodley	01/31/2022	03/15/2021 17:30 by LB	0.5

Analytical Standard Record

Turner Laboratories, Inc.

2100936

Description:	Hg - Cal #5	Expires:	01/31/2022
Standard Type:	Calibration Standard	Prepared:	03/12/2021
Solvent:	DI Water	Prepared By:	Lilian Bodley
Final Volume (mls):	100	Department:	Hg
Vials:	1	Last Edit:	03/15/2021 17:30 by LB

Prepared as specified in EPA 245.1 section 11.2.2 / Turner SOP METALS-9

Analyte	CAS Number	Concentration	Units
Mercury	7439-97-6	0.01	ug/mL

Lot #: 1009904-127
Vendor: ESI

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2100889	Mercury Calib/LCS/LCSD/MS/MSD Standard	03/10/2021	Lilian Bodley	01/31/2022	03/15/2021 17:30 by LB	1

Analytical Standard Record

Turner Laboratories, Inc.

2100937

Description:	Hg - QCS	Expires:	12/31/2021
Standard Type:	Calibration Standard	Prepared:	03/12/2021
Solvent:	DI Water	Prepared By:	Lilian Bodley
Final Volume (mls):	100	Department:	Hg
Vials:	1	Last Edit:	03/12/2021 13:46 by LB

Analyte	CAS Number	Concentration	Units
Mercury	7439-97-6	0.0075	ug/mL

Lot #: 1831123
Vendor: ESI

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2003015	Mercury Working QCS Standard 1000 ppb	07/15/2020	Marissa Huff	12/31/2021	08/04/2020 10:24 by MH	0.75

Analytical Standard Record

Turner Laboratories, Inc.

2003015

Description:	Mercury Working QCS Standard 1000 ppb	Expires:	12/31/2021
Standard Type:	Analyte Spike	Prepared:	07/15/2020
Solvent:	2% HNO3	Prepared By:	Marissa Huff
Final Volume (mls):	100	Department:	Hg
Vials:	1	Last Edit:	08/04/2020 10:24 by MH

Analyte	CAS Number	Concentration	Units
Mercury	7439-97-6	1	ug/mL

Lot #: 2005640-100
 Vendor: ESI

Parent Standards used in this standard:						
Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2002710	Mercury Stock Std. 1000 ppm QCS	06/24/2020	** Vendor **	12/31/2021	08/04/2020 10:24 by MH	0.1

Analytical Standard Record

Turner Laboratories, Inc.

2002710

Description: Mercury Stock Std. 1000 ppm QCS
Standard Type: Calibration Standard
Solvent: 2% HNO3
Final Volume (mls): 100
Vials: 1
Expires: 12/31/2021
Prepared: 06/24/2020
Prepared By: ** Vendor **
Department: Hg
Last Edit: 08/04/2020 10:24 by MH

P/N S1-Hg-1000xVol

Analyte	CAS Number	Concentration	Units
Mercury	7439-97-6	1000	ug/mL

Lot#: 2005640-100
Vendor: ESI

Analytical Standard Record

Turner Laboratories, Inc.

2100938

Description:	Hg - ICV/CCV	Expires:	01/31/2022
Standard Type:	Calibration Standard	Prepared:	03/12/2021
Solvent:	DI Water	Prepared By:	Lilian Bodley
Final Volume (mls):	100	Department:	Hg
Vials:	1	Last Edit:	03/15/2021 17:30 by LB

Prepared as specified in EPA 245.1 section 11.2.2 // Turner SOP METALS-9

Analyte	CAS Number	Concentration	Units
Mercury	7439-97-6	0.0075	ug/mL

Lot #: 1009904-127
Vendor: ESI

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2100889	Mercury Calib/LCS/LCSD/MS/MSD Standard	03/10/2021	Lilian Bodley	01/31/2022	03/15/2021 17:30 by LB	0.75

Analytical Standard Record

Turner Laboratories, Inc.

2005234

Description:	Sulfuric Acid	Expires:	12/16/2021
Standard Type:	Reagent	Prepared:	12/16/2020
Solvent:	N/A	Prepared By:	** Vendor **
Final Volume (mls):	2500	Department:	Hg
Vials:	4	Last Edit:	12/21/2020 14:36 by LB

Rcvd in lab: 4) 2.5 Liters
P/N SX1247-2
93-98% OmniTrace

Analyte	CAS Number	Concentration	Units
			NA

Lot# 60150
Vendor: Sigma-Aldrich

Analytical Standard Record

Turner Laboratories, Inc.

2100577

Description: Potassium Persulfate Solution for digestions
Standard Type: Reagent
Solvent: H2O
Final Volume (mls): 1000
Vials: 1

Expires: 02/16/2022
Prepared: 02/16/2021
Prepared By: Lilian Bodley
Department: Hg
Last Edit: 02/16/2021 09:38 by LB

50 g Potassium Persulfate (1902481) in 1000 mL DI water

Analyte

CAS Number

Concentration

Units

NA

Lot #: 1904012510

Vendor: GFS

Analytical Standard Record

Turner Laboratories, Inc.

1902481

Description:	Potassium Persulfate Crystals	Expires:	12/28/2023
Standard Type:	Reagent	Prepared:	06/17/2019
Solvent:	N/A	Prepared By:	** Vendor **
Final Volume (mls):	500	Department:	Hg
Vials:	2	Last Edit:	05/18/2020 14:21 by MH

Potassium Persulfate for Hg analysis - item #557
Exp. extended to 1/25/23 - 5 years from recd date (See C of A)
5/18/2020- expiration changed to 12/28/2023 per C of A, rec dat and open date changed to reflect dates written on container

Analyte	CAS Number	Concentration	Units
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Lot#: 1904012520
Vendor: GFS

Analytical Standard Record

Turner Laboratories, Inc.

2100816

Description: Nitric Acid Trace Metal
Standard Type: Reagent
Solvent: N/A
Final Volume (mls): 2500
Vials: 4

Expires: 09/30/2025
Prepared: 03/05/2021
Prepared By: Lilian Bodley
Department: ICP
Last Edit: 04/13/2021 10:04 by LB

Received in lab 4) 2.5 L
P/N A200C-212

Analyte

CAS Number

Concentration

Units

ug/mL

Lot#: 198276
Vendor: ACP

Analytical Standard Record

Turner Laboratories, Inc.

2101394

Description:	Potassium Permanganate Solution	Expires:	04/07/2022
Standard Type:	Reagent	Prepared:	04/07/2021
Solvent:	H2O	Prepared By:	Lilian Bodley
Final Volume (mls):	1000	Department:	Hg
Vials:	1	Last Edit:	04/13/2021 09:58 by LB

50g of KMnO4 (50 g of 2003355) in 1000 ml D.I. for Hg digestion

Analyte	CAS Number	Concentration	Units
			NA

Lot #: H337-20
Vendor: LAB CHEM

Analytical Standard Record

Turner Laboratories, Inc.

2003355

Description: Potassium Permanganate Crystals
Standard Type: Reagent
Solvent: n/a
Final Volume (mls): 1
Vials: 1

Expires: 08/03/2025
Prepared: 08/04/2020
Prepared By: ** Vendor **
Department: Hg
Last Edit: 08/04/2020 10:26 by MH

Cat # LC198501

No expiration date on C of A - 5 yr retest date

Analyte

CAS Number

Concentration

Units

ug/g

Lot # K147-16

Vendor: LAB.CHEM

Analytical Standard Record

Turner Laboratories, Inc.

2101145

Description: Hydroxylamine Sulfate/NaCl Solution
Standard Type: Reagent
Solvent: H2O
Final Volume (mls): 1000
Vials: 1

Expires: 03/29/2022
Prepared: 03/29/2021
Prepared By: Lilian Bodley
Department: Hg
Last Edit: 03/29/2021 12:42 by LB

120g H.A. Sulfate (2000891), 120g NaCl (2004332) to 1000 mL in DI for Hg digestion

Analyte	CAS Number	Concentration	Units
			NA

Lot#: N/A
Vendor: J.T. Baker

Analytical Standard Record

Turner Laboratories, Inc.

2004332

Description:	Sodium Chloride	Expires:	01/14/2024
Standard Type:	Reagent	Prepared:	10/09/2020
Solvent:	-	Prepared By:	** Vendor **
Final Volume (mls):	1	Department:	WETCHEM
Vials:	1	Last Edit:	10/09/2020 09:55 by BJ

Cat# BDH9286 - 2.5KG
Retest: 10/9/2025

Analyte

CAS Number Concentration Units

NA

Lot #: 2E0456080
Vendor: VWR

Analytical Standard Record

Turner Laboratories, Inc.

2000891

Description: Hydroxylamine Sulfate Crystals
Standard Type: Reagent
Solvent: N/A
Final Volume (ml): 500
Vials: 2

Expires: 08/11/2026
Prepared: 03/02/2020
Prepared By: ** Vendor **
Department: Hg
Last Edit: 06/25/2020 15:20 by MH

Hydroxylamine sulfate for mercury digestion
Cat # N646-07
retest on 8/11/2026

Analyte

CAS Number

Concentration

Units

ug/mL

Lot #: 0000239233
Vendor: J.T. Baker

TURNER LABORATORIES, INC.

DATA VALIDATION REPORT

LEVEL IV

Work Order No.

21D0200-01

2104093-MS1

2104093-MSD1

Anions

EPA 300.0

Analysis Date – April 5 & 7, 2021

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Date Prepared: 04/07/2021 9:00:00AM

Prep Batch: 2104093 Prep Code: IC PREP

Technician: JG

Sample ID	Sample ID and Source	Matrix	pH	Initial Volume (ml)	Spike 1 Added /uL	Spike 2 Added /uL	Final Vol (ml)	Comments
2104093-BLK	Blank	Non-Potable Water		5	/	/	5	
2104093-BS1	LCS	Non-Potable Water		5	2101270/250	/	5	
2104093-BSD	LCS Dup	Non-Potable Water		5	2101270/250	/	5	
2104093-MRL	MRL Check	Non-Potable Water		5	2101271/100	/	5	
2104093-MS1	Matrix Spike [21D0185-01]	Non-Potable Water		0.25	2101270/250	/		[Spk] 0.25ml->5ml; 5ml->5ml; Sp
2104093-MSD	Matrix Spike Dup [21D0185-01]	Non-Potable Water		0.25	2101270/250	/		[Spk] 0.25ml->5ml; 5ml->5ml; Sp
21D0115-01	Discharge	Non-Potable Water		5			5	
21D0115-01RD	Discharge	Non-Potable Water		5			5	Added 4/12/2021 by JG
21D0175-02	Eff Comp	Non-Potable Water		5			5	
21D0185-01	Tribal Herd DW62 Well Id 263	Drinking Water		5			5	Added for BatchQC In: 2104093
21D0185-01F	Tribal Herd DW62 Well Id 263	Drinking Water		5			5	Added 4/12/2021 by JG
21D0186-01	AVRW0105	Drinking Water		5			5	
21D0186-01FA	VRW0105	Drinking Water		5			5	Added 4/12/2021 by JG
21D0200-01	MW-9-20210407	Drinking Water		5			5	Report samples/MB to MDL
21D0200-01F	MW-9-20210407	Drinking Water		5			5	Report samples/MB to MDL
21D0201-02	Holding Pond	Non-Potable Water		5			5	

Number	Reagent Name	Spike ID	Spike Name
		2101270	IC Spike/High Intermediate Standard
		2101271	IC Spike/Low Intermediate Standard Solution

Number	Surrogate Name

Analysis: Nitrite by Ion Chromatography

Sequence Overview

Handwritten signature and date: 4/17/2021

Aquion_AS_DV
Sequence Details

Sequence Name:	040521		
Directory:	Instrument Data\Aquion_AS_DV\Instrument Data\2021		
Data Vault:	ChromeleonLocal	Created On:	15/Jul/2020 09:48
No. of Injections:	52	Updated On:	06/Apr/2021 12:55

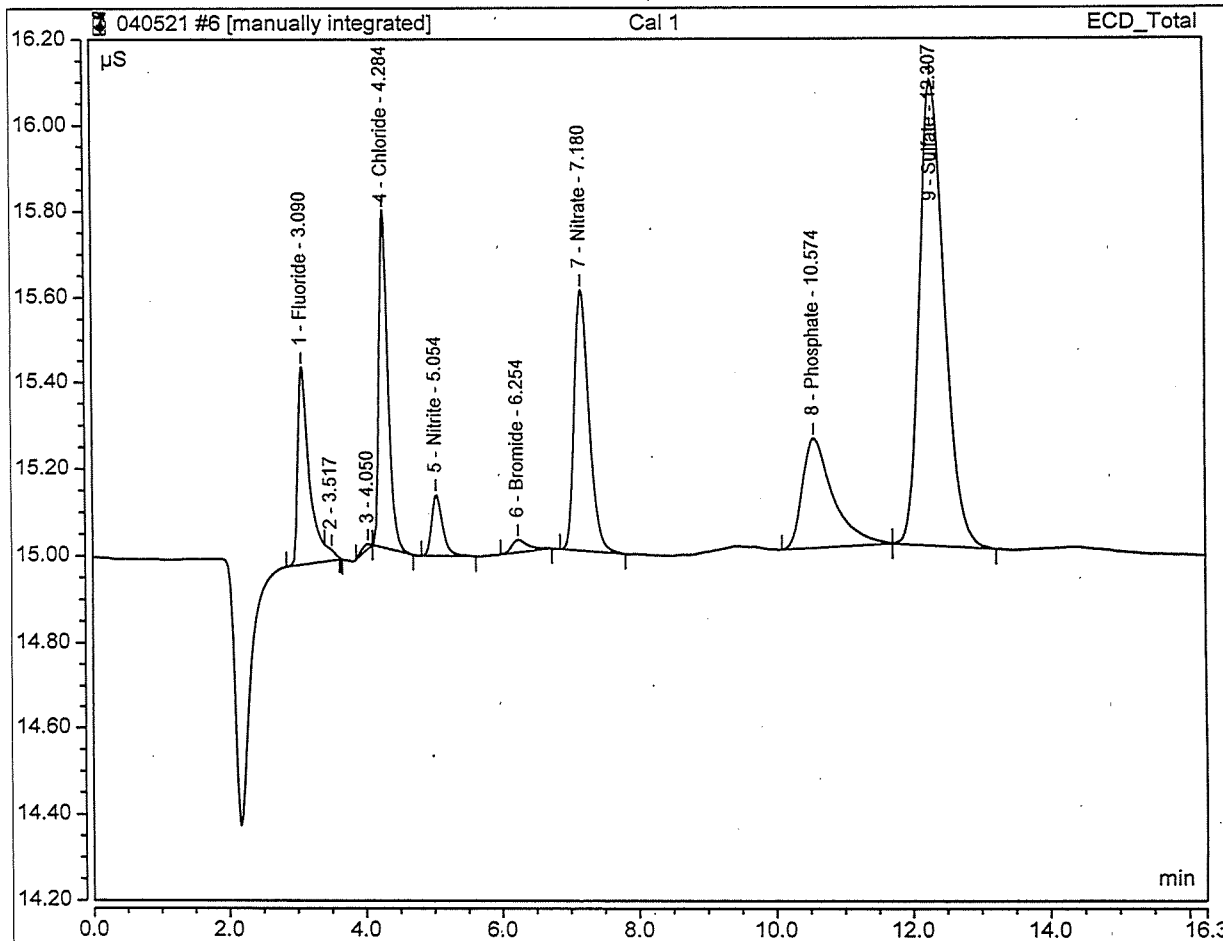
No.	Injection Name	Type	Inject Time	Status	Comment
1	CONC ELUENT	Unknown	05/Apr/2021 10:57	Finished	
2	RINSE	Unknown	05/Apr/2021 11:16	Finished	
3	RINSE	Unknown	05/Apr/2021 11:35	Finished	
4	RINSE	Unknown	05/Apr/2021 11:54	Finished	
5	RINSE	Unknown	05/Apr/2021 12:13	Finished	
6	Cal 1	Calibration Standard	05/Apr/2021 12:32	Finished	2101265
7	Cal 2	Calibration Standard	05/Apr/2021 12:52	Finished	2101266
8	Cal 3	Calibration Standard	05/Apr/2021 13:11	Finished	2101267
9	Cal 4	Calibration Standard	05/Apr/2021 13:30	Finished	2101268
10	QCS	Unknown	05/Apr/2021 13:49	Finished	2101269
11	CCV	Unknown	05/Apr/2021 14:08	Finished	2101274
12	CCB	Unknown	05/Apr/2021 14:27	Finished	
13	2104041-MRL1	Unknown	05/Apr/2021 14:46	Finished	2101275
14	2104041-BLK1	Unknown	05/Apr/2021 15:05	Finished	
15	2104041-BS1	Unknown	05/Apr/2021 15:24	Finished	2101270
16	2104041-BSD1	Unknown	05/Apr/2021 15:44	Finished	2101270
17	2104042-BLK1	Unknown	05/Apr/2021 17:03	Finished	(SOLIDS)
18	2104042-BS1	Unknown	05/Apr/2021 17:22	Finished	2101270
19	2104042-BSD1	Unknown	05/Apr/2021 17:41	Finished	2101270
20	SOLIDS MDL STUDY 4	Unknown	05/Apr/2021 18:00	Finished	2101276
21	SOLIDS MDL STUDY 5	Unknown	05/Apr/2021 18:19	Finished	2101276
22	SOLIDS MDL STUDY 6	Unknown	05/Apr/2021 18:38	Finished	2101276
23	21C0618-01	Unknown	05/Apr/2021 18:58	Finished	CL, SO4
24	21C0738-01	Unknown	05/Apr/2021 19:17	Finished	CL, SO4
25	21C0738-02	Unknown	05/Apr/2021 19:36	Finished	CL, SO4
26	21C0738-03	Unknown	05/Apr/2021 19:55	Finished	CL, SO4
27	21D0013-01	Unknown	05/Apr/2021 20:14	Finished	CL, SO4
28	21D0026-01	Unknown	05/Apr/2021 20:33	Finished	CL, SO4
29	21D0026-02	Unknown	05/Apr/2021 20:52	Finished	CL, SO4
30	21D0026-03	Unknown	05/Apr/2021 21:11	Finished	CL, SO4
31	21D0026-04	Unknown	05/Apr/2021 21:30	Finished	CL, SO4
32	2104042-MS1	Unknown	05/Apr/2021 21:50	Finished	21C0738-03 CL, SO4, 2101270
33	2104042-MSD1	Unknown	05/Apr/2021 22:09	Finished	21C0738-03 CL, SO4, 2101270
34	CONC ELUENT	Unknown	05/Apr/2021 22:28	Finished	
35	RINSE	Unknown	05/Apr/2021 22:47	Finished	
36	CCV	Unknown	05/Apr/2021 23:06	Finished	2101270
37	CCB	Unknown	05/Apr/2021 23:25	Finished	
38	21D0049-02	Unknown	05/Apr/2021 23:44	Finished	NO3
39	21D0053-01	Unknown	06/Apr/2021 00:03	Finished	NO2, NO3
40	21D0092-17	Unknown	06/Apr/2021 00:22	Finished	CL, SO4
41	21C0750-01RE1@100	Unknown	06/Apr/2021 00:41	Finished	(2104002) SO4
42	21D0018-01RE1@10	Unknown	06/Apr/2021 01:01	Finished	(2104023) SO4
43	21C0685-03RE1@200	Unknown	06/Apr/2021 01:20	Finished	(2103347) F, CL, NO2, NO3
44	21D0019-01RE1@10	Unknown	06/Apr/2021 01:39	Finished	(2104023) CL, SO4
45	21D0032-01RE1@500	Unknown	06/Apr/2021 01:58	Finished	(2104023) F, CL, NO3, SO4
46	21D0032-01RE2@1000	Unknown	06/Apr/2021 02:17	Finished	(2104023) F, CL, NO3, SO4
47	21D0035-01RE2@5	Unknown	06/Apr/2021 02:36	Finished	(2104023) CL
48	CONC ELUENT	Unknown	06/Apr/2021 02:55	Finished	
49	RINSE	Unknown	06/Apr/2021 03:14	Finished	
50	CCV	Unknown	06/Apr/2021 03:33	Finished	2101270
51	CCB	Unknown	06/Apr/2021 03:53	Finished	
52	SHUTDOWN	Unknown	06/Apr/2021 04:12	Finished	

Ja 4-6-21

W. M. H.

6 Cal 1
 2101265

Sample Name	Cal 1	Inj. Vol.	25.00
Injection Type	Calibration Standard	Dilution Factor	1.0000
Instrument Method	Anions_Method	Operator	JG
Inj. Date / Time	05-Apr-2021 / 12:32	Run Time	16:25

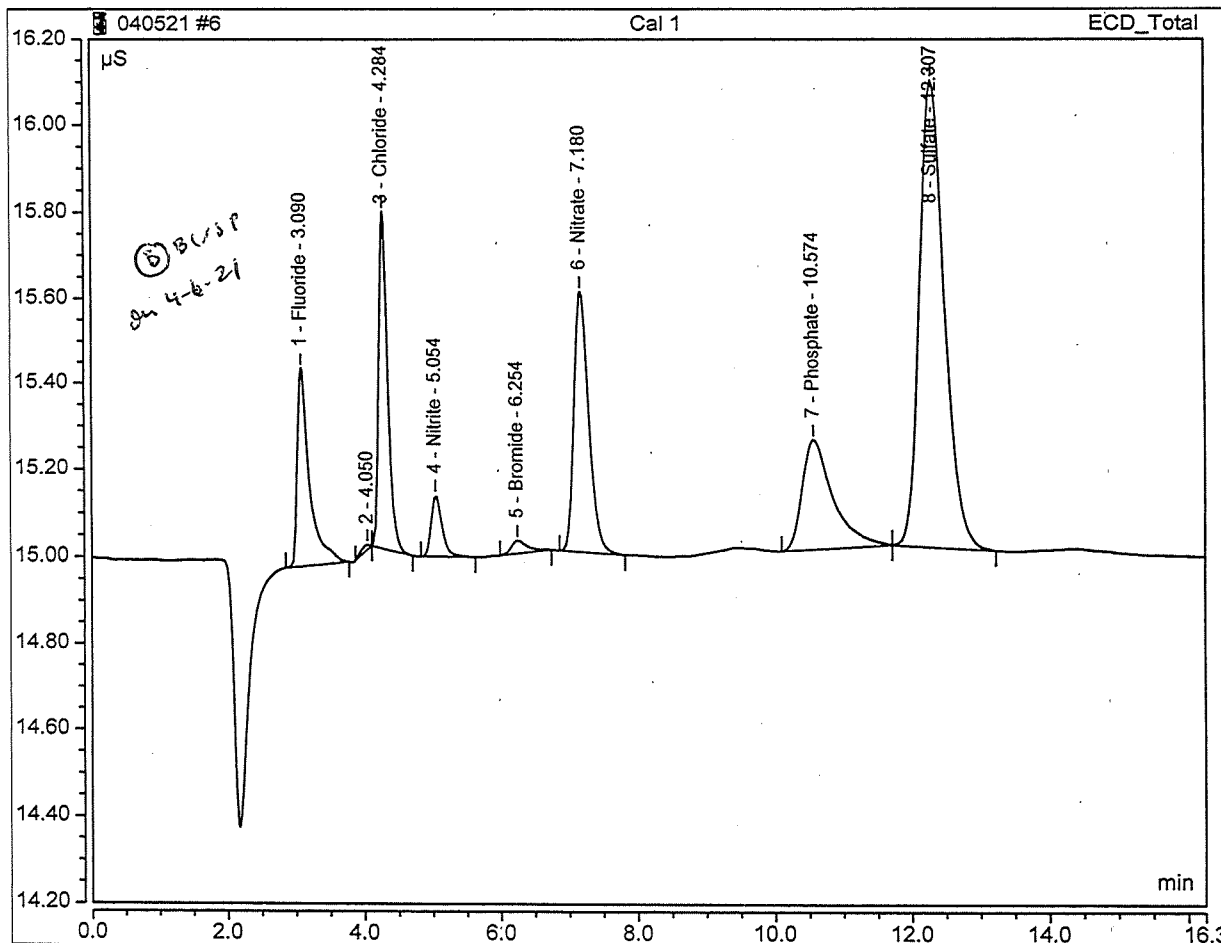


No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount PPM
1	3.09	Fluoride	BMB*	0.091	0.456	0.5287
4	4.28	Chloride	BMB	0.118	0.783	1.3353
5	5.05	Nitrite	BMB	0.026	0.141	0.1290
6	6.25	Bromide	BMB	0.008	0.030	0.1135
7	7.18	Nitrate	BMB	0.150	0.605	0.6194
8	10.57	Phosphate	BMB	0.131	0.252	0.4422
9	12.31	Sulfate	BMB	0.455	1.081	5.5713
TOTAL:				0.98	3.35	8.74

W. H. H.

6 Cal 1
 2101265

Sample Name	Cal 1	Inj. Vol:	25:00
Injection Type	Calibration Standard	Dilution Factor	1.0000
Instrument Method	Anions Method	Operator	JG
Inj. Date/Time	05-Apr-2021 / 12:32	Run Time	16:25

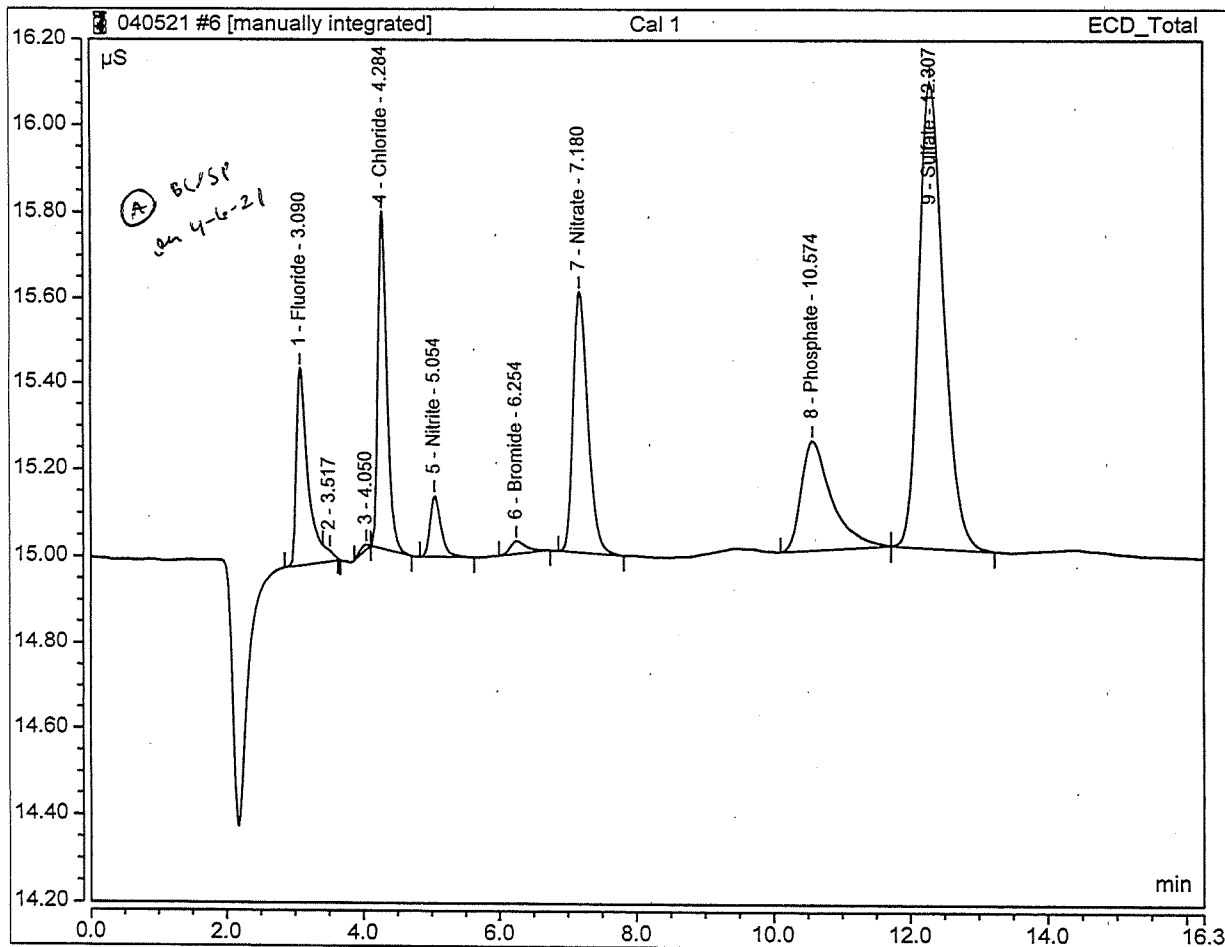


No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount PPM
1	3.09	Fluoride	BMB	0.093	0.457	0.5317
3	4.28	Chloride	BMB	0.118	0.783	1.3353
4	5.05	Nitrite	BMB	0.026	0.141	0.1290
5	6.25	Bromide	BMB	0.008	0.030	0.1135
6	7.18	Nitrate	BMB	0.150	0.605	0.6194
7	10.57	Phosphate	BMB	0.131	0.252	0.4422
8	12.31	Sulfate	BMB	0.455	1.081	5.5713
TOTAL:				0.98	3.35	8.74

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6 Cal 1
 2101265

Sample Name:	Cal 1	Inj. Vol.:	25.00
Injection Type:	Calibration Standard	Dilution Factor:	1.0000
Instrument Method:	Anions Method	Operator:	JG
Inj. Date/Time:	05-Apr-2021 12:32	Run Time:	16:25

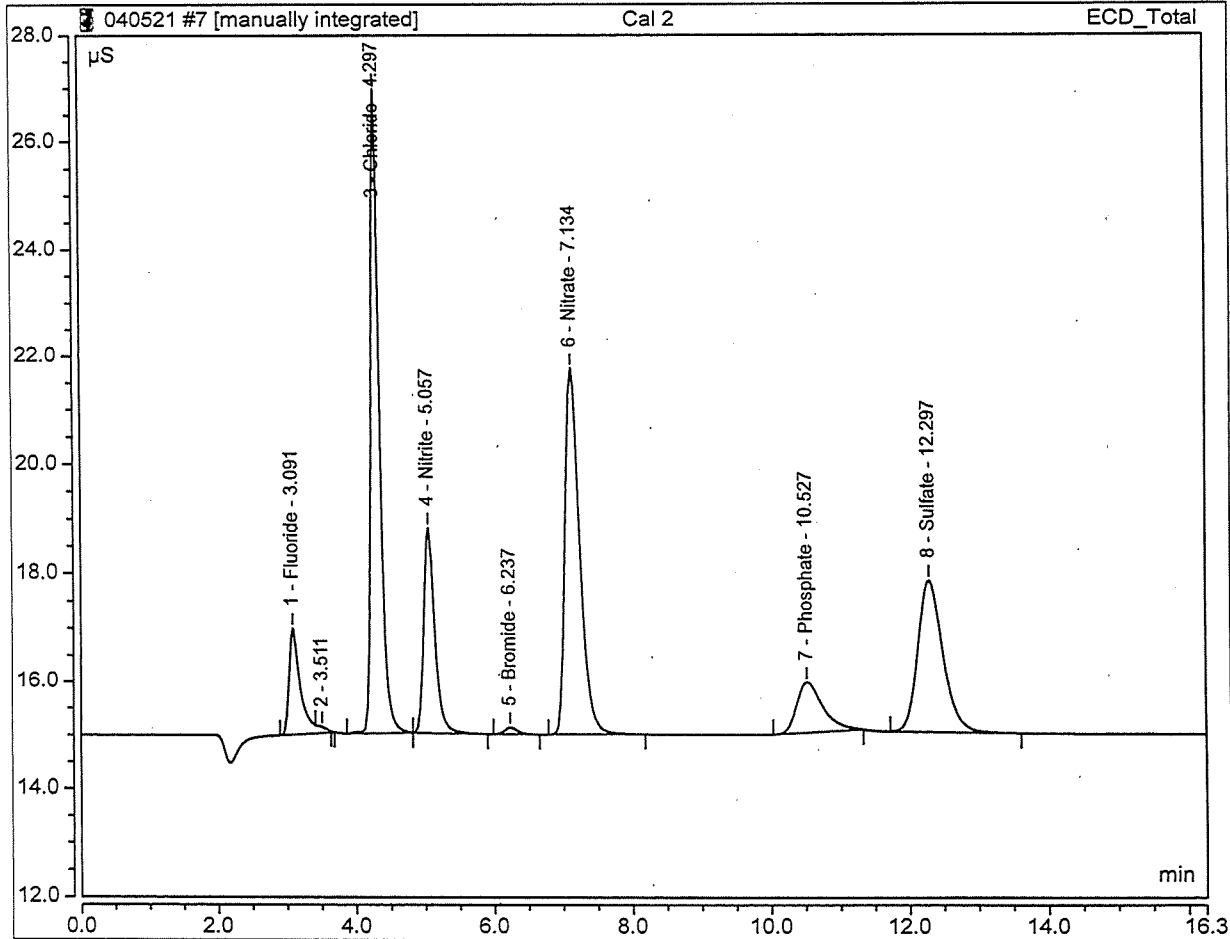


No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount PPM
1	3.09	Fluoride	BMB*	0.091	0.456	0.5287
4	4.28	Chloride	BMB	0.118	0.783	1.3353
5	5.05	Nitrite	BMB	0.026	0.141	0.1290
6	6.25	Bromide	BMB	0.008	0.030	0.1135
7	7.18	Nitrate	BMB	0.150	0.605	0.6194
8	10.57	Phosphate	BMB	0.131	0.252	0.4422
9	12.31	Sulfate	BMB	0.455	1.081	5.5713
TOTAL:				0.98	3.35	8.74

W. Smith

7 Cal 2
 2101266

Sample Name:	Cal 2	Inj. Vol.:	25.00
Injection Type:	Calibration Standard	Dilution Factor:	1.0000
Instrument Method:	Anions Method	Operator:	JG
Inj. Date / Time:	05-Apr-2021 / 12:52	Run Time:	16:25

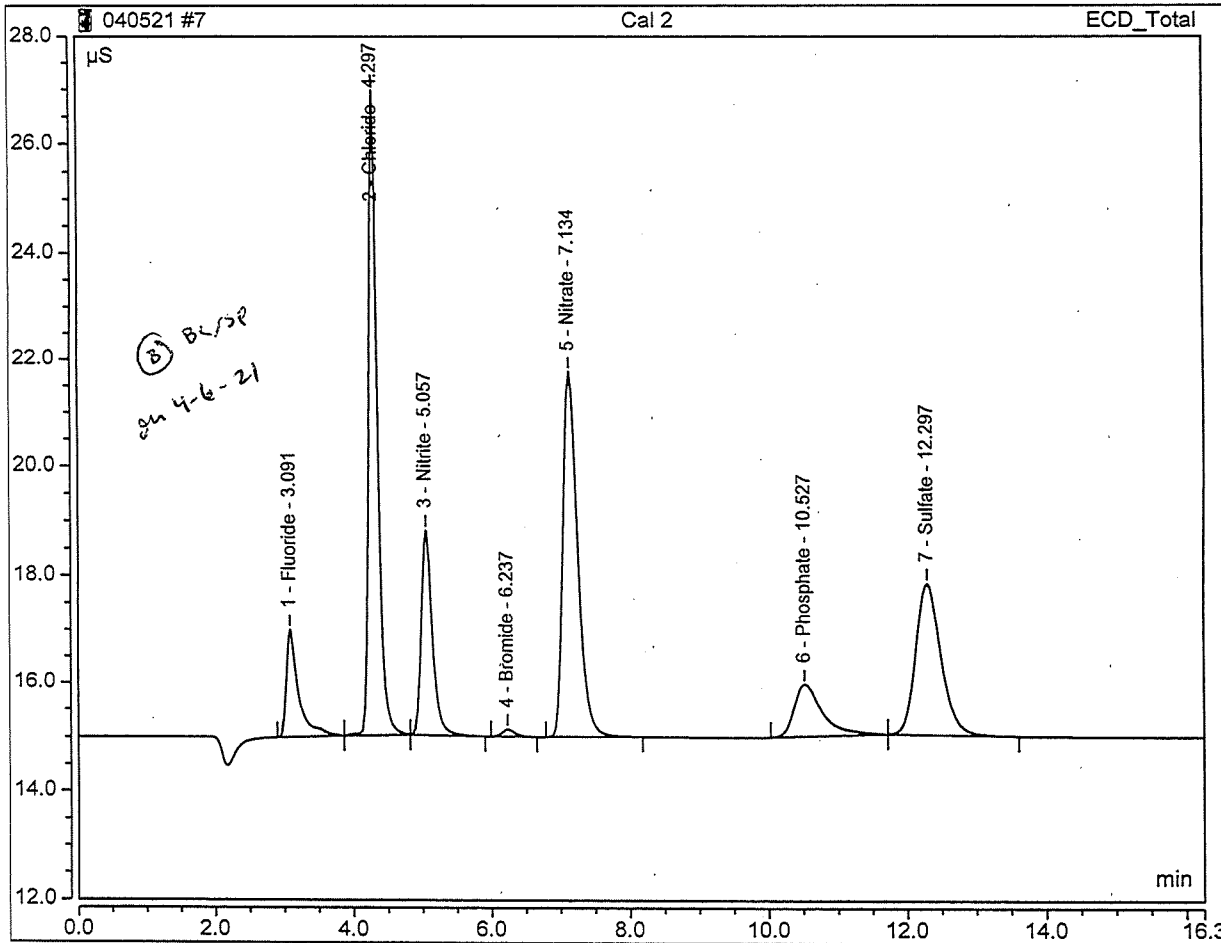


No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount PPM
1	3.09	Fluoride	BMB*	0.380	1.992	1.9379
3	4.30	Chloride	BMB	1.749	11.975	11.9598
4	5.06	Nitrite	BMB	0.700	3.797	2.4517
5	6.24	Bromide	BMB	0.026	0.126	0.4766
6	7.13	Nitrate	BMB	1.672	6.766	4.8133
7	10.53	Phosphate	BMB*	0.410	0.947	2.5668
8	12.30	Sulfate	BMB	1.181	2.813	12.3460
TOTAL:				6.12	28.42	36.55

W. J. M.

7 Cal 2
 2101266

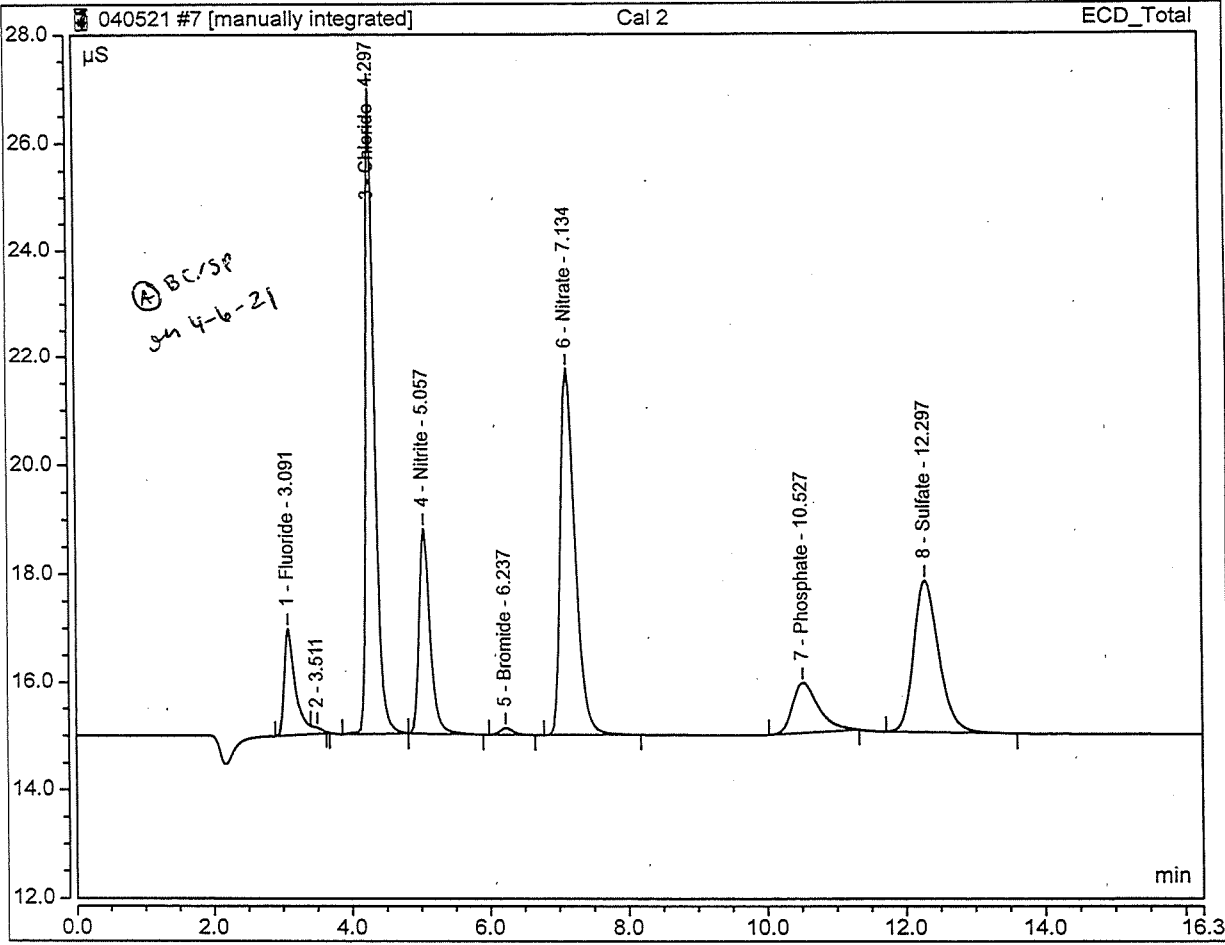
Sample Name:	Cal 2	Inj. Vol:	25:00
Injection Type:	Calibration Standard	Dilution Factor:	1.0000
Instrument Method:	Anions_Method	Operator:	JG
Inj. Date/Time:	05-Apr-2021 / 12:52	Run Time:	16:25



No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount PPM
1	3.09	Fluoride	BMB	0.398	2.000	2.0008
2	4.30	Chloride	BMB	1.749	11.975	11.9598
3	5.06	Nitrite	BMB	0.700	3.797	2.4517
4	6.24	Bromide	BMB	0.026	0.126	0.4766
5	7.13	Nitrate	BMB	1.672	6.766	4.8133
6	10.53	Phosphate	BMB	0.448	0.965	2.7806
7	12.30	Sulfate	BMB	1.181	2.813	12.3460
TOTAL:				6.17	28.44	36.83

7 Cal 2
 2101266

Sample Name	Cal 2	Inj. Vol:	25.00
Injection Type	Calibration Standard	Dilution Factor:	1.0000
Instrument Method	Anions_Method	Operator:	JG
Inj. Date / Time:	05-Apr-2021 / 12:52	Run Time:	16:25

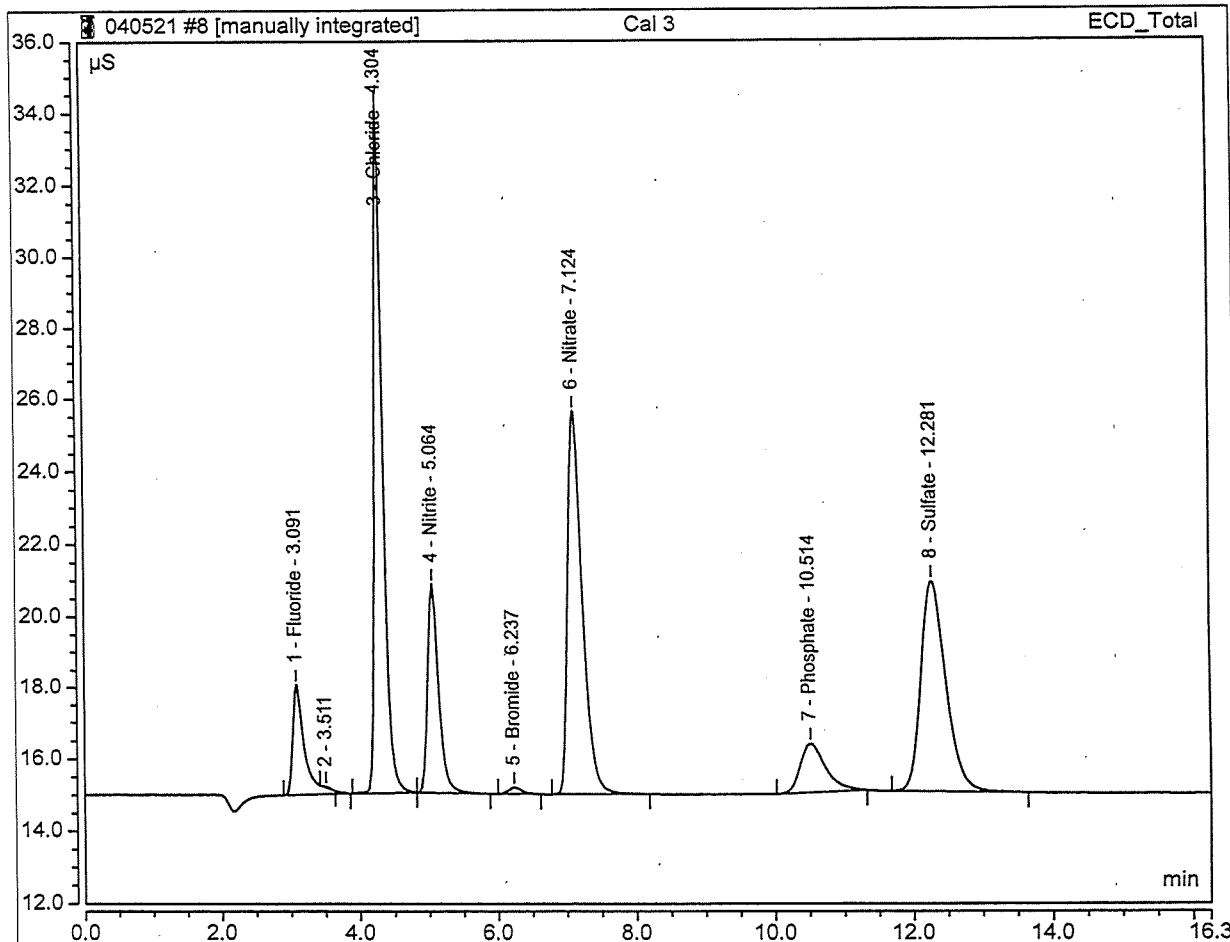


No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount PPM
1	3.09	Fluoride	BMB*	0.380	1.992	1.9379
3	4.30	Chloride	BMB	1.749	11.975	11.9598
4	5.06	Nitrite	BMB	0.700	3.797	2.4517
5	6.24	Bromide	BMB	0.026	0.126	0.4766
6	7.13	Nitrate	BMB	1.672	6.766	4.8133
7	10.53	Phosphate	BMB*	0.410	0.947	2.5668
8	12.30	Sulfate	BMB	1.181	2.813	12.3460
TOTAL:				6.12	28.42	36.55

Wright

8 Cal 3
 2101267

Sample Name	Cal 3	Inj. Vol.	25:00
Injection Type	Calibration Standard	Dilution Factor	1.0000
Instrument Method	Anions_Method	Operator	JG
Inj. Date / Time	05-Apr-2021 / 13:11	Run Time	16:25

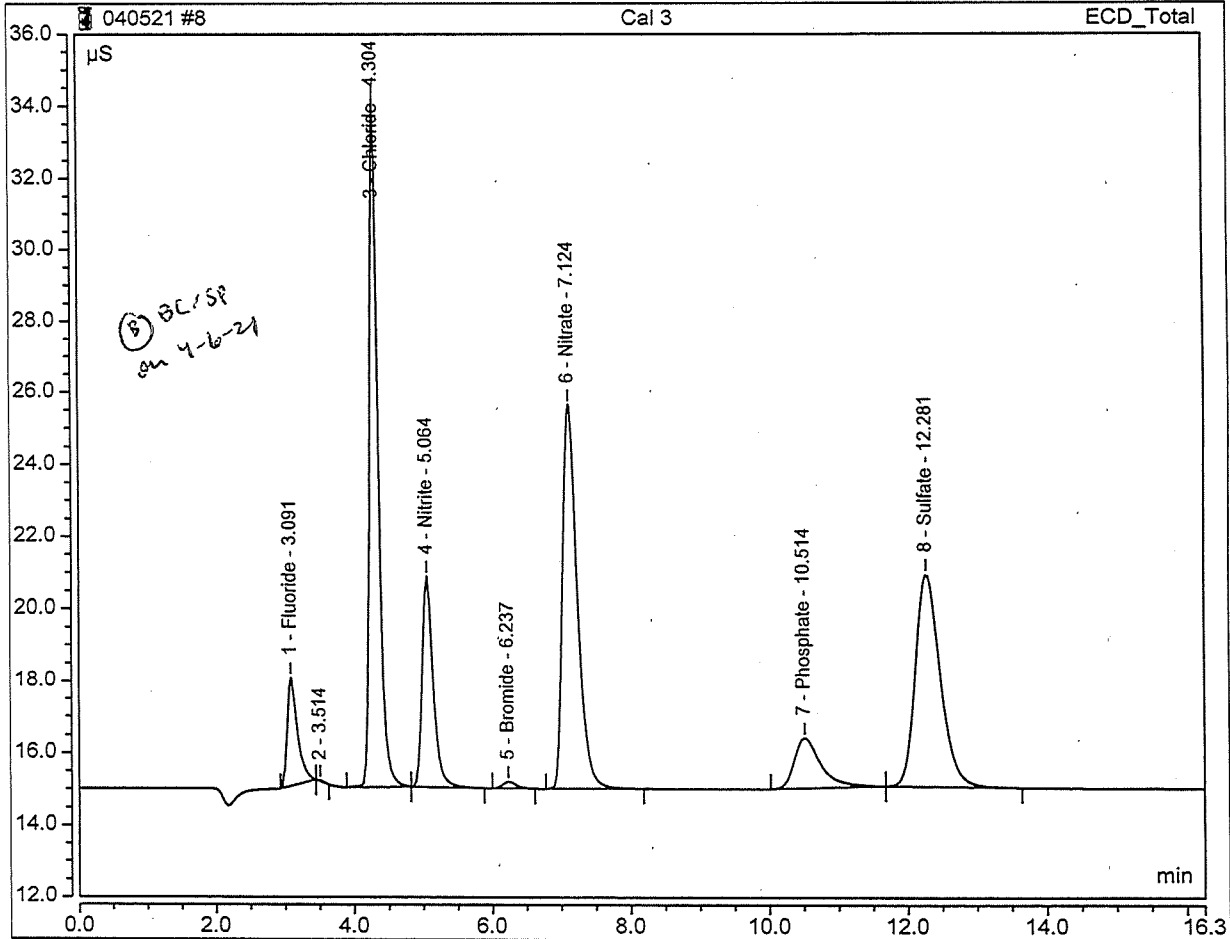


No.	Time min	Peak Name	Peak Type	Area μS*min	Height μS	Amount PPM
1	3.09	Fluoride	BMB*	0.604	3.084	3.0238
3	4.30	Chloride	BMB	2.760	19.172	18.5429
4	5.06	Nitrite	BMB	1.072	5.842	3.7328
5	6.24	Bromide	BMB	0.040	0.190	0.7483
6	7.12	Nitrate	BMB	2.618	10.640	7.4197
7	10.51	Phosphate	BMB*	0.575	1.364	3.8246
8	12.28	Sulfate	BMB	2.453	5.890	24.2027
TOTAL:				10.12	46.18	61.49

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8 Cal 3
 2101267

Sample Name	Cal 3	Inj. Vol.	25.00
Injection Type	Calibration Standard	Dilution Factor	1.0000
Instrument Method	Anions Method	Operator	JG
Inj. Date / Time	05-Apr-2021 / 13:11	Run Time	16:25

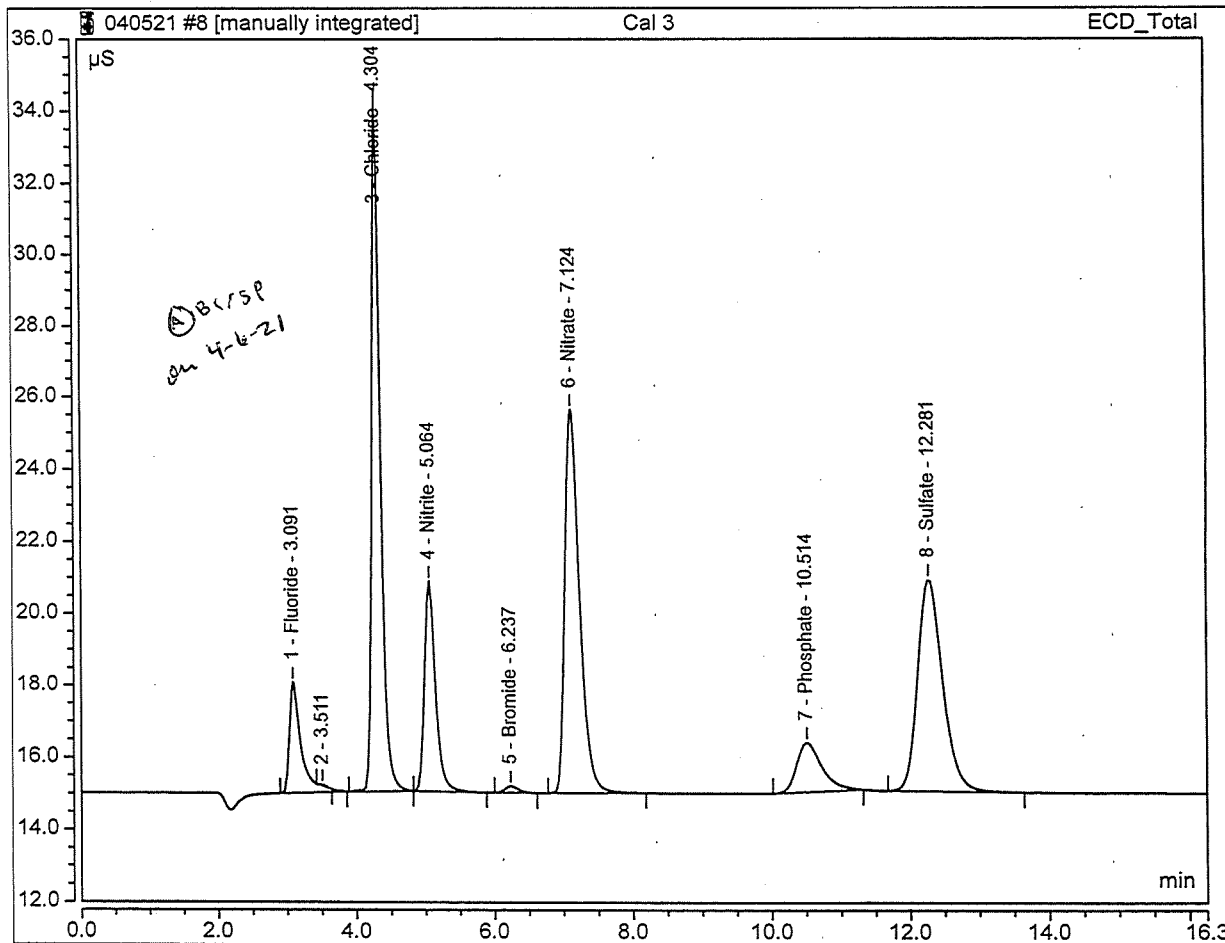


No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount PPM
1	3.09	Fluoride	BMB	0.508	3.012	2.6871
3	4.30	Chloride	BMB	2.760	19.172	18.5429
4	5.06	Nitrite	BMB	1.072	5.842	3.7328
5	6.24	Bromide	BMB	0.040	0.190	0.7483
6	7.12	Nitrate	BMB	2.618	10.640	7.4197
7	10.51	Phosphate	BMB	0.614	1.382	4.0232
8	12.28	Sulfate	BMB	2.453	5.890	24.2027
TOTAL:				10.06	46.13	61.36

W. J. G.

8 Cal 3
 2101267

Sample Name:	Cal 3	Inj. Vol:	25.00
Injection Type:	Calibration Standard	Dilution Factor:	1.0000
Instrument Method:	Anions Method	Operator:	JG
Inj. Date/Time:	05-Apr-2021 13:11	Run Time:	16.25

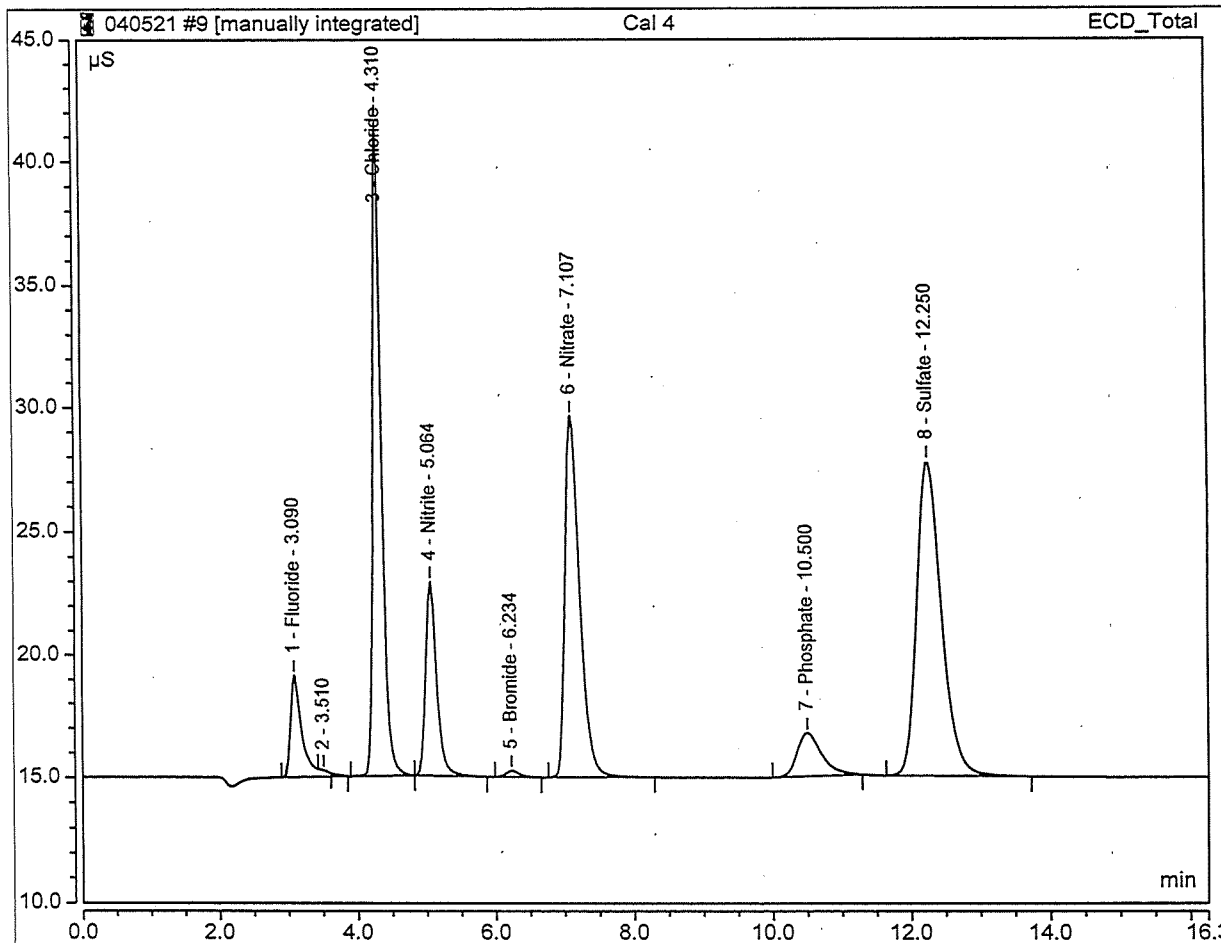


No.	Time min	Peak Name	Peak Type	Area $\mu\text{S} \cdot \text{min}$	Height μS	Amount PPM
1	3.09	Fluoride	BMB*	0.604	3.084	3.0238
3	4.30	Chloride	BMB	2.760	19.172	18.5429
4	5.06	Nitrite	BMB	1.072	5.842	3.7328
5	6.24	Bromide	BMB	0.040	0.190	0.7483
6	7.12	Nitrate	BMB	2.618	10.640	7.4197
7	10.51	Phosphate	BMB*	0.575	1.364	3.8246
8	12.28	Sulfate	BMB	2.453	5.890	24.2027
TOTAL:				10.12	46.18	61.49

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9 Cal 4
 2101268

Sample Name:	Cal 4	Inj. Vol.:	25.00
Injection Type:	Calibration Standard	Dilution Factor:	1.0000
Instrument Method:	Anions Method	Operator:	JG
Inj. Date/Time:	05-Apr-2021 / 13:30	Run Time:	16:25

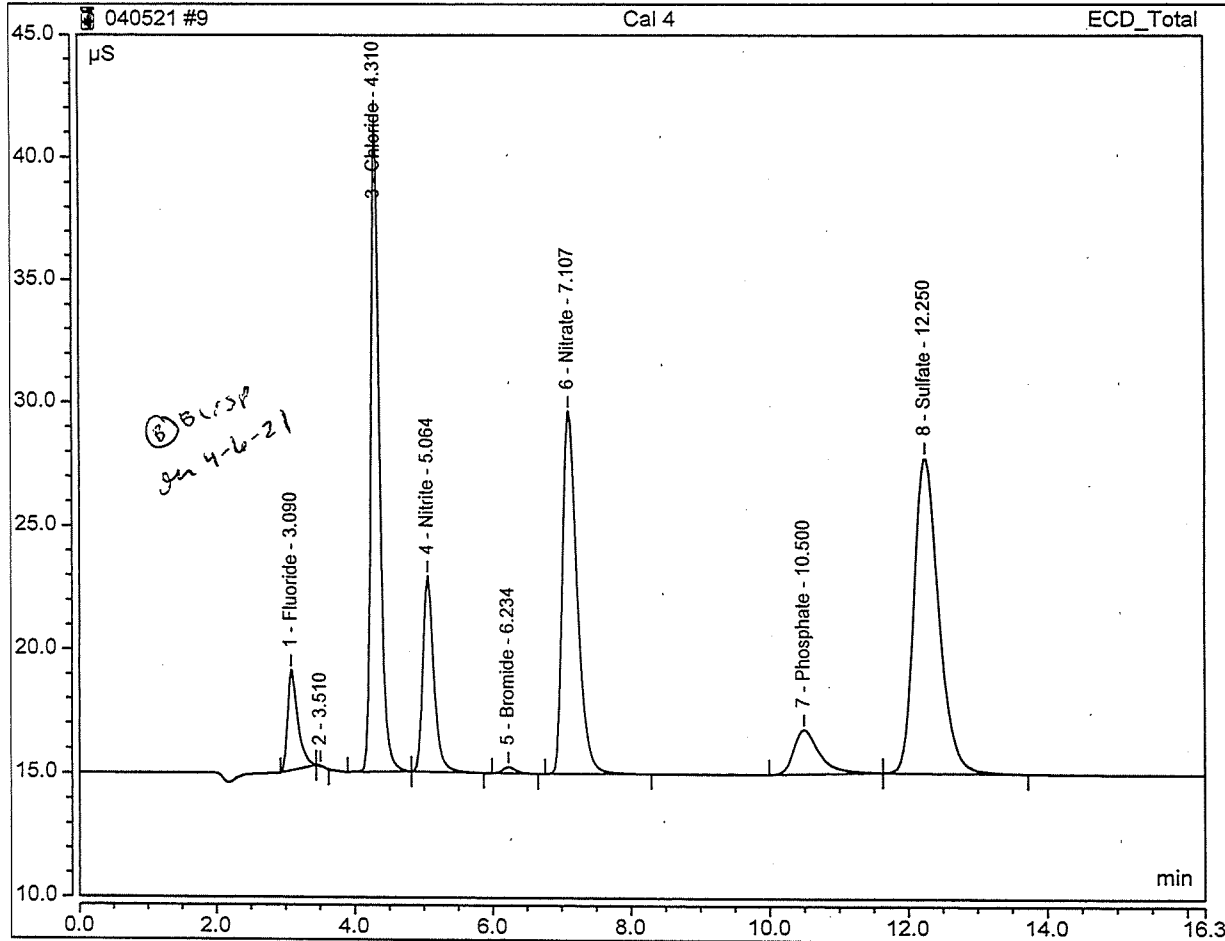


No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount PPM
1	3.09	Fluoride	BMB*	0.807	4.163	4.0096
3	4.31	Chloride	BMB	3.815	26.633	25.4120
4	5.06	Nitrite	BMB	1.451	7.913	5.0364
5	6.23	Bromide	BMB	0.053	0.252	1.0116
6	7.11	Nitrate	BMB	3.608	14.671	10.1476
7	10.50	Phosphate	BMB*	0.719	1.748	4.9164
8	12.25	Sulfate	BMB	5.259	12.759	50.3800
TOTAL:				15.71	68.14	100.91

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9 Cal 4
 2101268

Sample Name:	Cal 4	Inj. Vol.:	25.00
Injection Type:	Calibration Standard	Dilution Factor:	1.0000
Instrument Method:	Anions Method	Operator:	JG
Inj. Date/Time:	05-Apr-2021 / 13:30	Run Time:	16:25

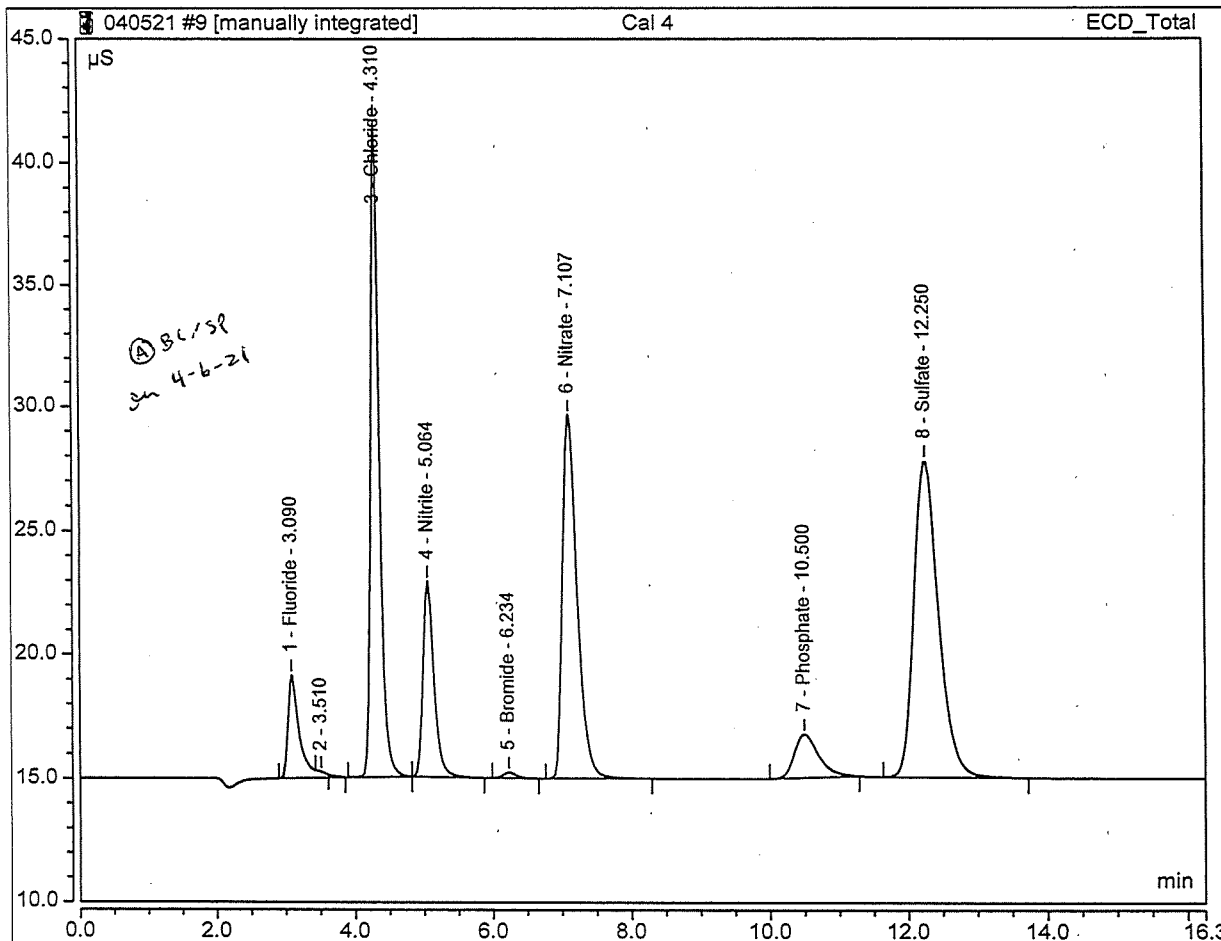


No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount PPM
1	3.09	Fluoride	BMB	0.682	4.070	3.7597
3	4.31	Chloride	BMB	3.815	26.633	25.4120
4	5.06	Nitrite	BMB	1.451	7.913	5.0364
5	6.23	Bromide	BMB	0.053	0.252	1.0116
6	7.11	Nitrate	BMB	3.608	14.671	10.1476
7	10.50	Phosphate	BMB	0.764	1.770	5.0381
8	12.25	Sulfate	BMB	5.259	12.759	50.3800
TOTAL:				15.63	68.07	100.79

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9 Cal 4
 2101268

Sample Name:	Cal 4	Inj. Vol:	25.00
Injection Type:	Calibration Standard	Dilution Factor:	1.0000
Instrument Method:	Anions_Method	Operator:	JG
Inj. Date / Time:	05-Apr-2021 / 13:30	Run Time:	16.25



No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount PPM
1	3.09	Fluoride	BMB*	0.807	4.163	4.0096
3	4.31	Chloride	BMB	3.815	26.633	25.4120
4	5.06	Nitrite	BMB	1.451	7.913	5.0364
5	6.23	Bromide	BMB	0.053	0.252	1.0116
6	7.11	Nitrate	BMB	3.608	14.671	10.1476
7	10.50	Phosphate	BMB*	0.719	1.748	4.9164
8	12.25	Sulfate	BMB	5.259	12.759	50.3800
TOTAL:				15.71	68.14	100.91

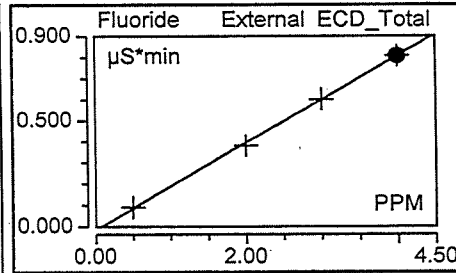
W. J. M.

Calibration Batch Report

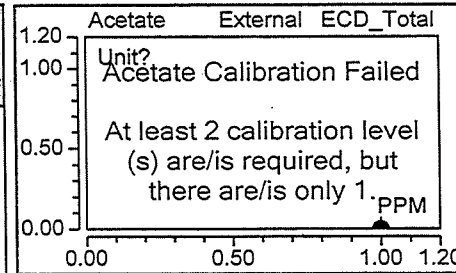
Sequence: 040521	Injection Volume: 25.00
Instrument Method: Anions_Method	Operator: IC
Inj. Date/Time: 05-Apr-2021 / 13:30	Run Time: 16.250333

Calibration Summary							
Peak Name	Eval.Type	Cal.Type	Points	Offset (C0)	Slope (C1)	Curve (C2)	Coeff.Det. %
Fluoride	Area	in, WithOffse	4.000 ✓	-0.018	0.206	0.000	99.9204 ✓
Chloride	Area	in, WithOffse	4.000 ✓	-0.087	0.154	0.000	99.8042 ✓
Nitrite	Area	in, WithOffse	4.000 ✓	-0.012	0.290	0.000	99.9635 ✓
Bromide	Area	in, WithOffse	4.000 ✓	0.003	0.049	0.000	99.8043 ✓
Nitrate	Area	in, WithOffse	4.000 ✓	-0.075	0.363	0.000	99.8432 ✓
Phosphate	Area	in, WithOffse	4.000 ✓	0.073	0.131	0.000	99.8160 ✓
Sulfate	Area	in, WithOffse	4.000 ✓	-0.142	0.107	0.000	99.9033 ✓
AVERAGE:				-0.0370	0.1858	0.0000	99.8650

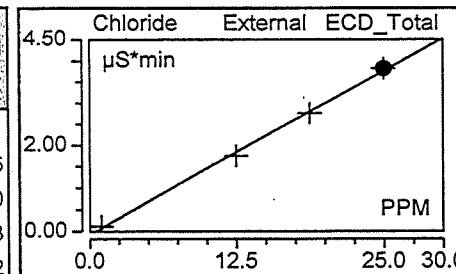
Injection Name	Ret. Time min	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount PPM
	ECD_Total	ECD_Total	ECD_Total	ECD_Total
Cal 1	Fluoride 3.090	Fluoride 0.0906	Fluoride 0.456	Fluoride 0.529
Cal 2	3.091	0.3804	1.992	1.938
Cal 3	3.091	0.6038	3.084	3.024
Cal 4	3.090	0.8066	4.163	4.010
Average	3.091			
Rel. Std. Dev.	0.006 %			



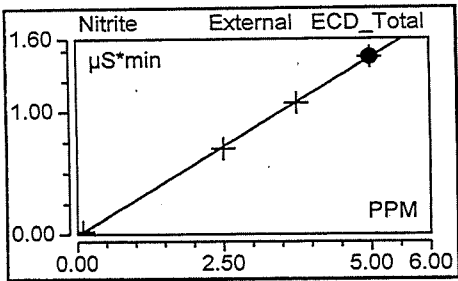
Injection Name	Ret. Time min	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount PPM
	ECD_Total	ECD_Total	ECD_Total	ECD_Total
Cal 1	Acetate n.a.	Acetate n.a.	Acetate n.a.	Acetate n.a.
Cal 2	n.a.	n.a.	n.a.	n.a.
Cal 3	n.a.	n.a.	n.a.	n.a.
Cal 4	n.a.	n.a.	n.a.	n.a.
Average	#DIV/0!			
Rel. Std. Dev.	#DIV/0!			



Injection Name	Ret. Time min	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount PPM
	ECD_Total	ECD_Total	ECD_Total	ECD_Total
Cal 1	Chloride 4.284	Chloride 0.1177	Chloride 0.783	Chloride 1.335
Cal 2	4.297	1.7491	11.975	11.960
Cal 3	4.304	2.7599	19.172	18.543
Cal 4	4.310	3.8146	26.633	25.412
Average	4.299			
Rel. Std. Dev.	0.266 %			

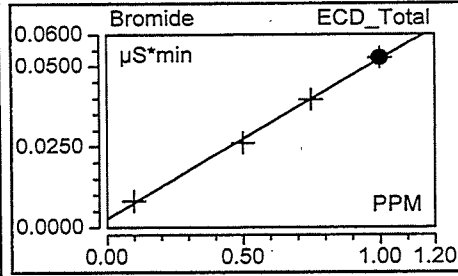


Injection Name	Ret. Time	Area	Height	Amount
	min	$\mu\text{S} \cdot \text{min}$	μS	PPM
	ECD_Total	ECD_Total	ECD_Total	ECD_Total
Cal 1	Nitrite 5.054	Nitrite 0.0259	Nitrite 0.141	Nitrite 0.129
Cal 2	5.057	0.7002	3.797	2.452
Cal 3	5.064	1.0721	5.842	3.733
Cal 4	5.064	1.4505	7.913	5.036
Average	5.060			
Rel. Std. Dev.	0.100 %			

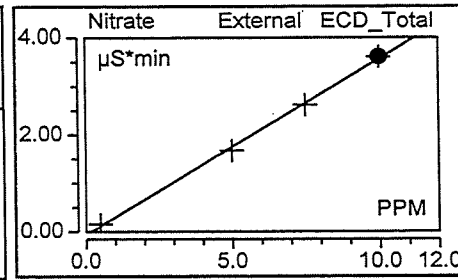


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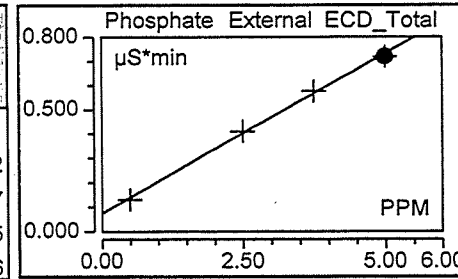
Injection Name	Ret. Time	Area	Height	Amount
	min	$\mu\text{S} \cdot \text{min}$	μS	PPM
	ECD_Total	ECD_Total	ECD_Total	ECD_Total
Cal 1	Bromide 6.254	Bromide 0.0082	Bromide 0.030	Bromide 0.113
Cal 2	6.237	0.0262	0.126	0.477
Cal 3	6.237	0.0396	0.190	0.748
Cal 4	6.234	0.0526	0.252	1.012
Average	6.241			
Rel. Std. Dev.	0.143 %			



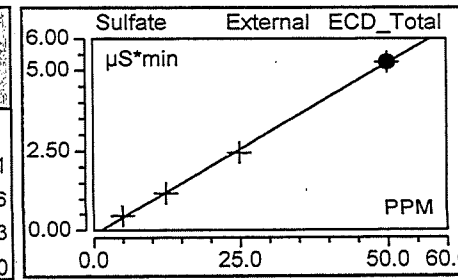
Injection Name	Ret. Time	Area	Height	Amount
	min	$\mu\text{S} \cdot \text{min}$	μS	PPM
	ECD_Total	ECD_Total	ECD_Total	ECD_Total
Cal 1	Nitrate 7.180	Nitrate 0.1501	Nitrate 0.605	Nitrate 0.619
Cal 2	7.134	1.6720	6.766	4.813
Cal 3	7.124	2.6179	10.640	7.420
Cal 4	7.107	3.6078	14.671	10.148
Average	7.136			
Rel. Std. Dev.	0.440 %			



Injection Name	Ret. Time	Area	Height	Amount
	min	$\mu\text{S} \cdot \text{min}$	μS	PPM
	ECD_Total	ECD_Total	ECD_Total	ECD_Total
Cal 1	Phosphate 10.574	Phosphate 0.1308	Phosphate 0.252	Phosphate 0.442
Cal 2	10.527	0.4101	0.947	2.567
Cal 3	10.514	0.5755	1.364	3.825
Cal 4	10.500	0.7190	1.748	4.916
Average	10.529			
Rel. Std. Dev.	0.303 %			

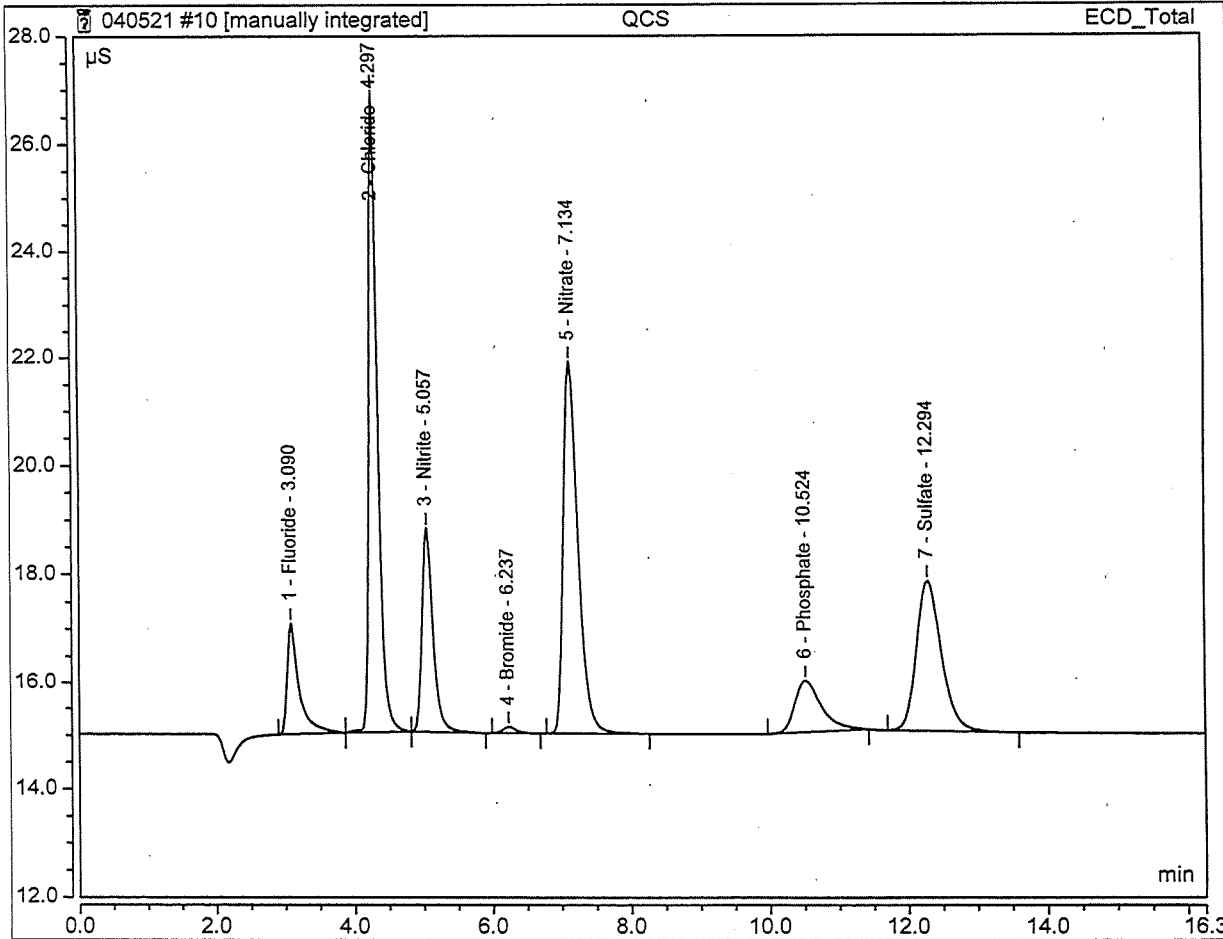


Injection Name	Ret. Time	Area	Height	Amount
	min	$\mu\text{S} \cdot \text{min}$	μS	PPM
	ECD_Total	ECD_Total	ECD_Total	ECD_Total
Cal 1	Sulfate 12.307	Sulfate 0.4549	Sulfate 1.081	Sulfate 5.571
Cal 2	12.297	1.1813	2.813	12.346
Cal 3	12.281	2.4525	5.890	24.203
Cal 4	12.250	5.2592	12.759	50.380
Average	12.284			
Rel. Std. Dev.	0.202 %			



10 QCS
 2101269

Sample Name:	QCS	Inj. Vol:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_Method	Operator:	JG
Inj. Date / Time:	05-Apr-2021 / 13:49	Run Time:	16:25

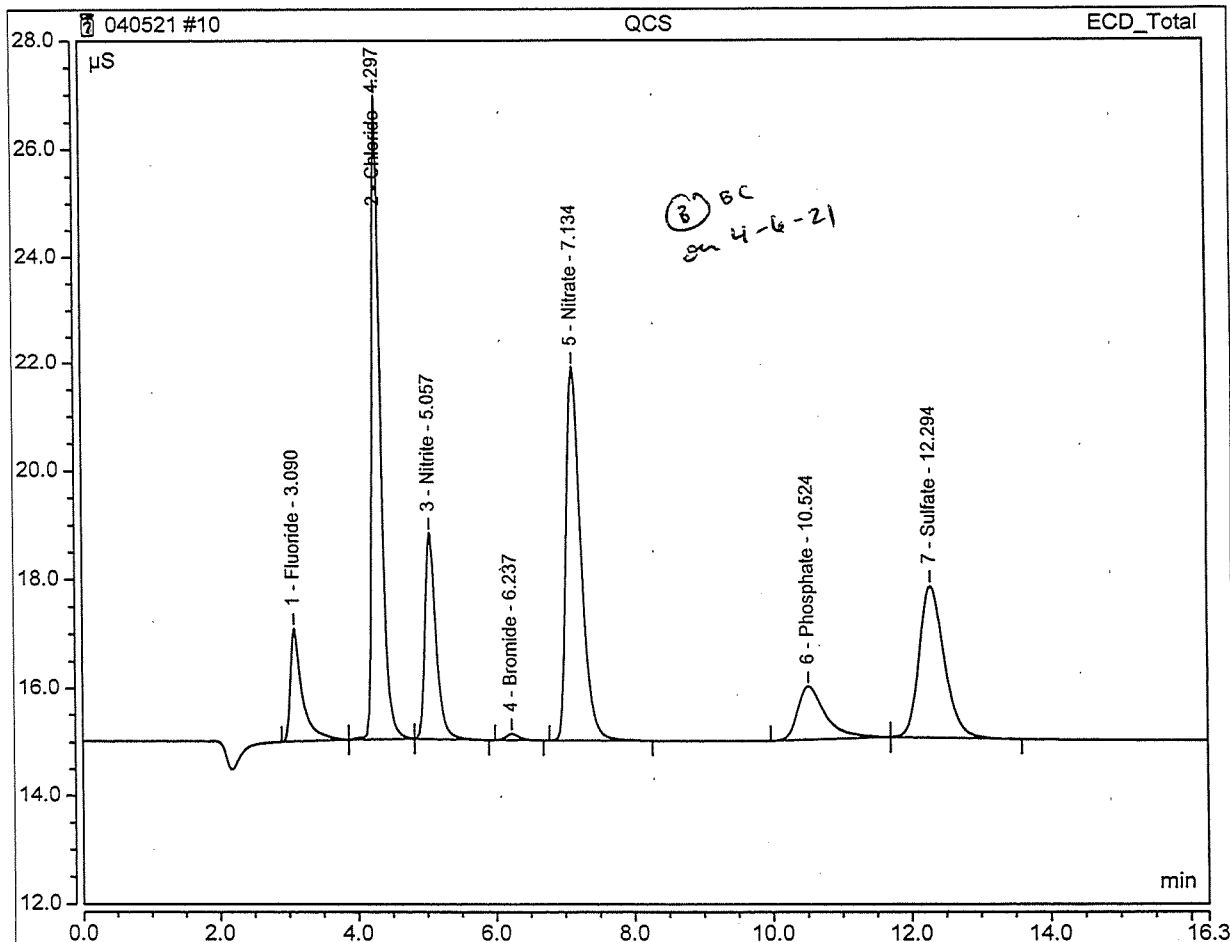


No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount PPM
1	3.09	Fluoride	BMB	0.413	2.089	2.0939 ✓
2	4.30	Chloride	BMB	1.745	11.947	11.9343 ✓
3	5.06	Nitrite	BMB	0.701	3.799	2.4538 ✓
4	6.24	Bromide	BMB	0.025	0.119	0.4539 ✓
5	7.13	Nitrate	BMB	1.708	6.900	4.9122 ✓
6	10.52	Phosphate	BMB*	0.434	0.984	2.7482 ✓
7	12.29	Sulfate	BMB	1.177	2.805	12.3102 ✓
TOTAL:				6.20	28.64	36.91

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10 QCS
 2101269

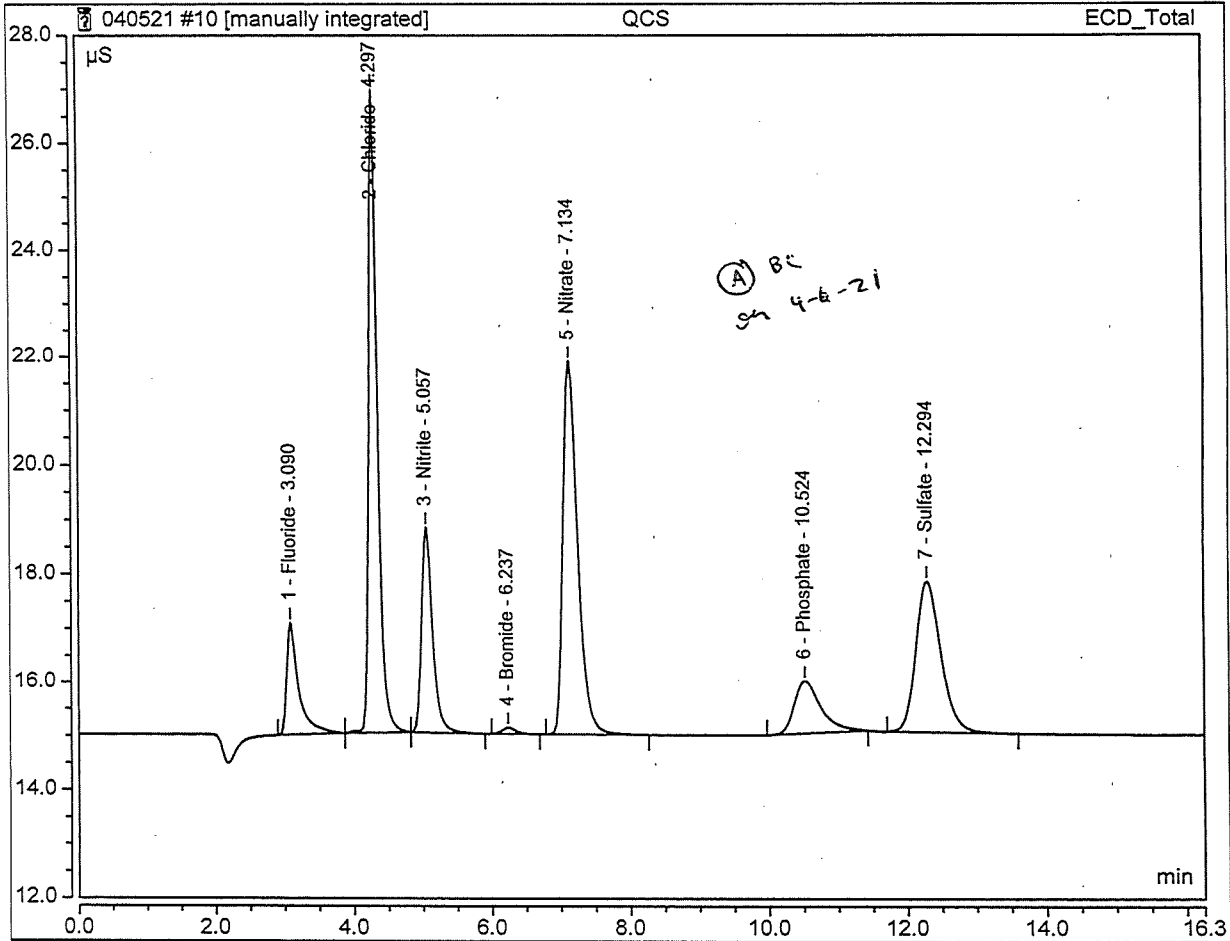
Sample Name:	QCS	Inj. Vol:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions Method	Operator:	JG
Inj. Date / Time:	05-Apr-2021 13:49	Run Time:	16.25



No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount PPM
1	3.09	Fluoride	BMB	0.413	2.089	2.0939
2	4.30	Chloride	BMB	1.745	11.947	11.9343
3	5.06	Nitrite	BMB	0.701	3.799	2.4538
4	6.24	Bromide	BMB	0.025	0.119	0.4539
5	7.13	Nitrate	BMB	1.708	6.900	4.9122
6	10.52	Phosphate	BMB	0.458	0.995	2.9293
7	12.29	Sulfate	BMB	1.177	2.805	12.3102
TOTAL:				6.23	28.65	37.09

W. J. G.

10 QCS 2101269			
Sample Name:	QCS	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions - Method	Operator:	JG
Inj. Date/Time:	05-Apr-2021 / 13:49	Run Time:	16:25

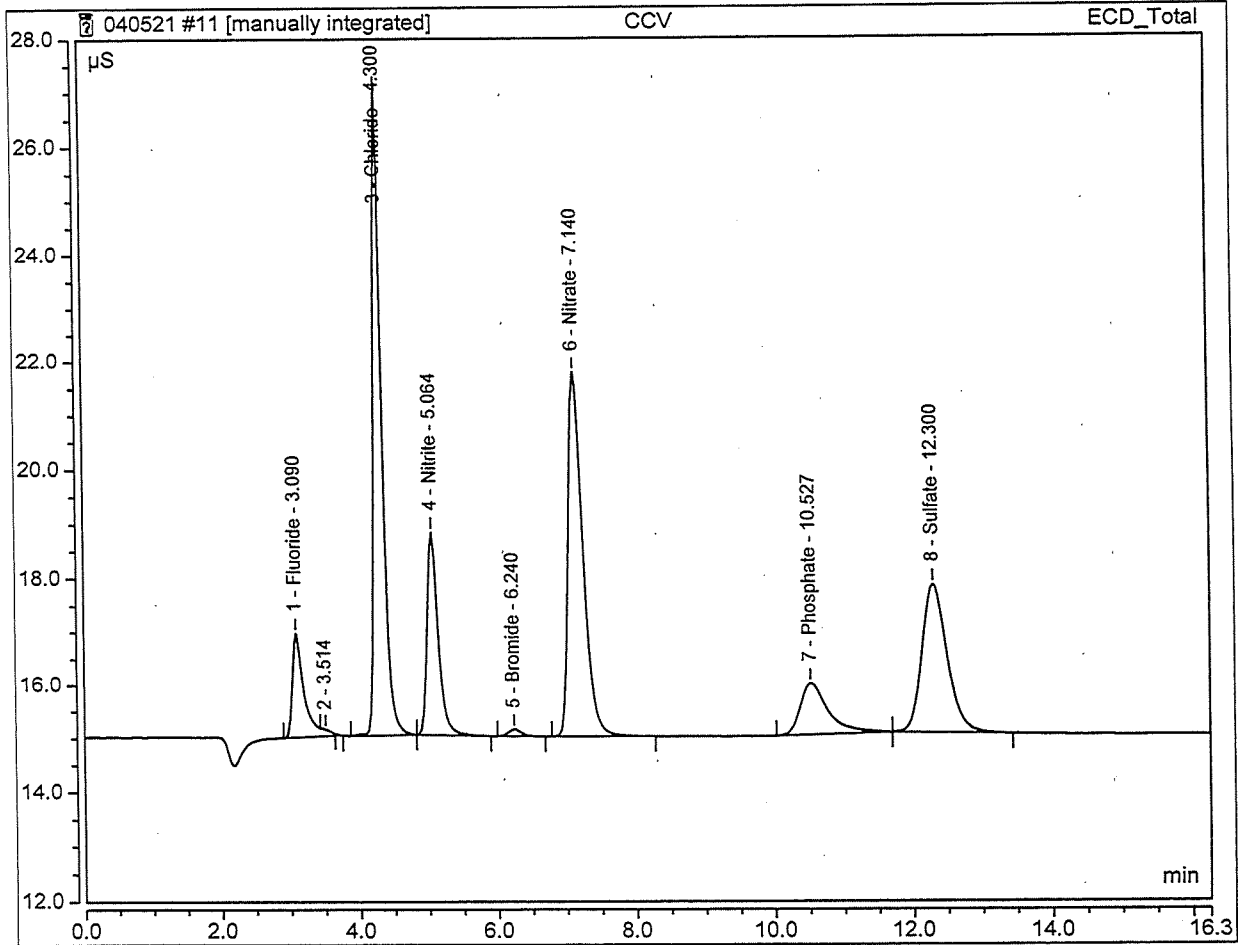


No.	Time min	Peak Name	Peak Type	Area μS*min	Height μS	Amount PPM
1	3.09	Fluoride	BMB	0.413	2.089	2.0939
2	4.30	Chloride	BMB	1.745	11.947	11.9343
3	5.06	Nitrite	BMB	0.701	3.799	2.4538
4	6.24	Bromide	BMB	0.025	0.119	0.4539
5	7.13	Nitrate	BMB	1.708	6.900	4.9122
6	10.52	Phosphate	BMB*	0.434	0.984	2.7482
7	12.29	Sulfate	BMB	1.177	2.805	12.3102
TOTAL:				6.20	28.64	36.91

W. J. G.

11 CCV
 2101274

Sample Name:	CCV	Inj. Vol:	25.00
Injection Type:	Unknown	Dilution Factor:	1:0000
Instrument Method:	Anions_Method	Operator:	JG
Inj. Date / Time:	05-Apr-2021 / 14:08	Run-Time:	16:25

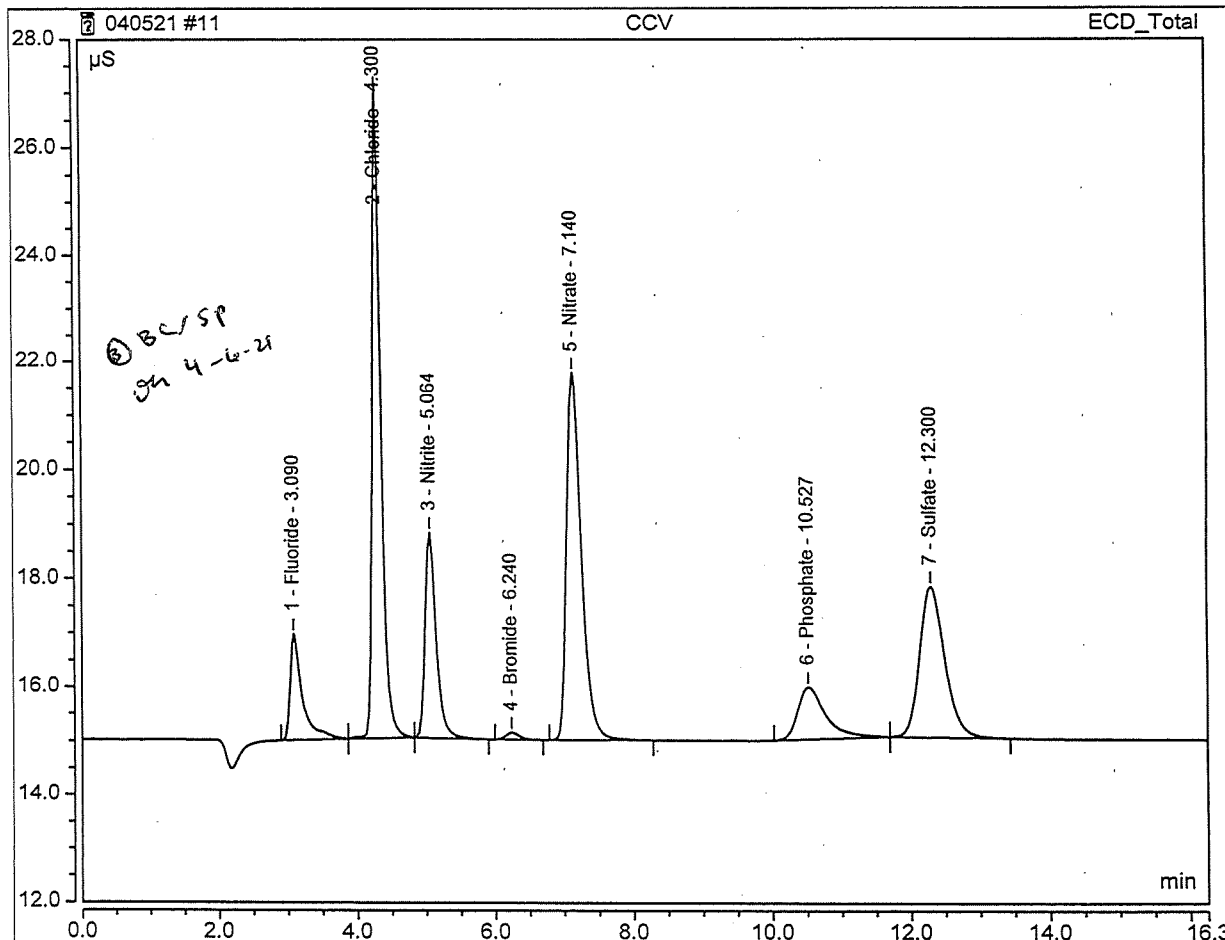


No.	Time min	Peak Name	Peak Type	Area µS·min	Height µS	Amount PPM
1	3.09	Fluoride	BMB*	0.384	1.972	1.9566 ✓
3	4.30	Chloride	BMB	1.752	11.988	11.9791 ✓
4	5.06	Nitrite	BMB	0.702	3.798	2.4595 ✓
5	6.24	Bromide	BMB	0.027	0.127	0.4880 ✓
6	7.14	Nitrate	BMB	1.678	6.776	4.8293 ✓
7	10.53	Phosphate	BMB	0.446	0.972	2.8372 ✓
8	12.30	Sulfate	BMB	1.173	2.799	12.2710 ✓
TOTAL:				6.16	28.43	36.82

11 CCV
 2101274

W 4/7/21

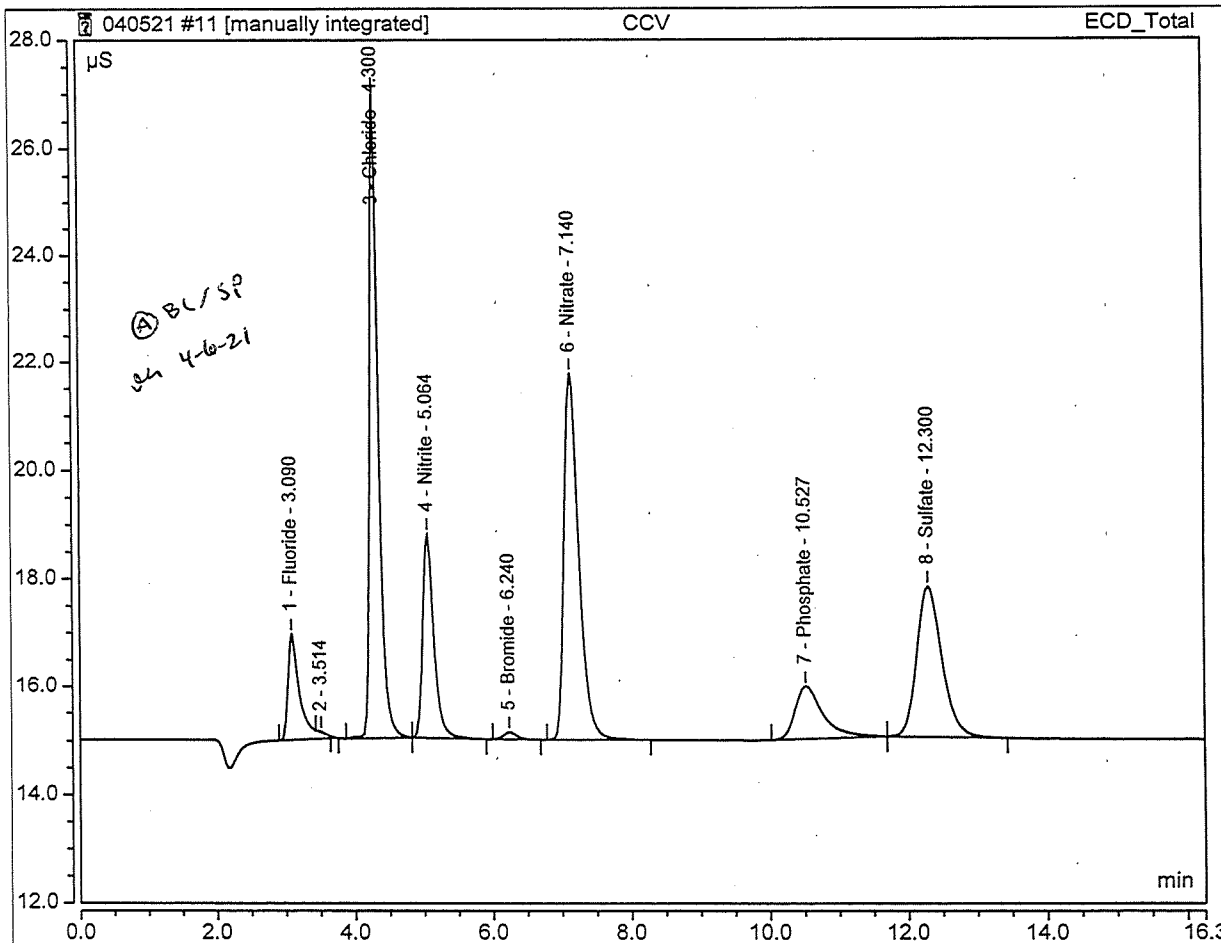
Sample Name:	CCV	Inj. Vol:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions Method	Operator:	JG
Inj. Date / Time:	05-Apr-2021 / 14:08	Run Time:	16.25



No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount PPM
1	3.09	Fluoride	BMB	0.394	1.976	2.0049
2	4.30	Chloride	BMB	1.752	11.988	11.9791
3	5.06	Nitrite	BMB	0.702	3.798	2.4595
4	6.24	Bromide	BMB	0.027	0.127	0.4880
5	7.14	Nitrate	BMB	1.678	6.776	4.8293
6	10.53	Phosphate	BMB	0.446	0.972	2.8372
7	12.30	Sulfate	BMB	1.173	2.799	12.2710
TOTAL:				6.17	28.44	36.87

11 CCV
 2101274

Sample Name	CCV	Inj. Vol.	25.00
Injection Type	Unknown	Dilution Factor	1.0000
Instrument Method	Anions_Method	Operator	JG
Inj. Date / Time	05-Apr-2021 14:08	Run Time	16:25

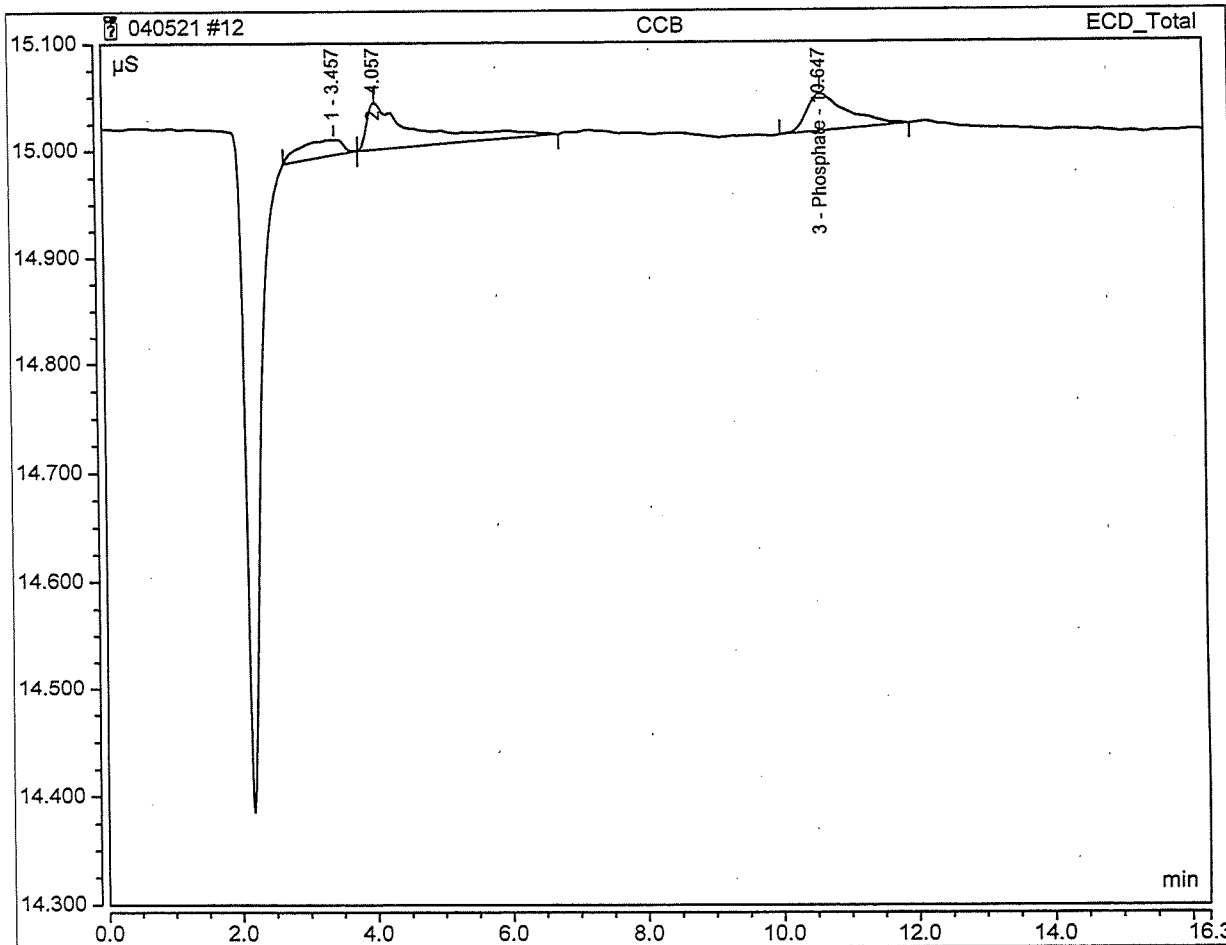


No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount PPM
1	3.09	Fluoride	BMB*	0.384	1.972	1.9566
3	4.30	Chloride	BMB	1.752	11.988	11.9791
4	5.06	Nitrite	BMB	0.702	3.798	2.4595
5	6.24	Bromide	BMB	0.027	0.127	0.4880
6	7.14	Nitrate	BMB	1.678	6.776	4.8293
7	10.53	Phosphate	BMB	0.446	0.972	2.8372
8	12.30	Sulfate	BMB	1.173	2.799	12.2710
TOTAL:				6.16	28.43	36.82

12 CCB

W 4/7/21

Sample Name:	CCB	Inj. Vol:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_Method	Operator:	JG
Inj. Date/Time:	05-Apr-2021 1:14:27	Run Time:	16:25



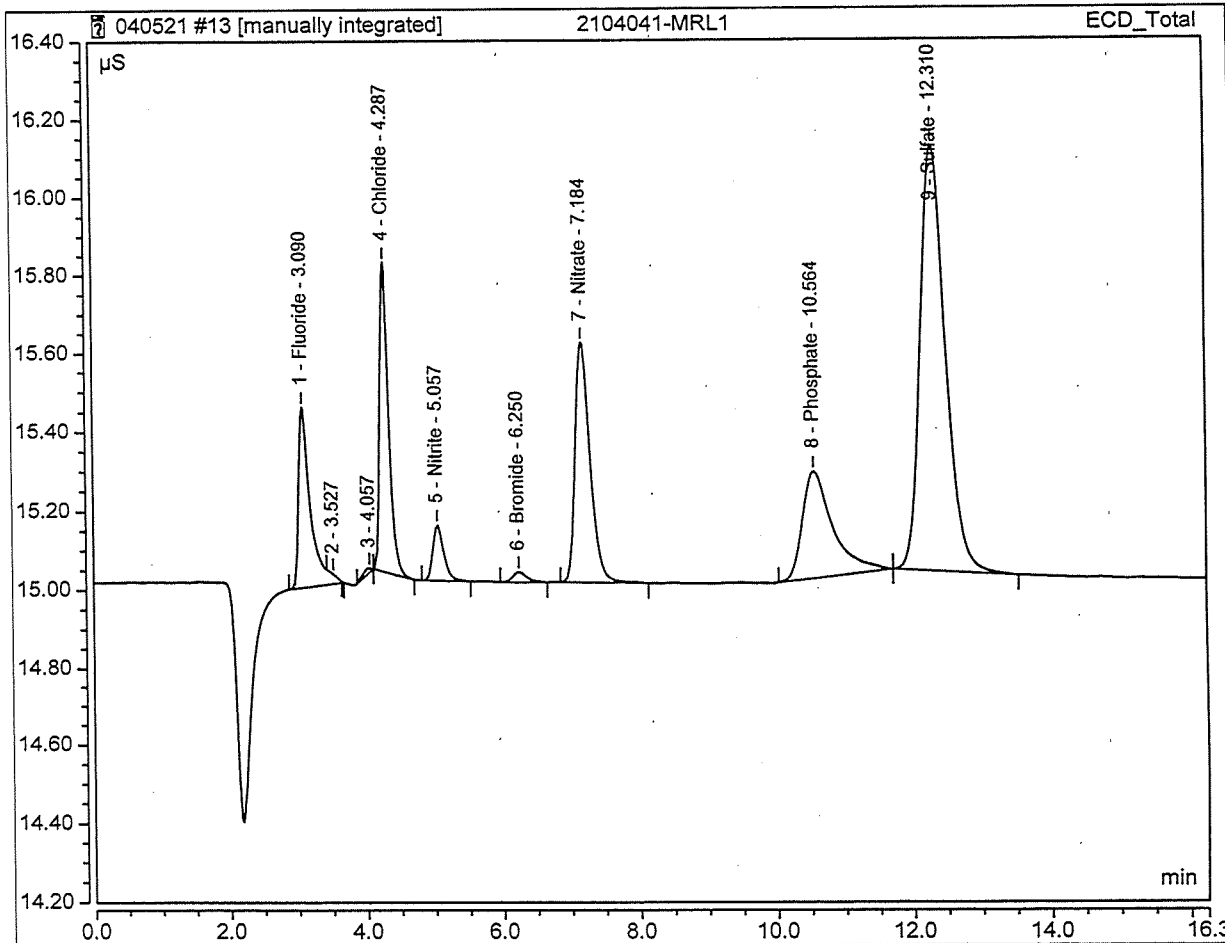
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount PPM
3	10.65	Phosphate	BMB	0.024	0.035	n.a.
TOTAL:				0.02	0.03	0.00

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13 2104041-MRL1
 2101275

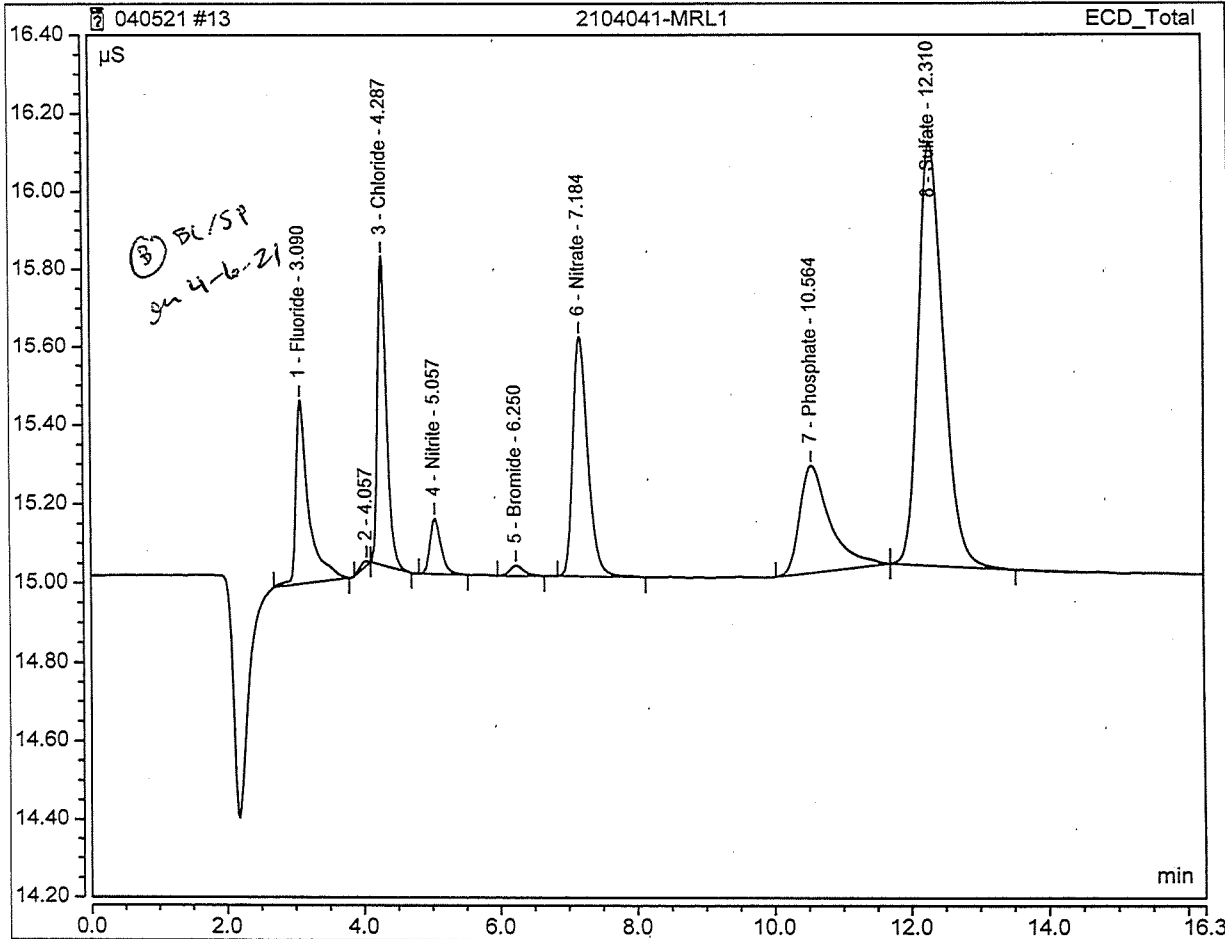
Sample Name:	2104041-MRL1	Inj. Vol:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_Method	Operator:	JG
Inj. Date/Time:	05-Apr-2021 / 14:46	Run Time:	16:25



No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount PPM
1	3.09	Fluoride	BMB*	0.091	0.457	0.5329 ✓
4	4.29	Chloride	BMB	0.118	0.787	1.3361 ✓
5	5.06	Nitrite	BMB	0.026	0.142	0.1296 ✓
6	6.25	Bromide	BMB	0.006	0.027	0.0722 ✓
7	7.18	Nitrate	BMB	0.153	0.609	0.6285 ✓
8	10.56	Phosphate	BMB	0.140	0.272	0.5131 ✓
9	12.31	Sulfate	BMB	0.461	1.086	5.6270 ✓
TOTAL:				1.00	3.38	8.84

13 2104041-MRL1
 2101275

Sample Name:	2104041-MRL1	Inj. Vol:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions Method	Operator:	JG
Inj. Date / Time:	05-Apr-2021 / 14:46	Run Time:	16.25

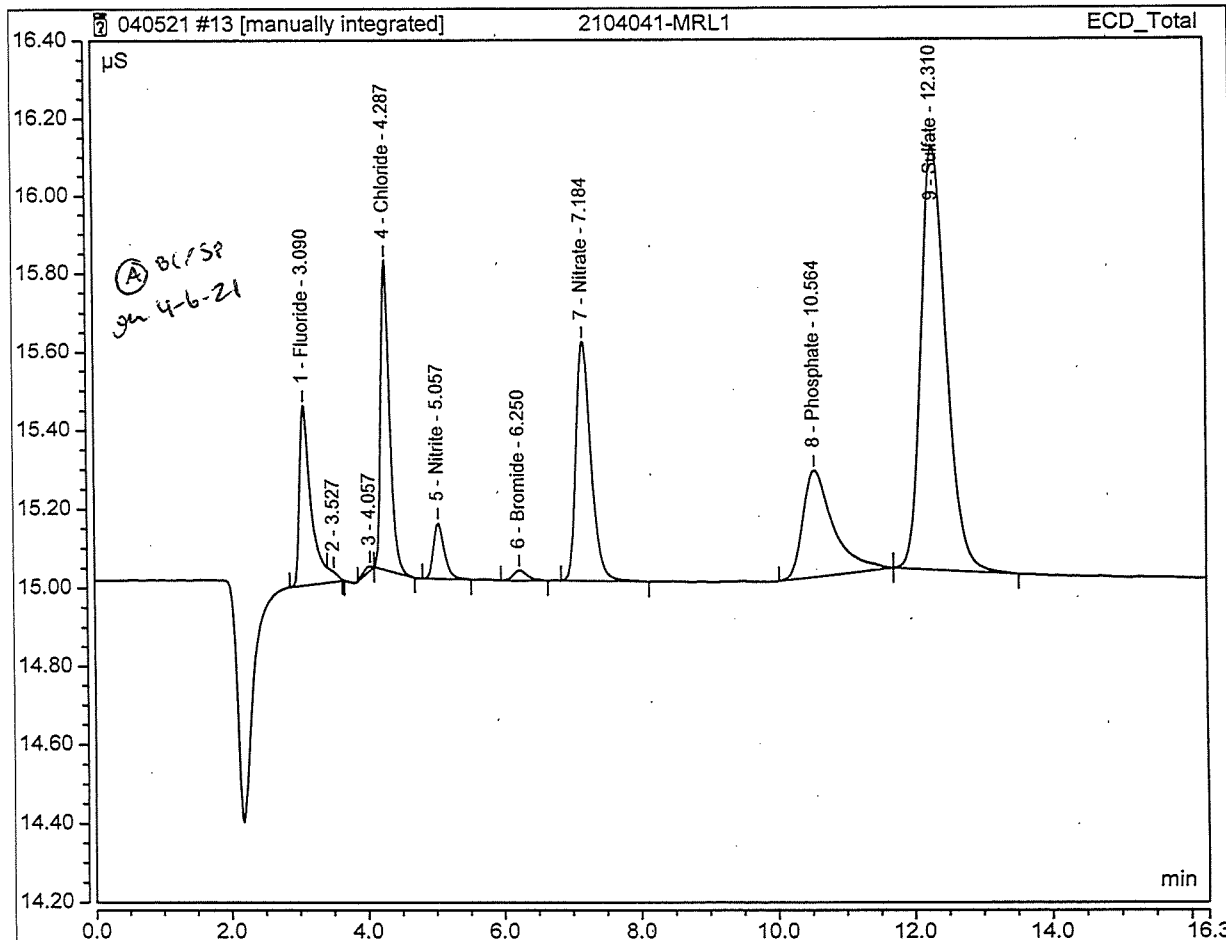


No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount PPM
1	3.09	Fluoride	BMB	0.100	0.465	0.5741
3	4.29	Chloride	BMB	0.118	0.787	1.3361
4	5.06	Nitrite	BMB	0.026	0.142	0.1296
5	6.25	Bromide	BMB	0.006	0.027	0.0722
6	7.18	Nitrate	BMB	0.153	0.609	0.6285
7	10.56	Phosphate	BMB	0.140	0.272	0.5131
8	12.31	Sulfate	BMB	0.461	1.086	5.6270
TOTAL:				1.00	3.39	8.88

13 2104041-MRL1
 2101275

W. J. M.

Sample Name:	2104041-MRL1	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions Method	Operator:	JG
Inj. Date/Time:	05-Apr-2021 14:46	Run Time:	16:25

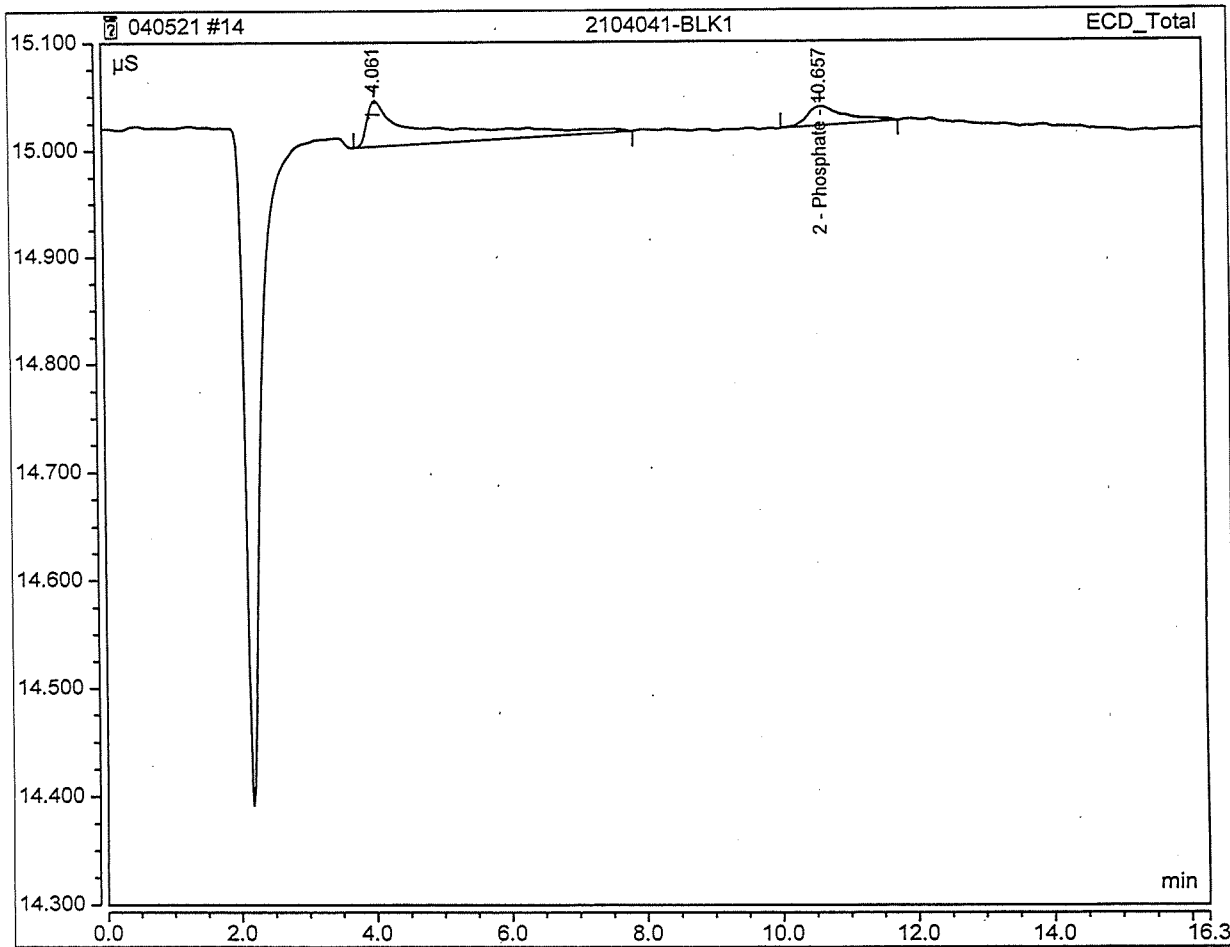


No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount PPM
1	3.09	Fluoride	BMB*	0.091	0.457	0.5329
4	4.29	Chloride	BMB	0.118	0.787	1.3361
5	5.06	Nitrite	BMB	0.026	0.142	0.1296
6	6.25	Bromide	BMB	0.006	0.027	0.0722
7	7.18	Nitrate	BMB	0.153	0.609	0.6285
8	10.56	Phosphate	BMB	0.140	0.272	0.5131
9	12.31	Sulfate	BMB	0.461	1.086	5.6270
TOTAL:				1.00	3.38	8.84

14 2104041-BLK1

Wright

Sample Name:	2104041-BLK1	Inj. Vol:	25.00
Injection Type:	Unknown	Dilution Factor:	1:0000
Instrument Method:	Anions_Method	Operator:	JG
Inj. Date / Time:	05-Apr-2021 / 15:05	Run Time:	16.25



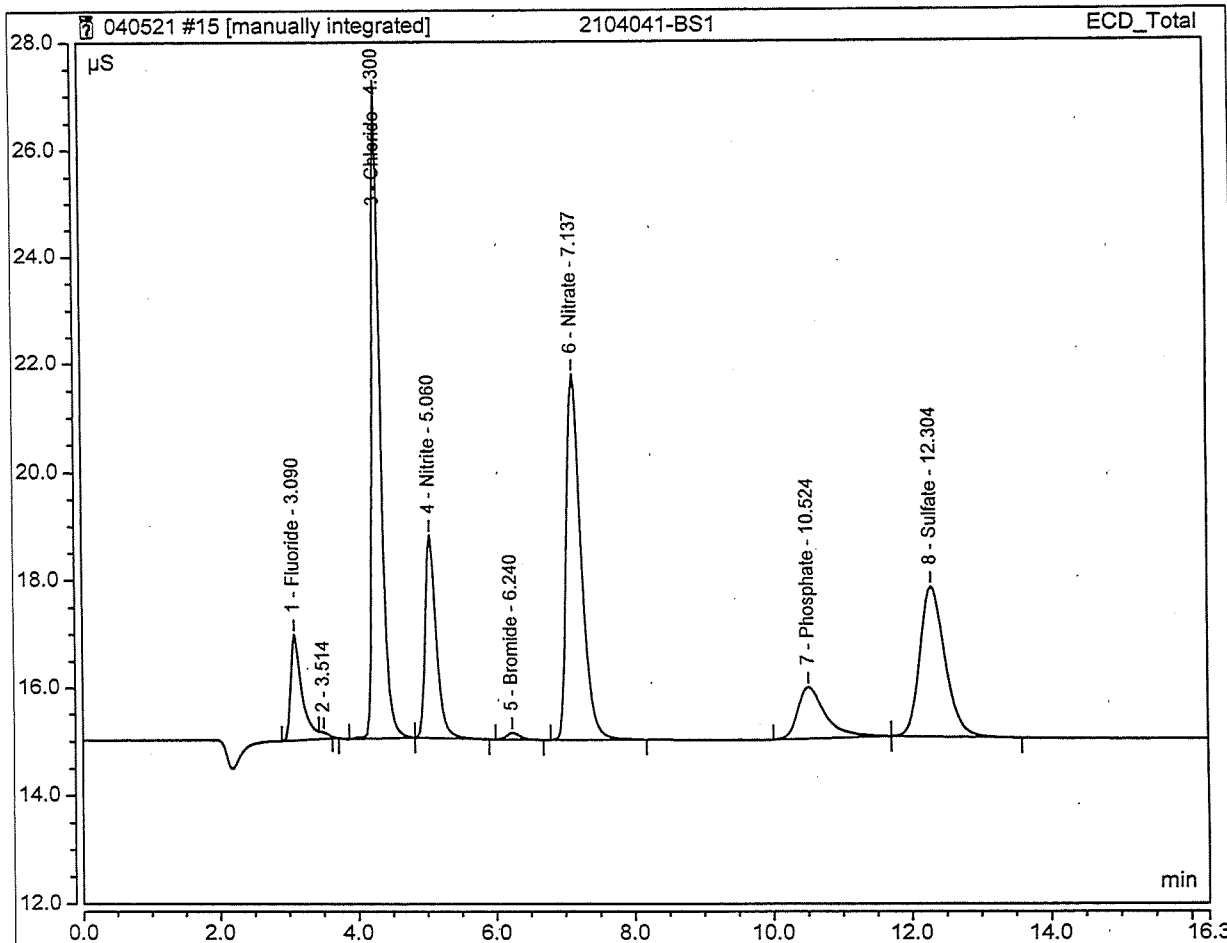
No.	Time min	Peak Name	Peak Type	Area µS·min	Height µS	Amount PPM
2	10.66	Phosphate	BMB	0.012	0.018	n.a.
TOTAL:				0.01	0.02	0.00

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15 2104041-BS1
 2101270

Sample Name:	2104041-BS1	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1:0000
Instrument Method:	Anions Method	Operator:	JG
Inj. Date / Time:	05-Apr-2021 / 15:24	Run Time:	16:25

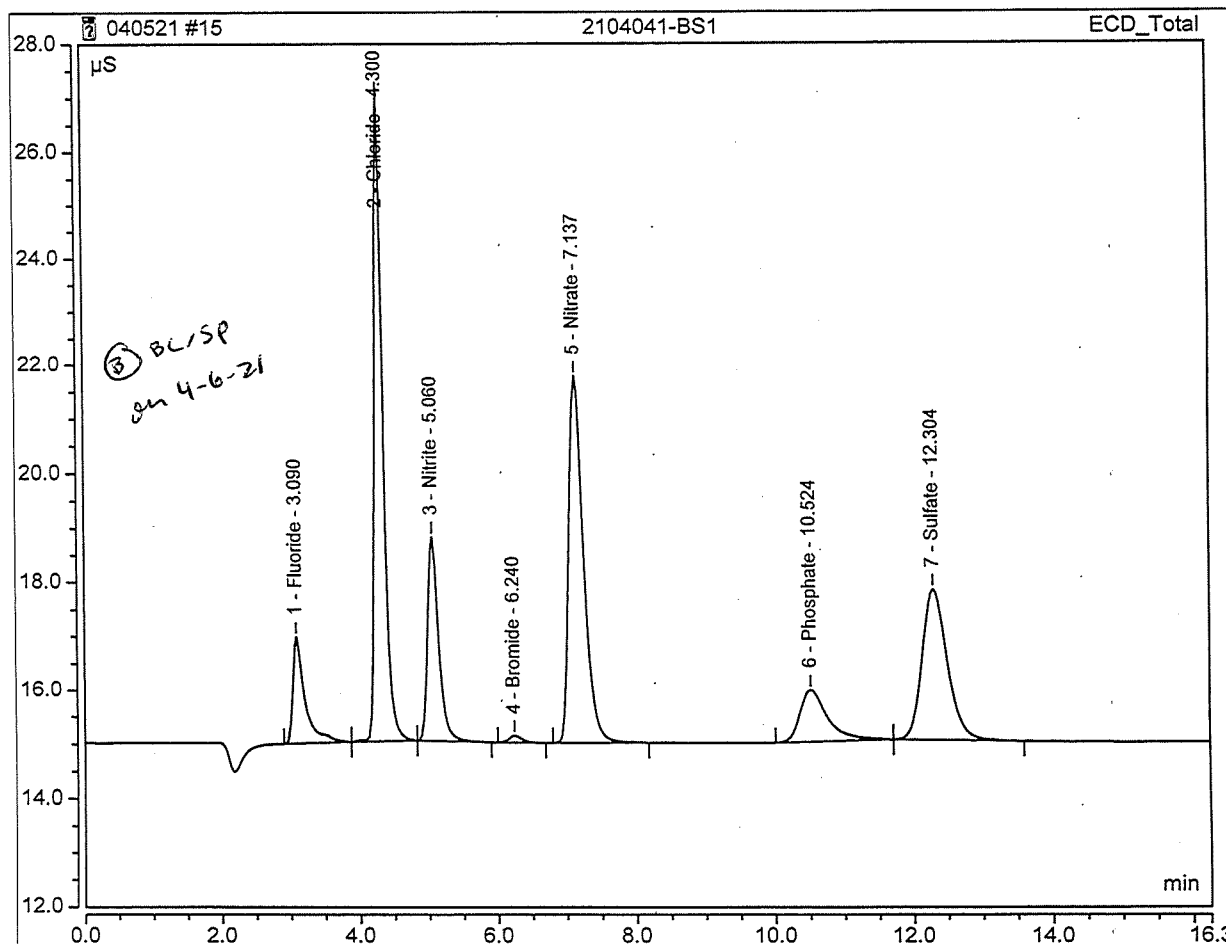


No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount PPM
1	3.09	Fluoride	BMB*	0.382	1.977	1.9432 ✓
3	4.30	Chloride	BMB	1.751	11.978	11.9692 ✓
4	5.06	Nitrite	BMB	0.699	3.787	2.4488 ✓
5	6.24	Bromide	BMB	0.027	0.128	0.4940 ✓
6	7.14	Nitrate	BMB	1.677	6.774	4.8274 ✓
7	10.52	Phosphate	BMB	0.443	0.965	2.8148 ✓
8	12.30	Sulfate	BMB	1.178	2.799	12.3120 ✓
TOTAL:				6.16	28.41	36.81

15 2104041-BS1
 2101270

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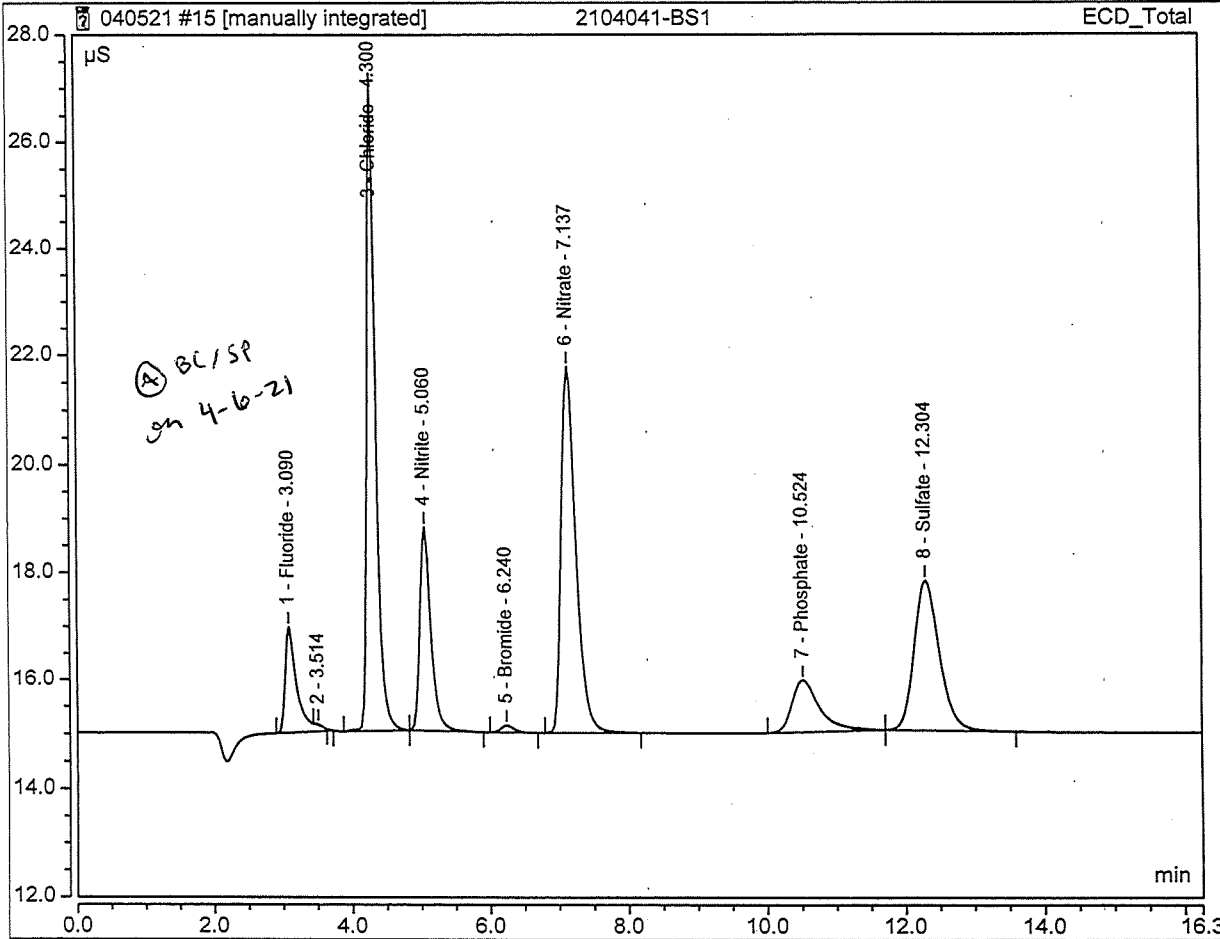
Sample Name:	2104041-BS1	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions Method	Operator:	JG
Inj. Date / Time:	05-Apr-2021 / 15:24	Run Time:	16:25



No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount PPM
1	3.09	Fluoride	BMB	0.396	1.983	2.0130
2	4.30	Chloride	BMB	1.751	11.978	11.9692
3	5.06	Nitrite	BMB	0.699	3.787	2.4488
4	6.24	Bromide	BMB	0.027	0.128	0.4940
5	7.14	Nitrate	BMB	1.677	6.774	4.8274
6	10.52	Phosphate	BMB	0.443	0.965	2.8148
7	12.30	Sulfate	BMB	1.178	2.799	12.3120
TOTAL:				6.17	28.41	36.88

15 2104041-BS1
 2101270

Sample Name:	2104041-BS1	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions Method	Operator:	JG
Inj. Date / Time:	05-Apr-2021 / 15:24	Run Time:	16:25

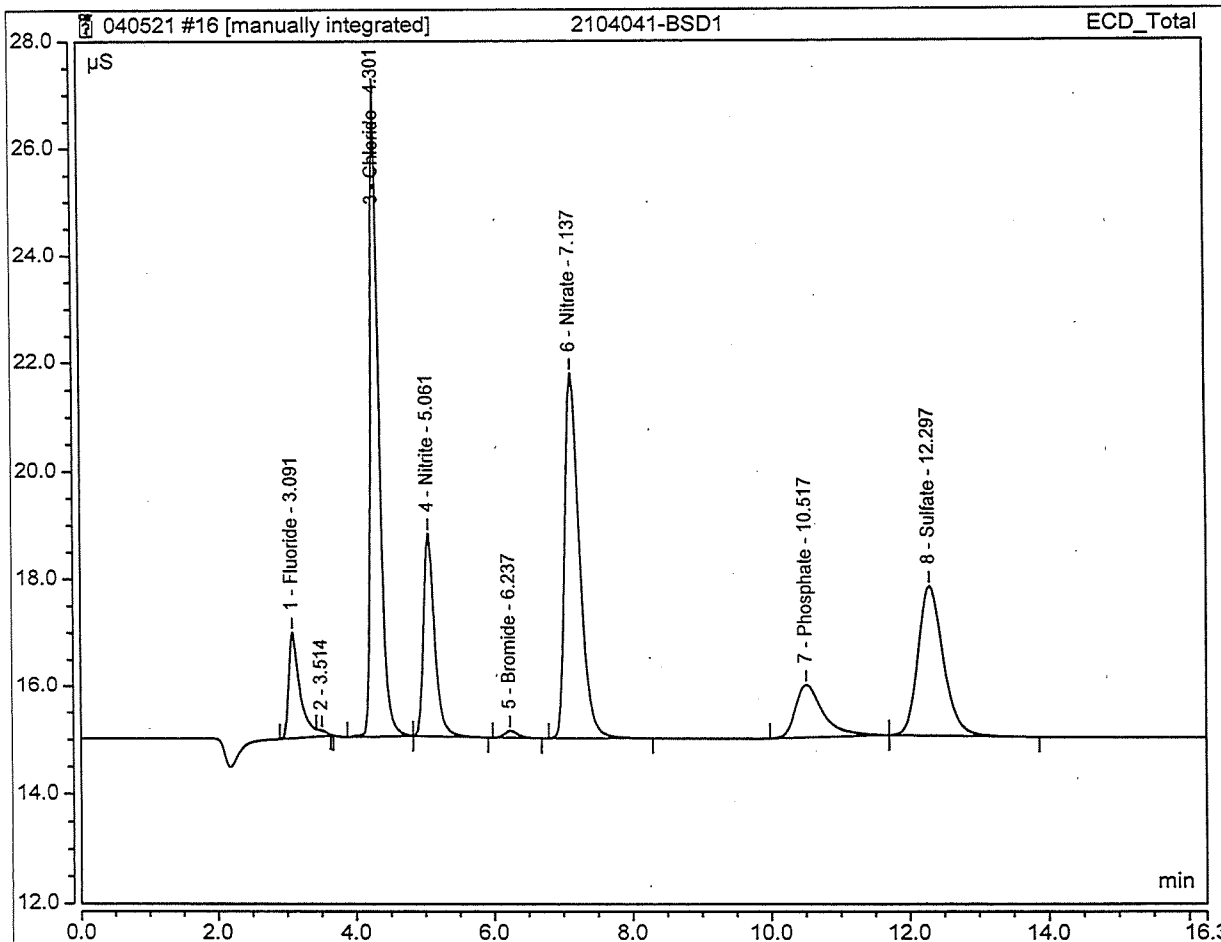


No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount PPM
1	3.09	Fluoride	BMB*	0.382	1.977	1.9432
3	4.30	Chloride	BMB	1.751	11.978	11.9692
4	5.06	Nitrite	BMB	0.699	3.787	2.4488
5	6.24	Bromide	BMB	0.027	0.128	0.4940
6	7.14	Nitrate	BMB	1.677	6.774	4.8274
7	10.52	Phosphate	BMB	0.443	0.965	2.8148
8	12.30	Sulfate	BMB	1.178	2.799	12.3120
TOTAL:				6.16	28.41	36.81

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16 2104041-BSD1
 2101270

Sample Name	2104041-BSD1	Inj. Vol.	25.00
Injection Type	Unknown	Dilution Factor	1.0000
Instrument Method	Anions_Method	Operator	JG
Inj. Date / Time	05-Apr-2021 / 15:44	Run Time	16:25

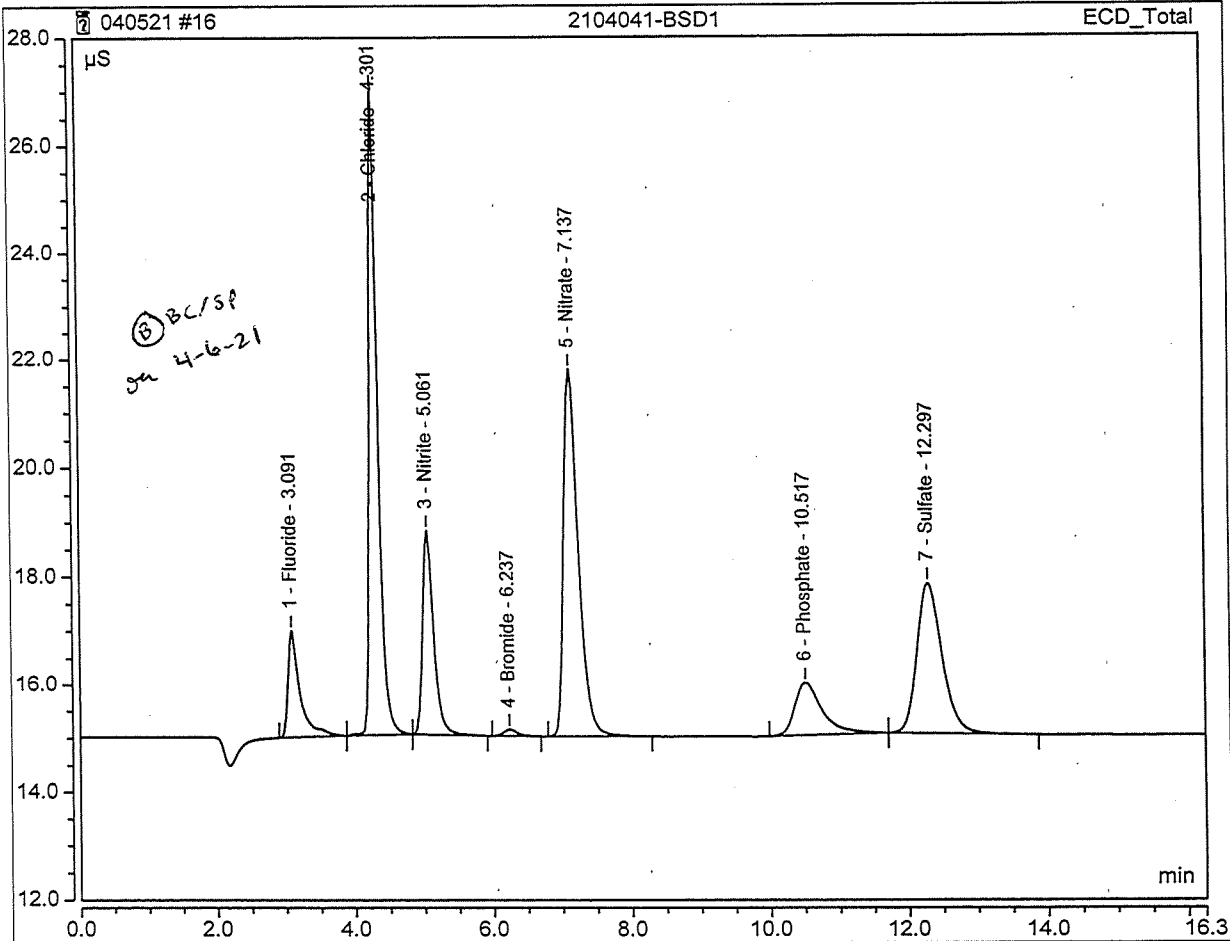


No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount PPM
1	3.09	Fluoride	BMB*	0.377	1.988	1.9224 ✓
3	4.30	Chloride	BMB	1.752	11.985	11.9770 ✓
4	5.06	Nitrite	BMB	0.701	3.792	2.4543 ✓
5	6.24	Bromide	BMB	0.026	0.126	0.4796 ✓
6	7.14	Nitrate	BMB	1.679	6.781	4.8324 ✓
7	10.52	Phosphate	BMB	0.452	0.986	2.8824 ✓
8	12.30	Sulfate	BMB	1.180	2.803	12.3317 ✓
TOTAL:				6.17	28.46	36.88

16 2104041-BSD1
 2101270

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 4/7/21

Sample Name:	2104041-BSD1	Inj. Vol:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_Method	Operator:	JG
Inj. Date / Time:	05-Apr-2021 1:15:44	Run Time:	16:25

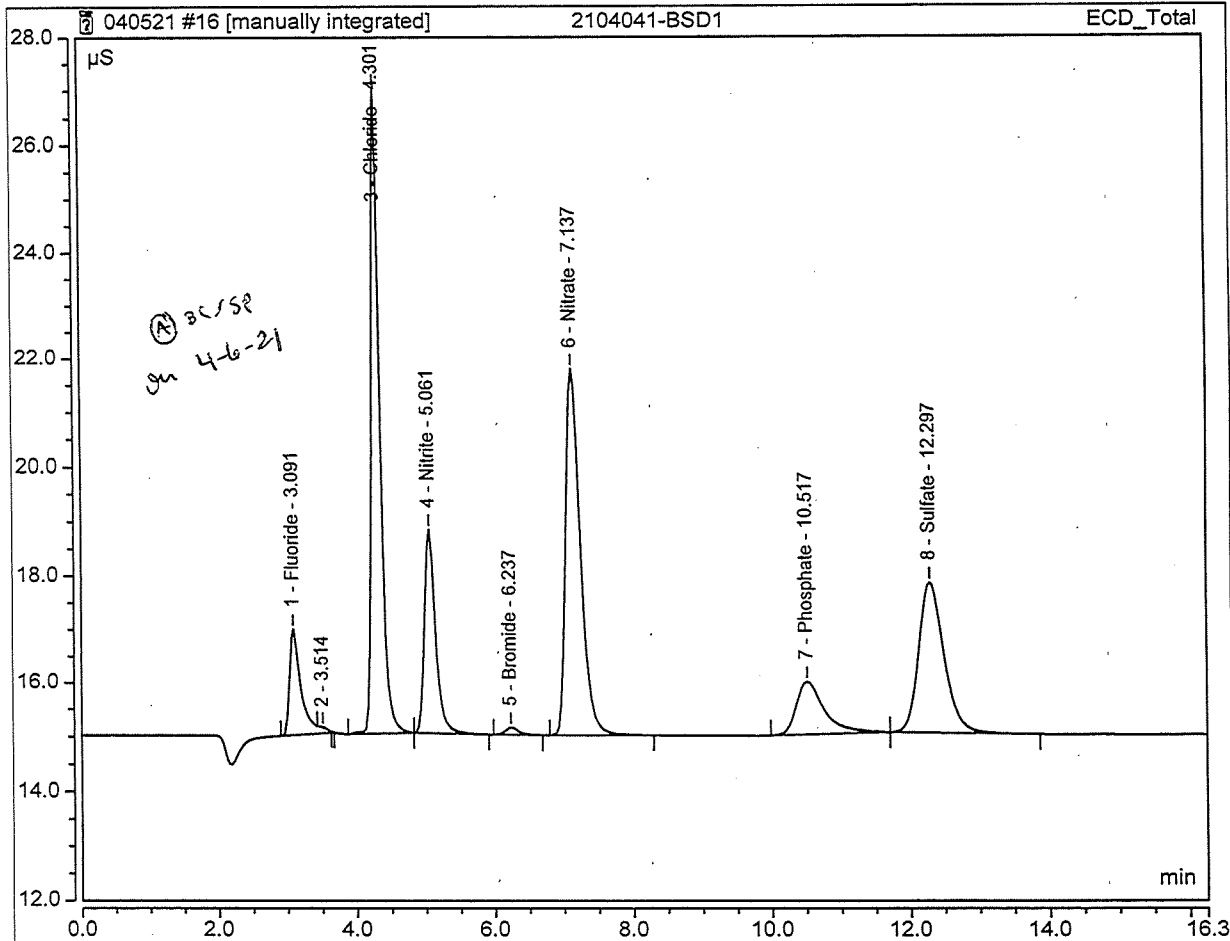


No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount PPM
1	3.09	Fluoride	BMB	0.398	1.997	2.0218
2	4.30	Chloride	BMB	1.752	11.985	11.9770
3	5.06	Nitrite	BMB	0.701	3.792	2.4543
4	6.24	Bromide	BMB	0.026	0.126	0.4796
5	7.14	Nitrate	BMB	1.679	6.781	4.8324
6	10.52	Phosphate	BMB	0.452	0.986	2.8824
7	12.30	Sulfate	BMB	1.180	2.803	12.3317
TOTAL:				6.19	28.47	36.98

16 2104041-BSD1
 2101270

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 4/6/21

Sample Name:	2104041-BSD1	Inj. Vol:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions Method	Operator:	JG
Inj. Date / Time:	05-Apr-2021 / 15:44	Run Time:	16:25



No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount PPM
1	3.09	Fluoride	BMB*	0.377	1.988	1.9224
3	4.30	Chloride	BMB	1.752	11.985	11.9770
4	5.06	Nitrite	BMB	0.701	3.792	2.4543
5	6.24	Bromide	BMB	0.026	0.126	0.4796
6	7.14	Nitrate	BMB	1.679	6.781	4.8324
7	10.52	Phosphate	BMB	0.452	0.986	2.8824
8	12.30	Sulfate	BMB	1.180	2.803	12.3317
TOTAL:				6.17	28.46	36.88

Sequence Overview

M. J. Johnson

Aquion_AS_DV

Sequence Details

Sequence Name:	040721		
Directory:	Instrument Data\Aquion_AS_DV\Instrument Data\2021		
Data Vault:	ChromeleonLocal	Created On:	15/Jul/2020 09:48
No. of Injections:	45	Updated On:	09/Apr/2021 14:12

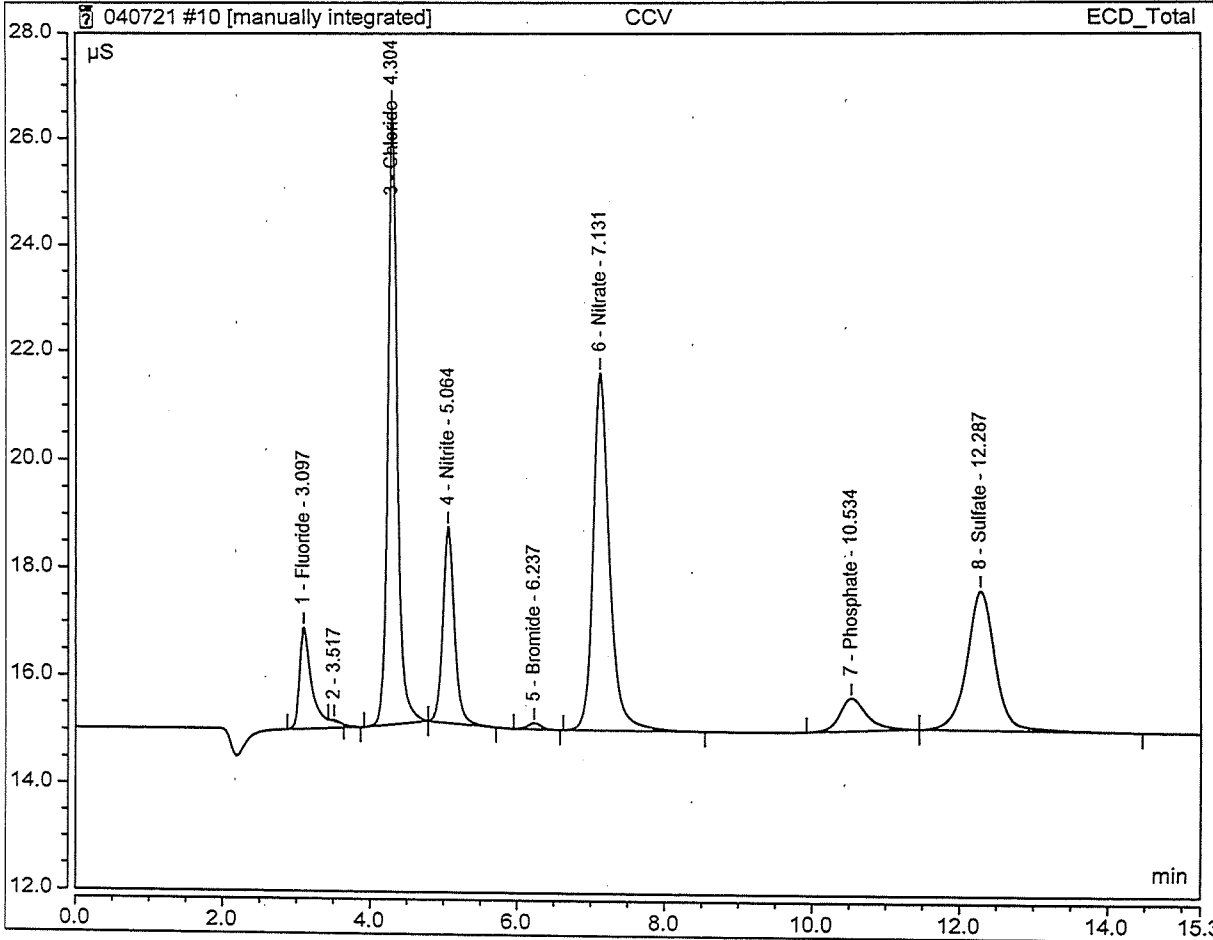
No.	Injection Name	Type	Inject Time	Status	Comment
1	CONC ELUENT	Unknown	07/Apr/2021 09:34	Finished	
2	RINSE	Unknown	07/Apr/2021 09:52	Finished	
3	RINSE	Unknown	07/Apr/2021 10:10	Finished	
4	RINSE	Unknown	07/Apr/2021 10:28	Finished	
5	RINSE	Unknown	07/Apr/2021 10:46	Finished	
6	Cal 1	Calibration Standard	05/Apr/2021 12:32	Finished	2101265
7	Cal 2	Calibration Standard	05/Apr/2021 12:52	Finished	2101266
8	Cal 3	Calibration Standard	05/Apr/2021 13:11	Finished	2101267
9	Cal 4	Calibration Standard	05/Apr/2021 13:30	Finished	2101268
10	CCV ↓ B	Unknown	07/Apr/2021 11:04	Finished	2101329
11	CCB	Unknown	07/Apr/2021 11:23	Finished	
12	2104093-MRL1	Unknown	07/Apr/2021 11:41	Finished	2101330
13	2104093-BLK1	Unknown	07/Apr/2021 11:59	Finished	
14	2104093-BS1 ↓ B	Unknown	07/Apr/2021 12:17	Finished	2101270
15	2104093-BSD1 ↓ B	Unknown	07/Apr/2021 12:35	Finished	2101270
16	21D0126-01RE1@10	Unknown	07/Apr/2021 17:02	Finished	(2104066) CL, SO4
17	21D0146-01RE1@5	Unknown	07/Apr/2021 17:20	Finished	(2104066) SO4
18	21D0148-05RE2@100	Unknown	07/Apr/2021 17:38	Finished	(2104066) SO4
19	21D0148-06RE2@100	Unknown	07/Apr/2021 17:56	Finished	(2104066) SO4
20	21D0152-01RE1@5	Unknown	07/Apr/2021 18:14	Finished	(2104066) SO4
21	21D0038-01RE1@1000	Unknown	07/Apr/2021 18:32	Finished	(2104092) SO4
22	21D0175-02	Unknown	07/Apr/2021 18:50	Finished	NO2, NO3
23	21D0185-01	Unknown	07/Apr/2021 19:08	Finished	F, CL, NO2, NO3, SO4
24	21D0186-01	Unknown	07/Apr/2021 19:27	Finished	F, CL, BR, NO3, SO4
25	21D0038-04RE1@50	Unknown	07/Apr/2021 19:45	Finished	(2104092) SO4
26	CONC ELUENT	Unknown	07/Apr/2021 20:03	Finished	
27	RINSE	Unknown	07/Apr/2021 20:21	Finished	
28	CCV ↓ B	Unknown	07/Apr/2021 20:39	Finished	2101270
29	CCB	Unknown	07/Apr/2021 20:57	Finished	
30	21D0115-01	Unknown	07/Apr/2021 21:15	Finished	F, CL, NO2, NO3, SO4
31	21D0200-01	Unknown	07/Apr/2021 21:33	Finished	F, CL, NO2, NO3, SO4
32	21D0200-01RE1@10	Unknown	07/Apr/2021 21:51	Finished	(2104093) SO4
33	21D0200-01RE2@100	Unknown	07/Apr/2021 22:10	Finished	NR
34	21D0201-02	Unknown	07/Apr/2021 22:28	Finished	NO2, NO3
35	2103447-MS4 2103347	Unknown	07/Apr/2021 22:46	Finished	21C0685-03@500 F, CL, NO2, NO3, 21012
36	2103447-MSD4	Unknown	07/Apr/2021 23:04	Finished	21C0685-03@500 F, CL, NO2, NO3, 21012
37	2104066-MS1	Unknown	07/Apr/2021 23:22	Finished	21D0009-01 NO2, NO3 2101270
38	2104066-MSD1	Unknown	07/Apr/2021 23:40	Finished	21D0009-01 NO2, NO3 2101270
39	2104066-MS2	Unknown	07/Apr/2021 23:58	Finished	21D0148-02 F, CL, NO2, NO3, SO4, 21012
40	2104066-MSD2	Unknown	08/Apr/2021 00:16	Finished	21D0148-02 F, CL, NO2, NO3, SO4, 21012
41	CONC ELUENT	Unknown	08/Apr/2021 00:34	Finished	
42	RINSE	Unknown	08/Apr/2021 00:53	Finished	
43	CCV	Unknown	08/Apr/2021 01:11	Finished	2101270
44	CCB	Unknown	08/Apr/2021 01:29	Finished	
45	SHUTDOWN	Unknown	08/Apr/2021 01:48	Finished	

Jan 4-9-21

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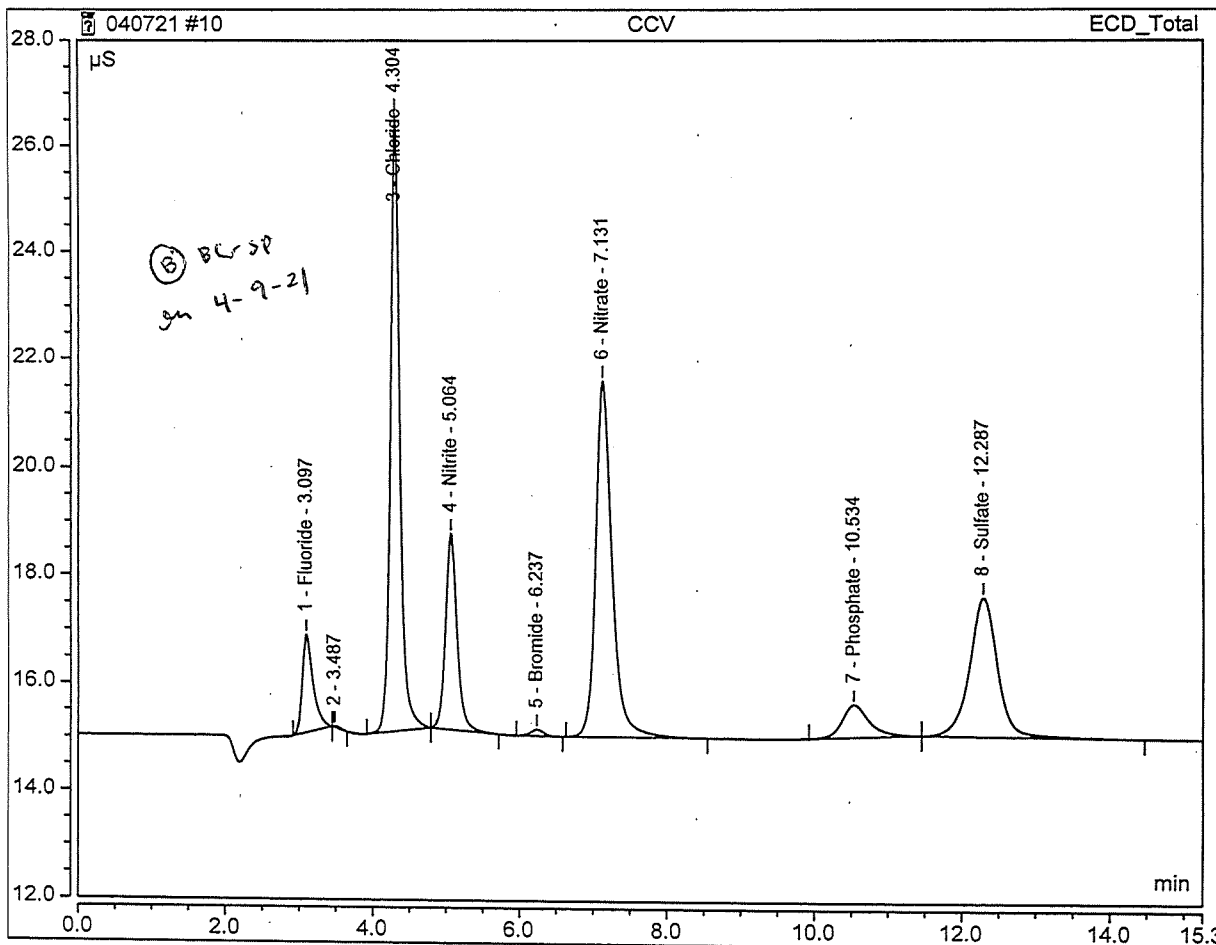
10 CCV
 2101329

Sample Name:	CCV	Inj. Vol:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions Method	Operator:	JG
Inj. Date / Time:	07-Apr-2021 / 11:04	Run Time:	15:25



No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount PPM
1	3.10	Fluoride	BMB*	0.377	1.884	1.9197 ✓
3	4.30	Chloride	BMB	1.692	11.498	11.5896 ✓
4	5.06	Nitrite	BMB	0.656	3.636	2.2978 ✓
5	6.24	Bromide	BMB	0.023	0.115	0.4139 ✓
6	7.13	Nitrate	BMB	1.696	6.595	4.8806 ✓
7	10.53	Phosphate	BMB	0.264	0.612	1.4586 ✓
8	12.29	Sulfate	BMB	1.148	2.584	12.0343 ✓
TOTAL:				5.86	26.92	34.59

10 CCV 2101329		<i>WJH</i>	
Sample Name:	CCV	Inj. Vol:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_Method	Operator:	JG
Inj. Date / Time:	07-Apr-2021 / 11:04	Run Time:	15.25

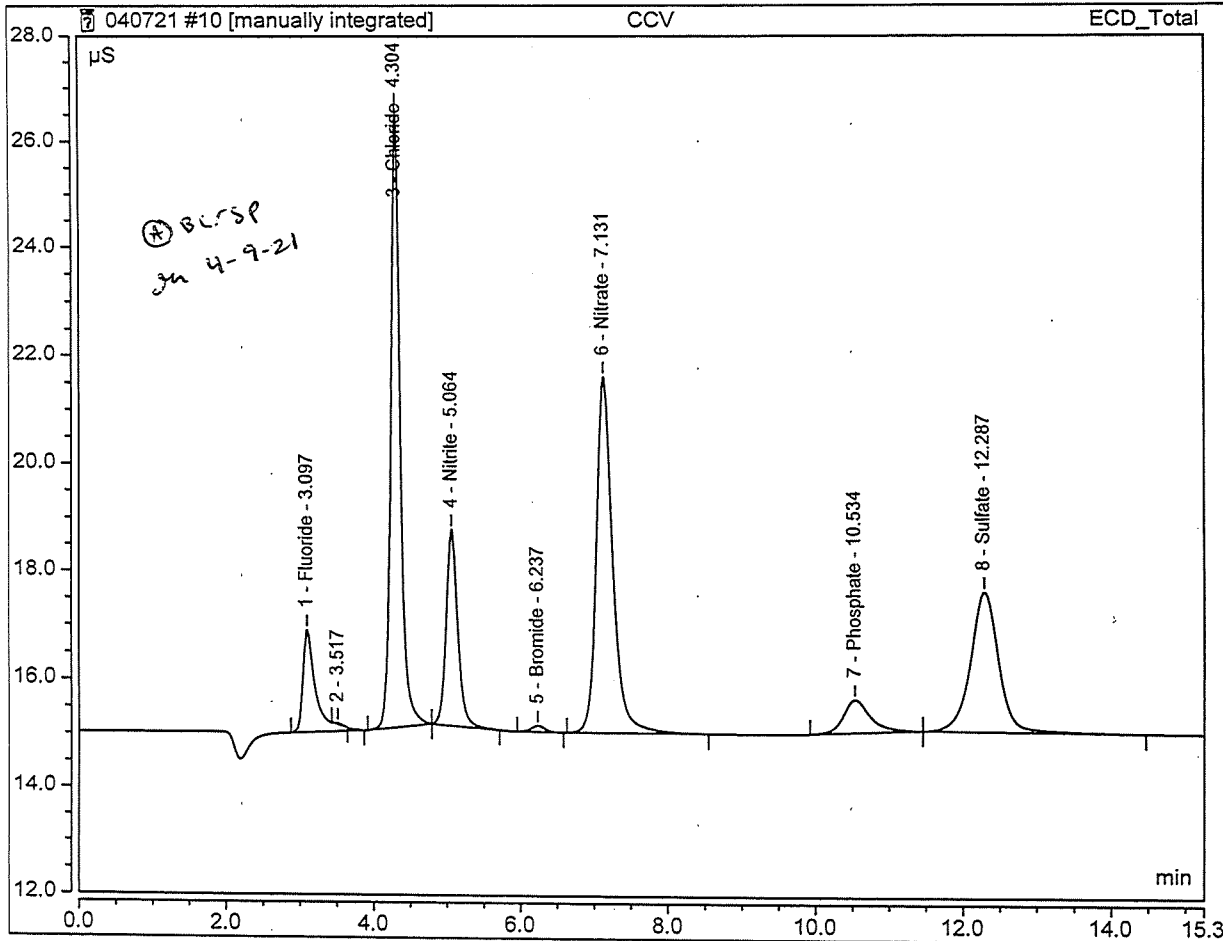


No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount PPM
1	3.10	Fluoride	BMB	0.307	1.828	1.5806
3	4.30	Chloride	BMB	1.692	11.498	11.5896
4	5.06	Nitrite	BMB	0.656	3.636	2.2978
5	6.24	Bromide	BMB	0.023	0.115	0.4139
6	7.13	Nitrate	BMB	1.696	6.595	4.8806
7	10.53	Phosphate	BMB	0.264	0.612	1.4586
8	12.29	Sulfate	BMB	1.148	2.584	12.0343
TOTAL:				5.79	26.87	34.26

W. J. M.

10 CCV
 2101329

Sample Name:	CCV	Inj. Vol:	25:00
Injection Type:	Unknown	Dilution Factor:	1:0000
Instrument Method:	Anions_Method	Operator:	JG
Inj. Date/Time:	07-Apr-2021 / 11:04	Run Time:	15:25

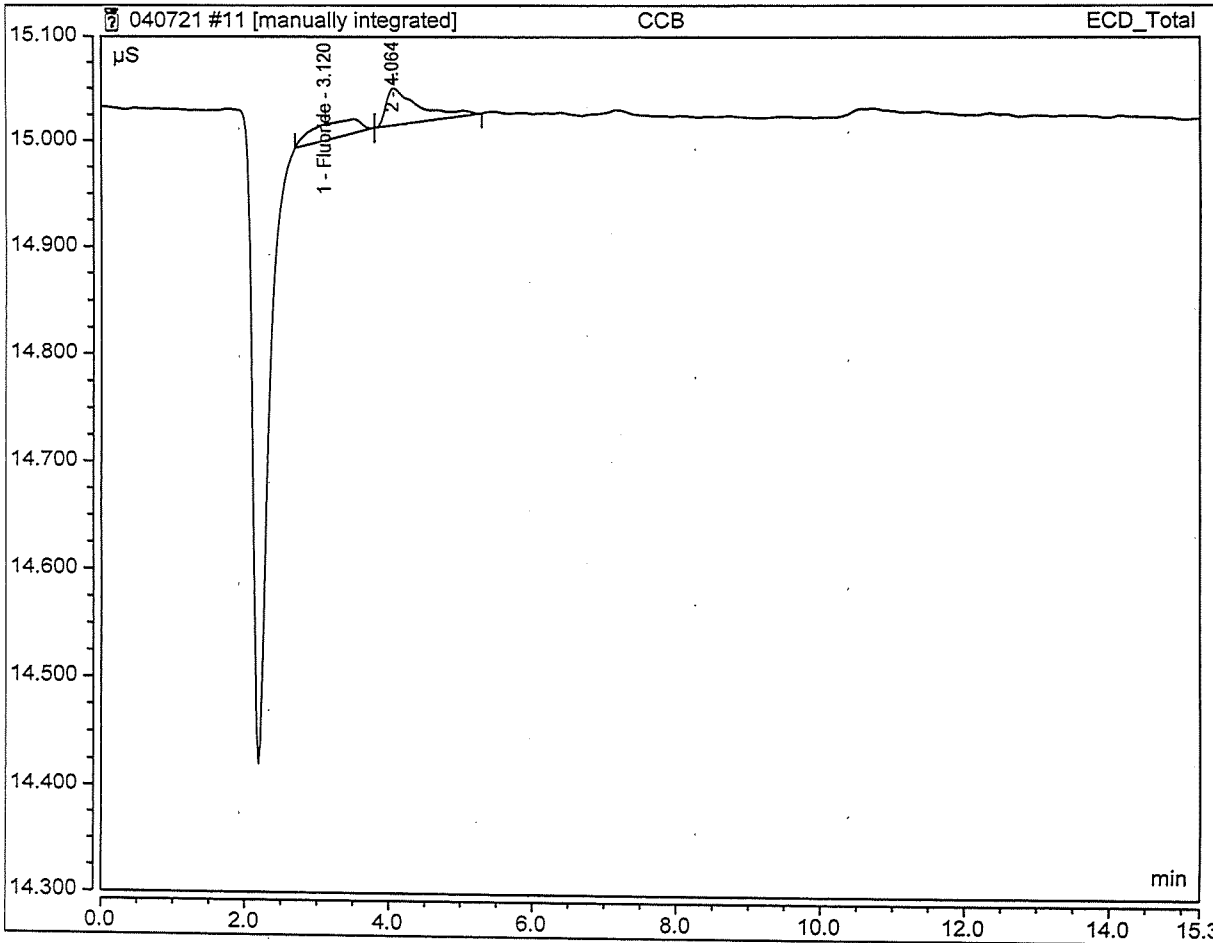


No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount RPM
1	3.10	Fluoride	BMB*	0.377	1.884	1.9197
3	4.30	Chloride	BMB	1.692	11.498	11.5896
4	5.06	Nitrite	BMB	0.656	3.636	2.2978
5	6.24	Bromide	BMB	0.023	0.115	0.4139
6	7.13	Nitrate	BMB	1.696	6.595	4.8806
7	10.53	Phosphate	BMB	0.264	0.612	1.4586
8	12.29	Sulfate	BMB	1.148	2.584	12.0343
TOTAL:				5.86	26.92	34.59

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11 CCB

Sample Name:	CCB	Inj. Vol:	25.00
Injection Type:	Unknown	Dilution Factor:	1:0000
Instrument Method:	Anions_Method	Operator:	JG
Inj. Date/Time:	07-Apr-2021 / 11:23	Run Time:	15:25



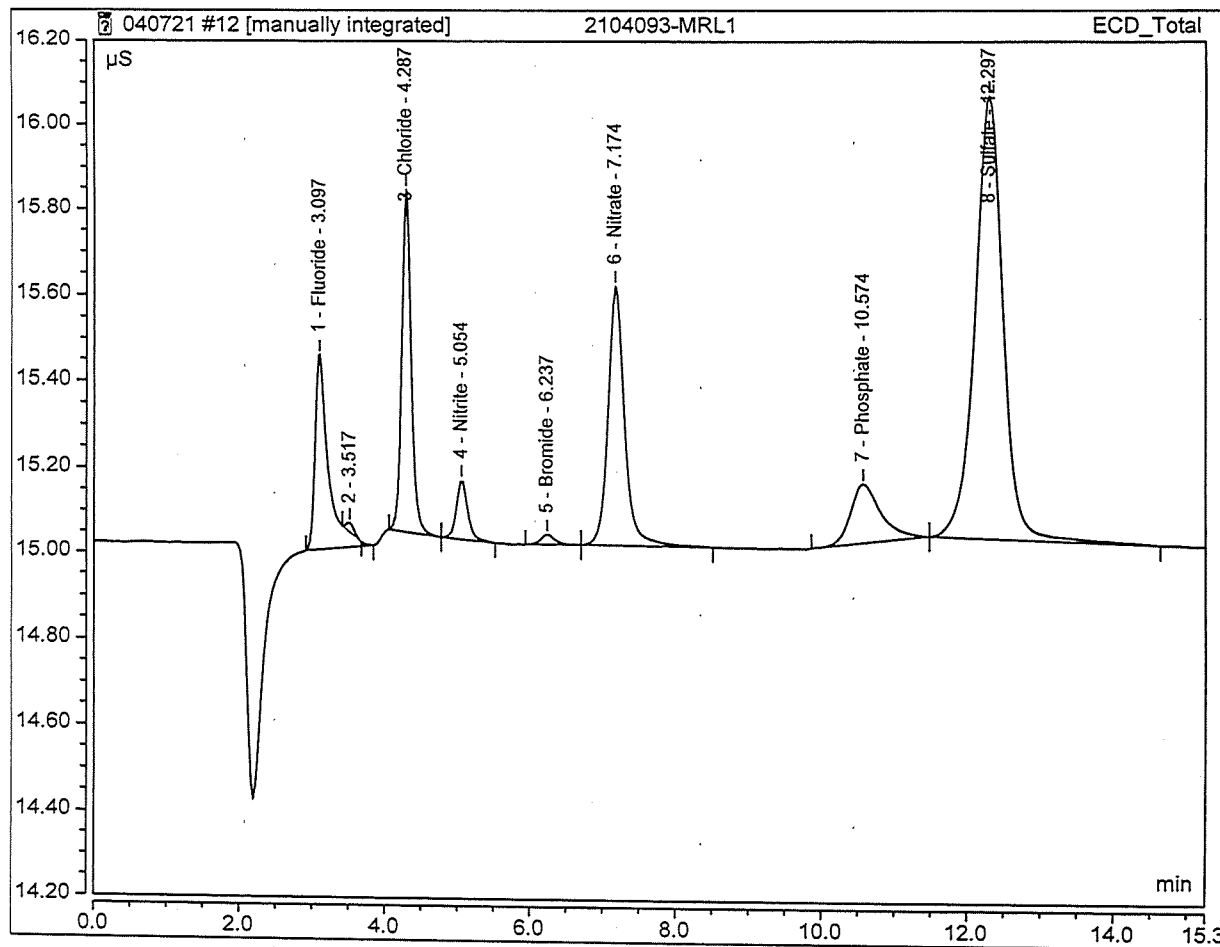
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount PPM
1	3.12	Fluoride	BMB	0.012	0.016	0.1466
		TOTAL:		0.01	0.02	0.15

Handwritten notes:
 EMP
 ↓

12 2104093-MRL1
 2101330

WJG
 4/11/21

Sample Name:	2104093-MRL1	Inj. Vol:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_Method	Operator:	JG
Inj. Date / Time:	07-Apr-2021 / 11:41	Run Time:	15:25

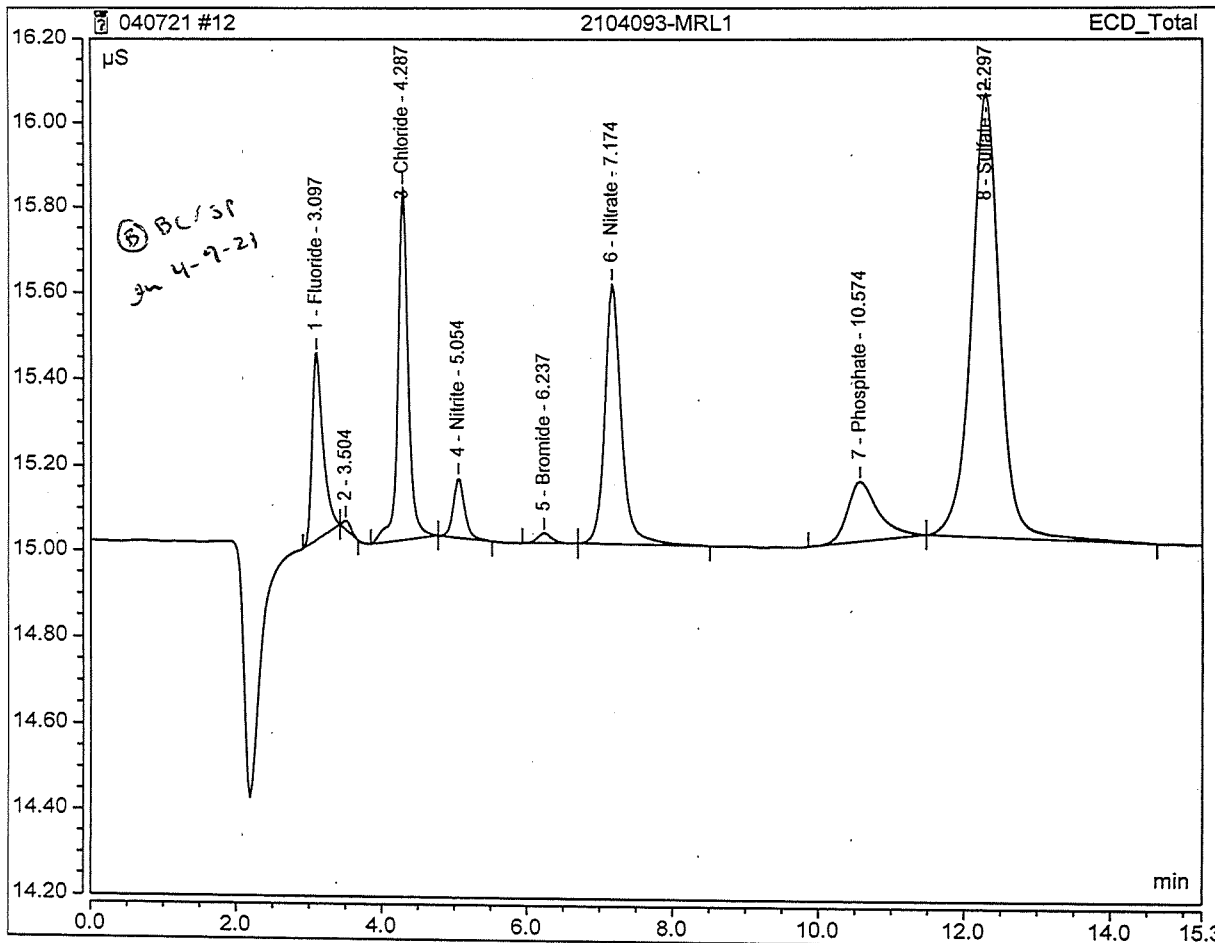


No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount PPM
1	3.10	Fluoride	BMB*	0.097	0.455	0.5580 ✓
3	4.29	Chloride	BMB*	0.118	0.795	1.3388 ✓
4	5.05	Nitrite	BMB	0.025	0.140	0.1269 ✓
5	6.24	Bromide	BMB	0.005	0.024	0.0526 ✓
6	7.17	Nitrate	BMB	0.160	0.602	0.6461 ✓
7	10.57	Phosphate	BMB	0.068	0.140	n.a.
8	12.30	Sulfate	BMB	0.459	1.027	5.6103 ✓
TOTAL:				0.93	3.18	8.33

12 2104093-MRL1
 2101330

WJL
 4/11/21

Sample Name:	2104093-MRL1	Inj. Vol:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_Method	Operator:	JG
Inj. Date/Time:	07-Apr-2021 / 11:41	Run Time:	15:25

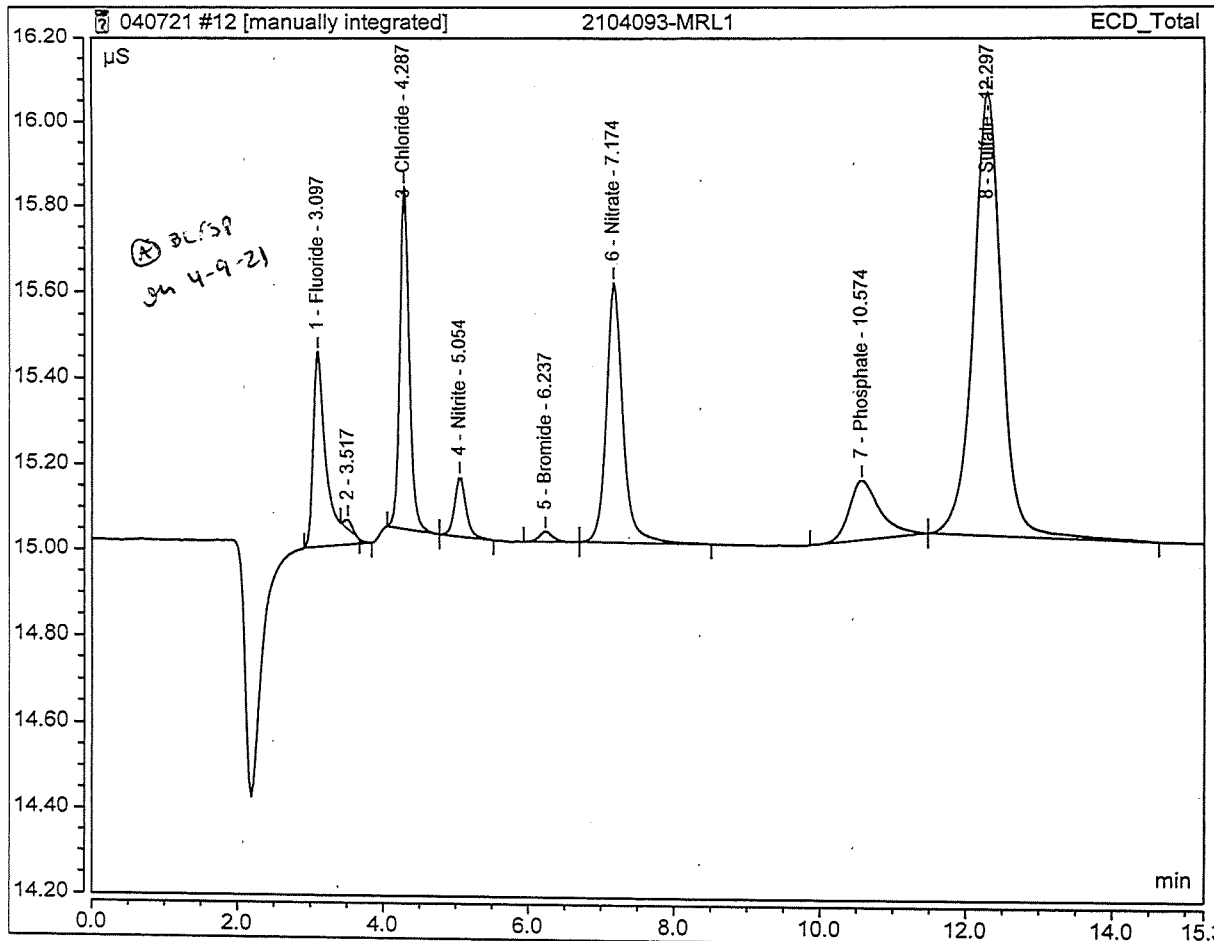


No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount PPM
1	3.10	Fluoride	BMB	0.075	0.436	0.4526
3	4.29	Chloride	BMB	0.134	0.819	1.4429
4	5.05	Nitrite	BMB	0.025	0.140	0.1269
5	6.24	Bromide	BMB	0.005	0.024	0.0526
6	7.17	Nitrate	BMB	0.160	0.602	0.6461
7	10.57	Phosphate	BMB	0.068	0.140	n.a.
8	12.30	Sulfate	BMB	0.459	1.027	5.6103
TOTAL:				0.93	3.19	8.33

12 2104093-MRL1
 2101330

W 4/12/21

Sample Name	2104093-MRL1	Inj. Vol.	25:00
Injection Type	Unknown	Dilution Factor	1.0000
Instrument Method	Anions Method	Operator	JG
Inj. Date / Time	07-Apr-2021 / 11:41	Run Time	15:25

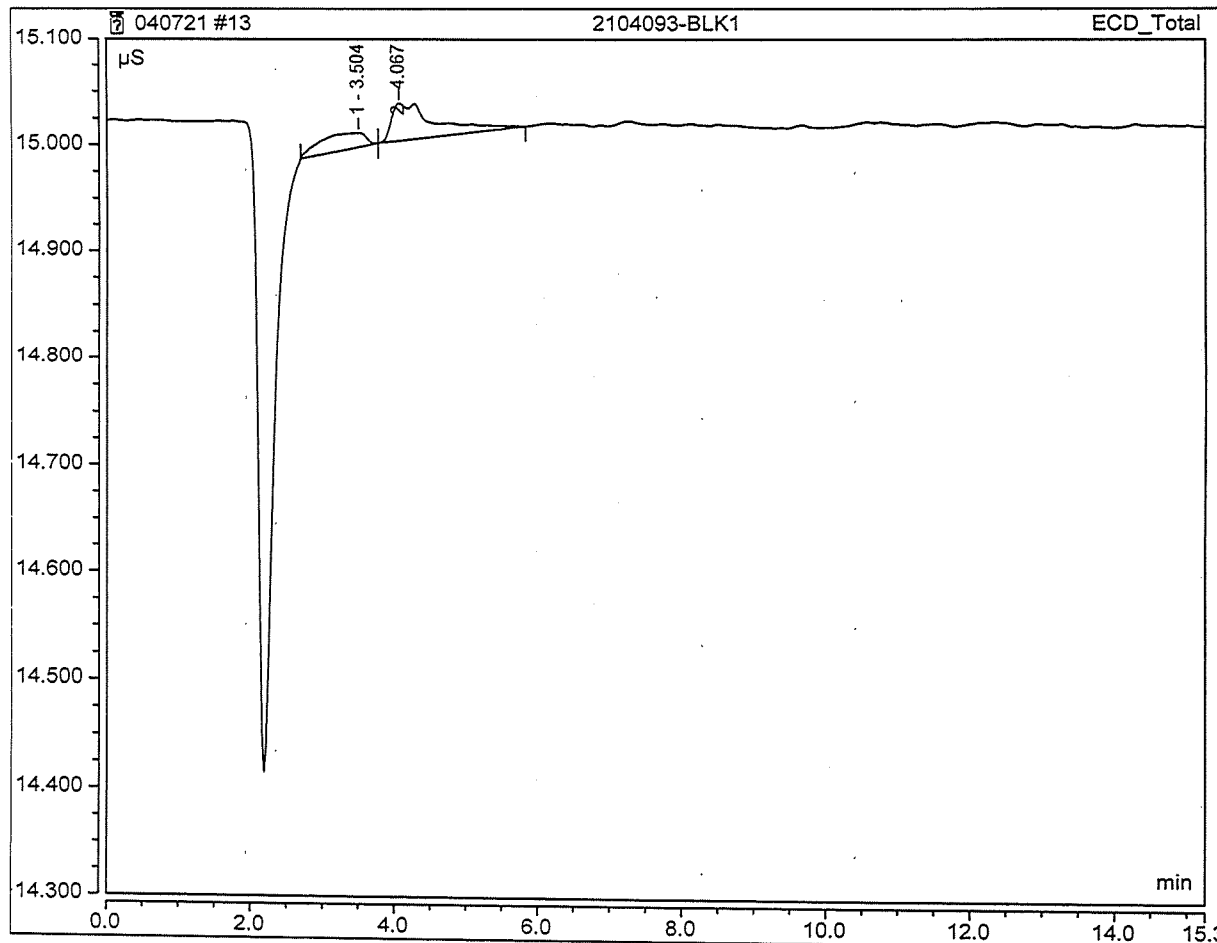


No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount PPM
1	3.10	Fluoride	BMB*	0.097	0.455	0.5580
3	4.29	Chloride	BMB*	0.118	0.795	1.3388
4	5.05	Nitrite	BMB	0.025	0.140	0.1269
5	6.24	Bromide	BMB	0.005	0.024	0.0526
6	7.17	Nitrate	BMB	0.160	0.602	0.6461
7	10.57	Phosphate	BMB	0.068	0.140	n.a.
8	12.30	Sulfate	BMB	0.459	1.027	5.6103
TOTAL:				0.93	3.18	8.33

WJG/12/21

13 2104093-BLK1

Sample Name:	2104093-BLK1	Inj. Vol:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions Method	Operator:	JG
Inj. Date / Time:	07-Apr-2021 / 11:59	Run Time:	15:25



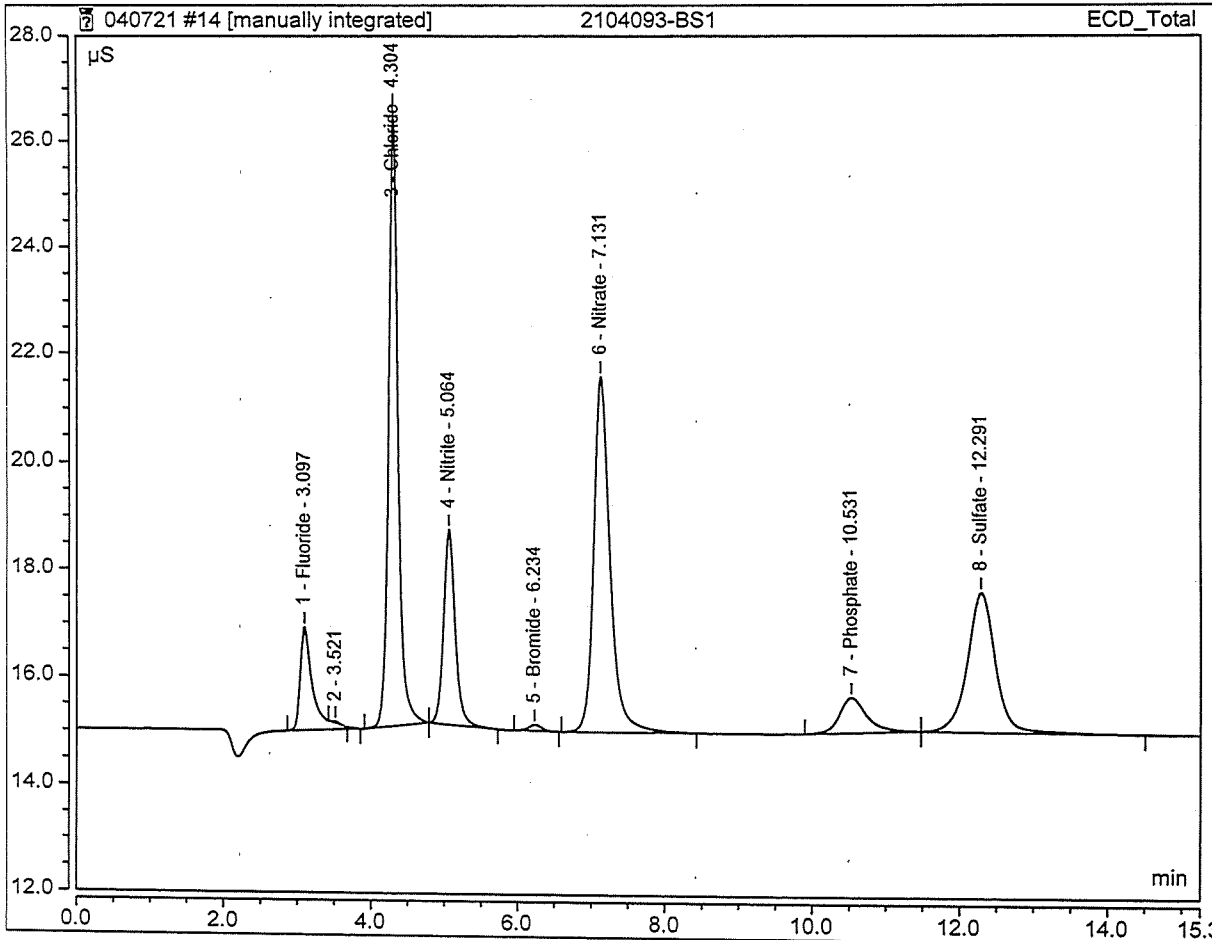
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount
		TOTAL:		0.00	0.00	0.00

END

14 2104093-BS1
 2101270

WJG/12/18

Sample Name:	2104093-BS1	Inj. Vol:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions Method	Operator:	JG
Inj. Date/Time:	07-Apr-2021 / 12:17	Run Time:	15:25

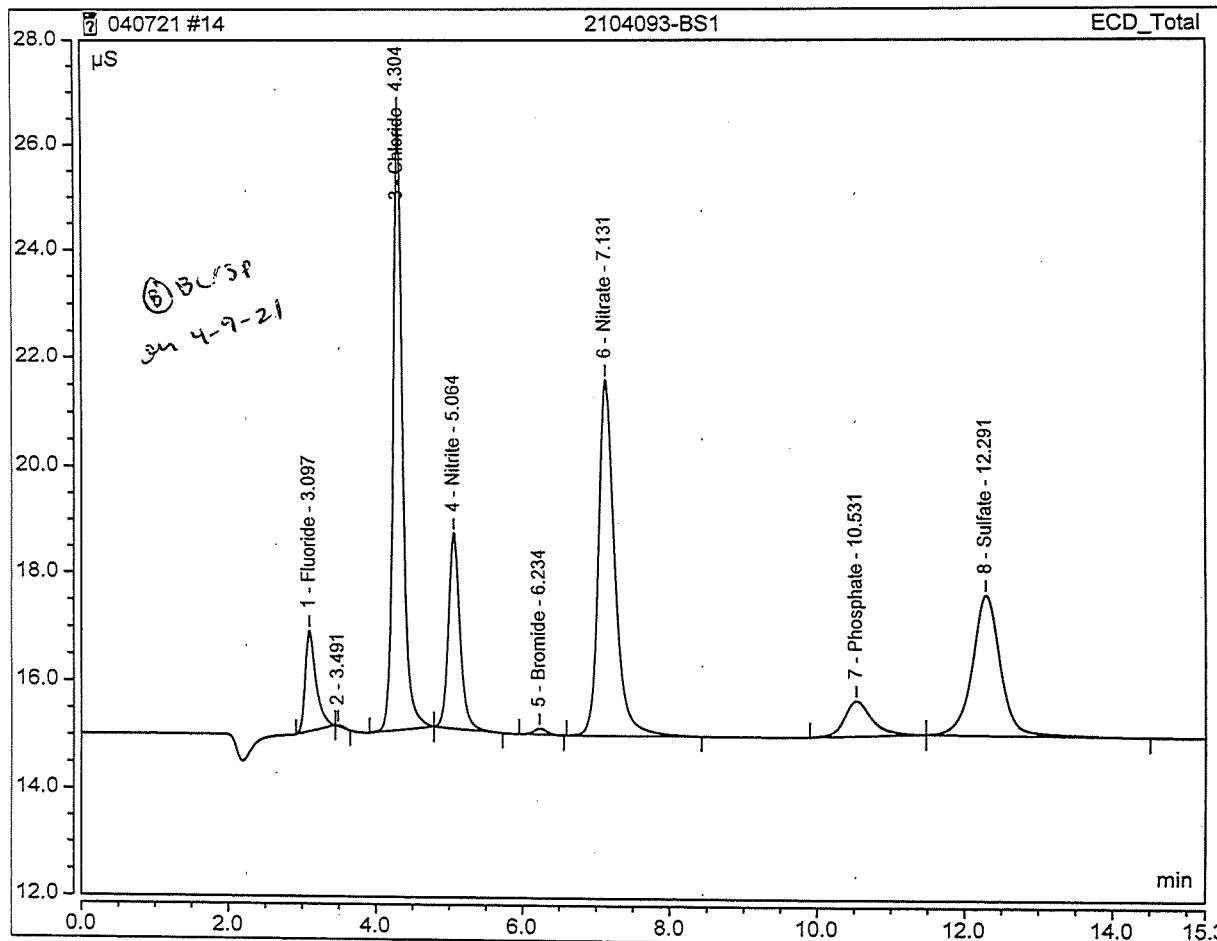


No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount PPM
1	3.10	Fluoride	BMB*	0.381	1.923	1.9422 ✓
3	4.30	Chloride	BMB	1.693	11.494	11.5970 ✓
4	5.06	Nitrite	BMB	0.655	3.633	2.2965 ✓
5	6.23	Bromide	BMB	0.023	0.116	0.4158 ✓
6	7.13	Nitrate	BMB	1.696	6.601	4.8807 ✓
7	10.53	Phosphate	BMB	0.284	0.658	1.6106 ✓
8	12.29	Sulfate	BMB	1.153	2.595	12.0803 ✓
TOTAL:				5.89	27.02	34.82

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14 2104093-BS1
 2101270

Sample Name:	2104093-BS1	Inj. Vol:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_Method	Operator:	JG
Inj. Date / Time:	07-Apr-2021 / 12:17	Run Time:	15:25

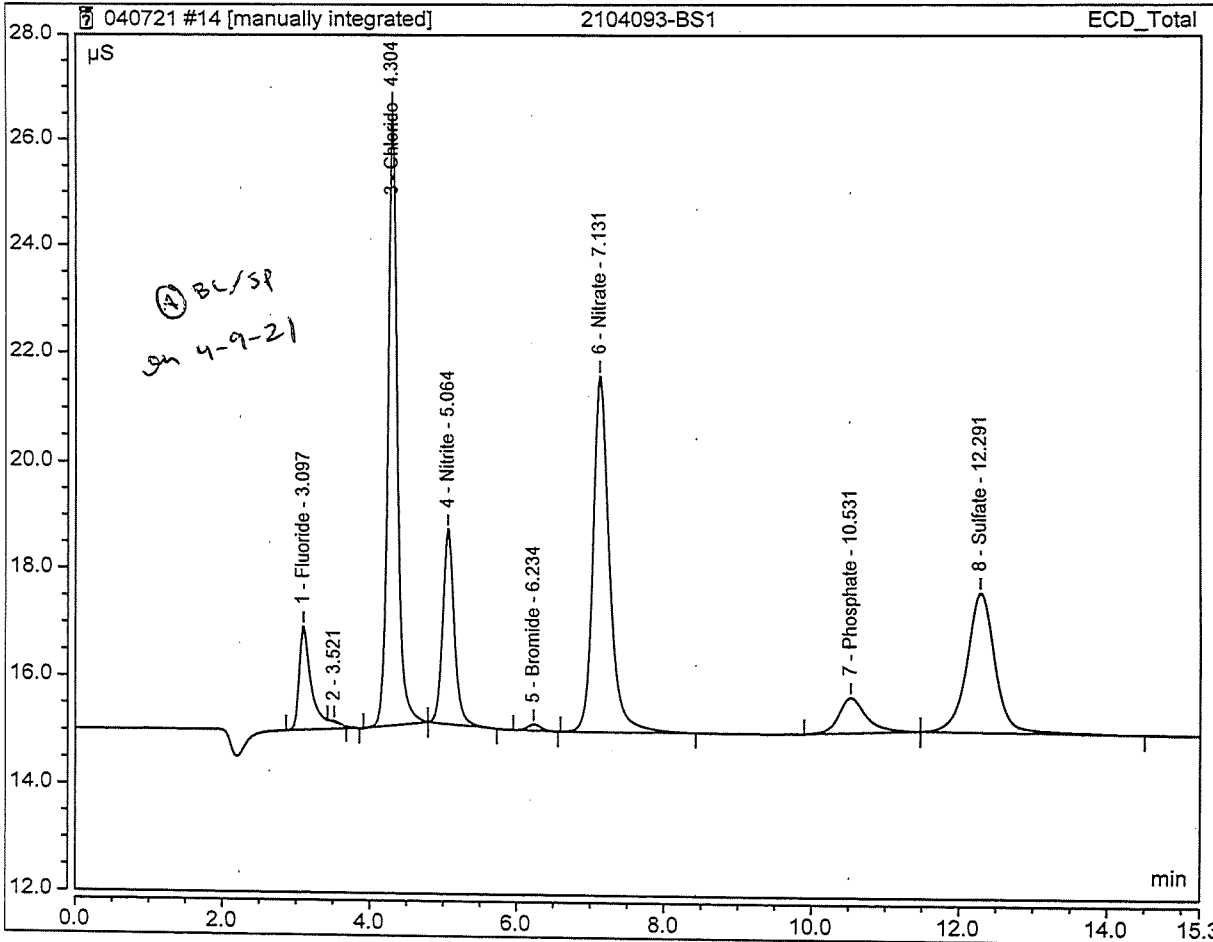


No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount PPM
1	3.10	Fluoride	BMB	0.313	1.867	1.6092
3	4.30	Chloride	BMB	1.693	11.494	11.5970
4	5.06	Nitrite	BMB	0.655	3.633	2.2965
5	6.23	Bromide	BMB	0.023	0.116	0.4158
6	7.13	Nitrate	BMB	1.696	6.601	4.8807
7	10.53	Phosphate	BMB	0.284	0.658	1.6106
8	12.29	Sulfate	BMB	1.153	2.595	12.0803
TOTAL:				5.82	26.96	34.49

W 4/12/21

14 2104093-BS1
 2101270

Sample Name:	2104093-BS1	Inj. Vol:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions - Method	Operator:	JG
Inj. Date / Time:	07-Apr-2021 / 12:17	Run Time:	15:25

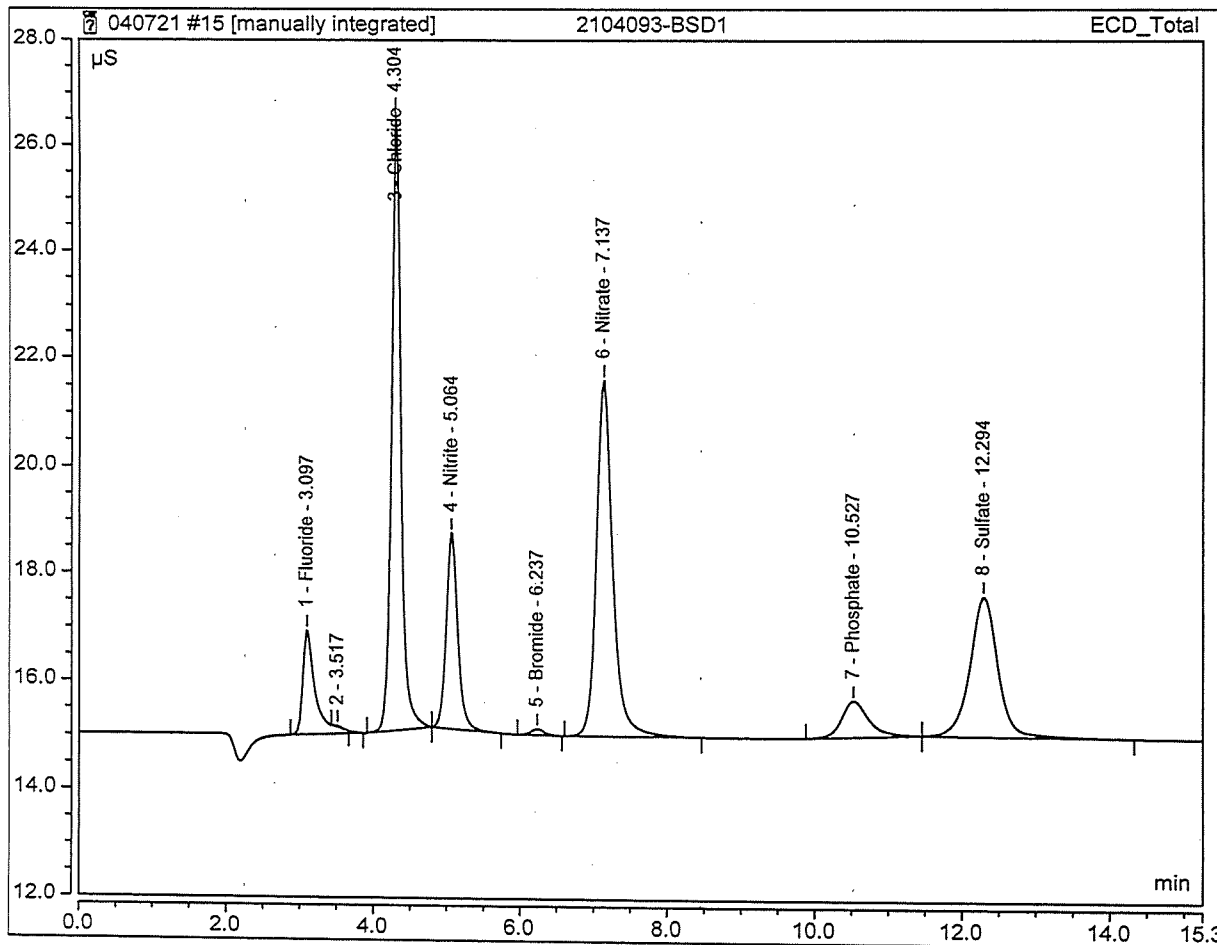


No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount PPM
1	3.10	Fluoride	BMB*	0.381	1.923	1.9422
3	4.30	Chloride	BMB	1.693	11.494	11.5970
4	5.06	Nitrite	BMB	0.655	3.633	2.2965
5	6.23	Bromide	BMB	0.023	0.116	0.4158
6	7.13	Nitrate	BMB	1.696	6.601	4.8807
7	10.53	Phosphate	BMB	0.284	0.658	1.6106
8	12.29	Sulfate	BMB	1.153	2.595	12.0803
TOTAL:				5.89	27.02	34.82

M. Johnson

15 2104093-BSD1
 2101270

Sample Name:	2104093-BSD1	Inj. Vol:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_Method	Operator:	JG
Inj. Date / Time:	07-Apr-2021 / 12:35	Run Time:	15:25

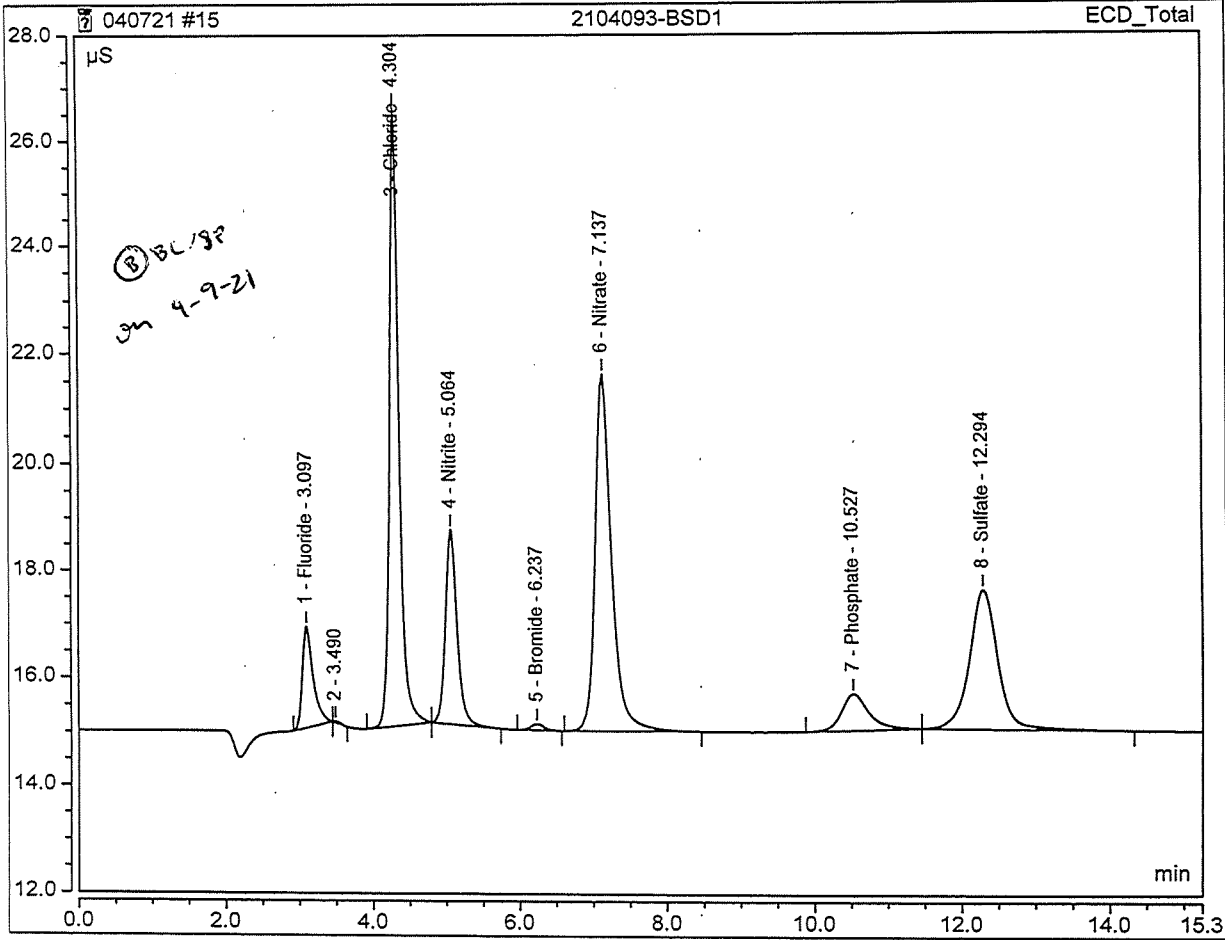


No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount PPM
1	3.10	Fluoride	BMB*	0.381	1.933	1.9416 ✓
3	4.30	Chloride	BMB	1.696	11.507	11.6109 ✓
4	5.06	Nitrite	BMB	0.656	3.639	2.2979 ✓
5	6.24	Bromide	BMB	0.023	0.117	0.4166 ✓
6	7.14	Nitrate	BMB	1.698	6.610	4.8857 ✓
7	10.53	Phosphate	BMB	0.292	0.676	1.6671 ✓
8	12.29	Sulfate	BMB	1.150	2.591	12.0523 ✓
TOTAL:				5.90	27.07	34.87

15 2104093-BSD1
 2101270

M
4/12/21

Sample Name:	2104093-BSD1	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_Method	Operator:	JG
Inj. Date/Time:	07-Apr-2021 12:35	Run Time:	15:25

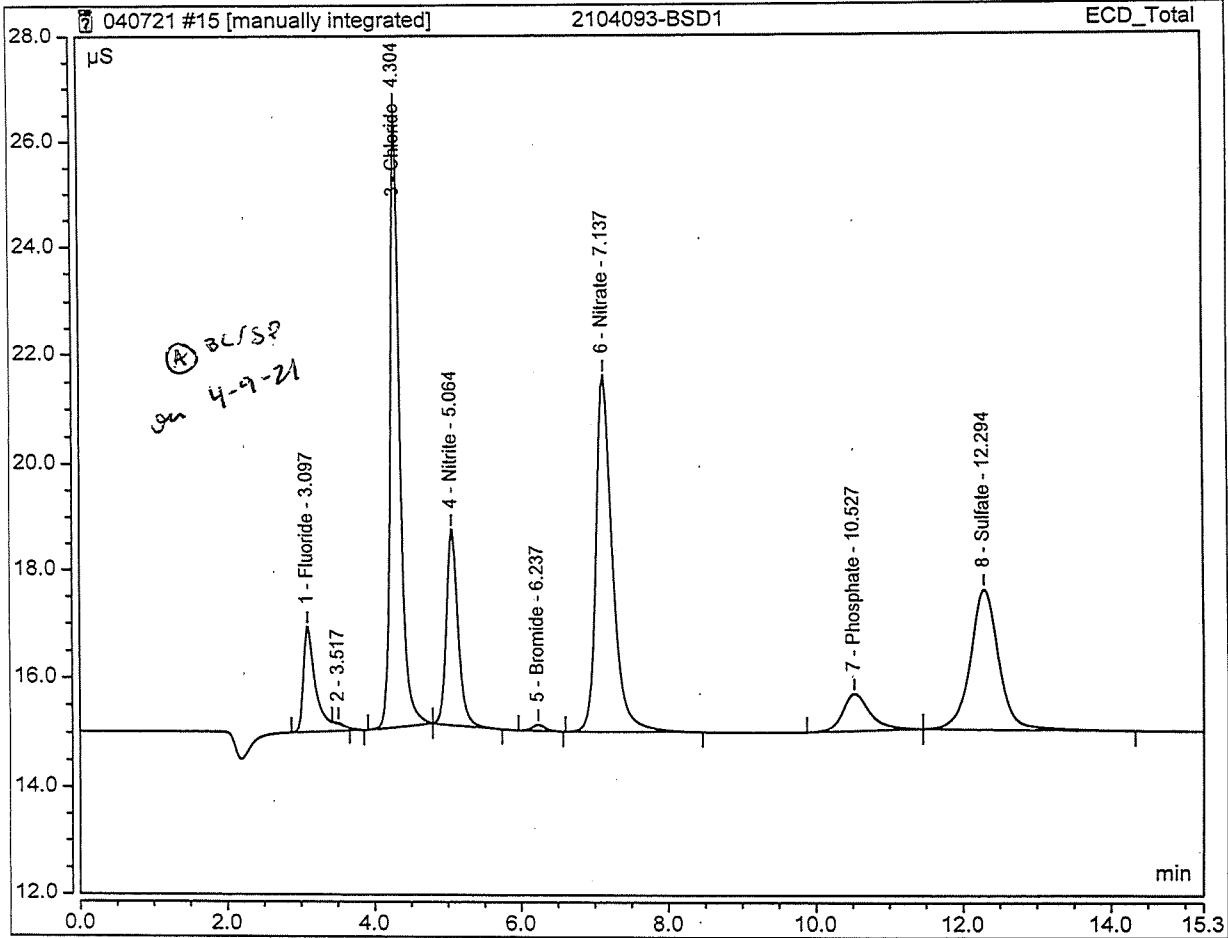


No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount PPM
1	3.10	Fluoride	BMB	0.313	1.878	1.6116
3	4.30	Chloride	BMB	1.696	11.507	11.6109
4	5.06	Nitrite	BMB	0.656	3.639	2.2979
5	6.24	Bromide	BMB	0.023	0.117	0.4166
6	7.14	Nitrate	BMB	1.698	6.610	4.8857
7	10.53	Phosphate	BMB	0.292	0.676	1.6671
8	12.29	Sulfate	BMB	1.150	2.591	12.0523
TOTAL:				5.83	27.02	34.54

15 2104093-BSD1
 2101270

Handwritten: 4/12/21

Sample Name:	2104093-BSD1	Inj. Vol:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions - Method	Operator:	JG
Inj. Date / Time:	07-Apr-2021 / 12:35	Run Time:	15:25

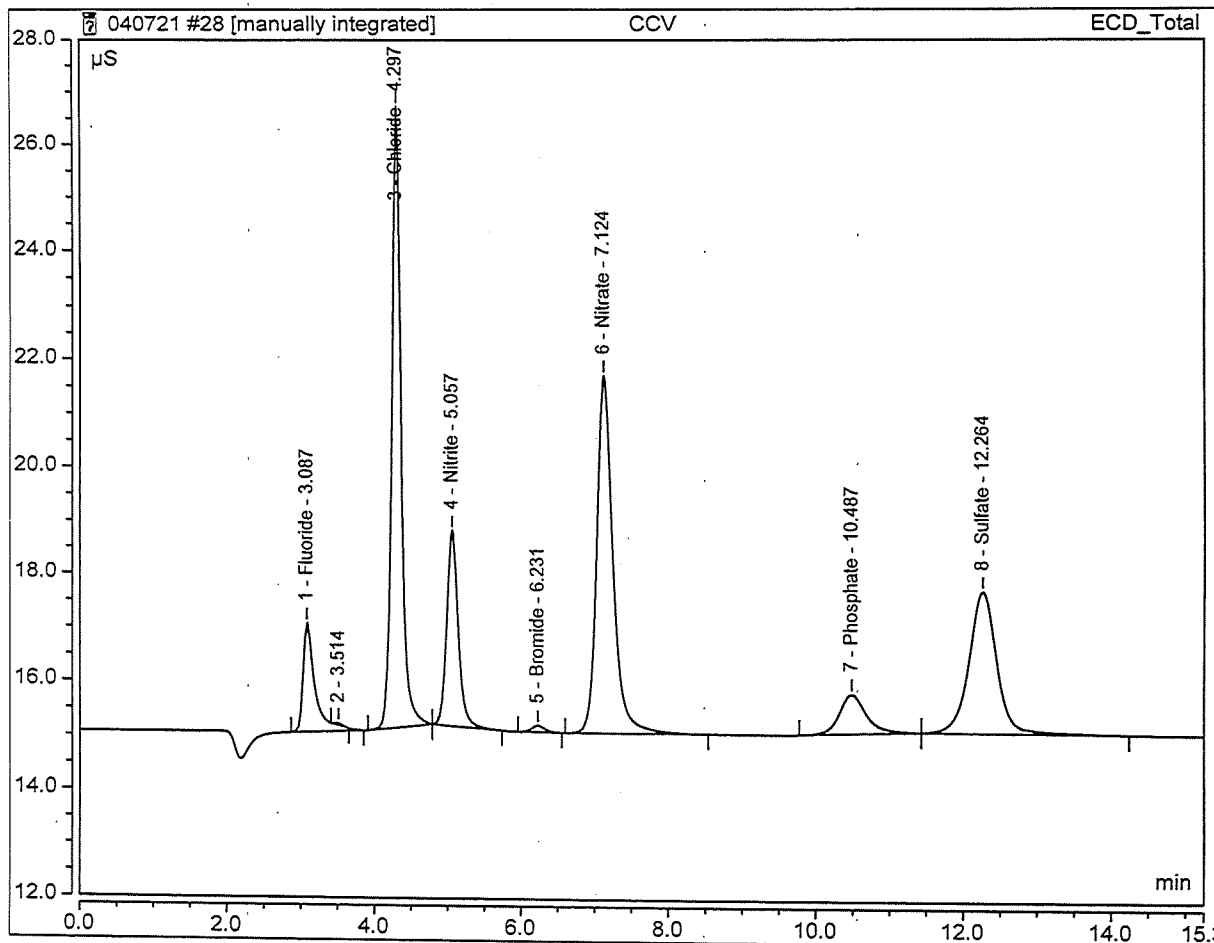


No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount PPM
1	3.10	Fluoride	BMB*	0.381	1.933	1.9416
3	4.30	Chloride	BMB	1.696	11.507	11.6109
4	5.06	Nitrite	BMB	0.656	3.639	2.2979
5	6.24	Bromide	BMB	0.023	0.117	0.4166
6	7.14	Nitrate	BMB	1.698	6.610	4.8857
7	10.53	Phosphate	BMB	0.292	0.676	1.6671
8	12.29	Sulfate	BMB	1.150	2.591	12.0523
TOTAL:				5.90	27.07	34.87

28 CCV
 2101270

WJG/jm

Sample Name:	CCV	Inj. Vol:	25.00
Injection Type:	Unknown	Dilution Factor:	1:0000
Instrument Method:	Anions - Method	Operator:	JG
Inj. Date / Time:	07-Apr-2021 / 20:39	Run Time:	15.25

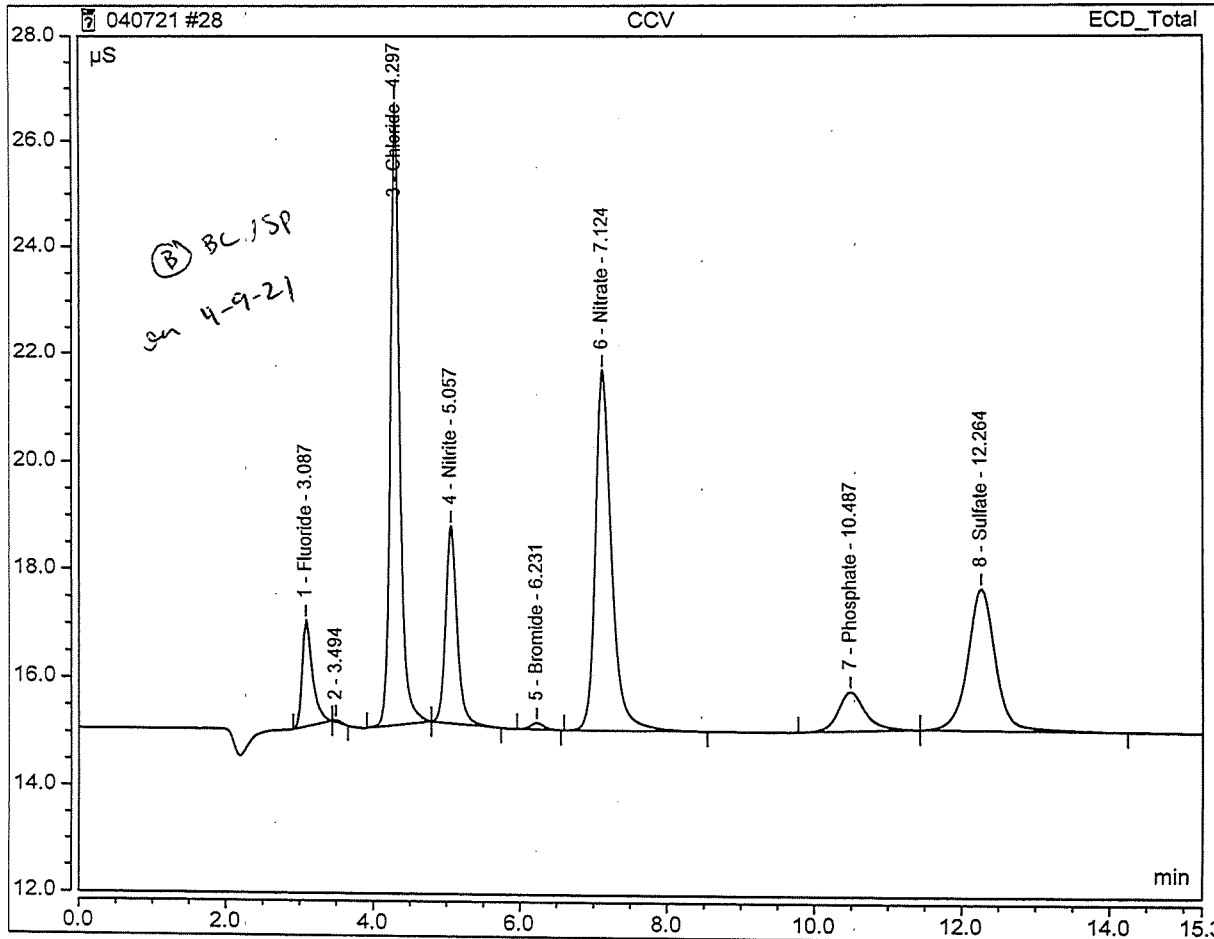


No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount PPM
1	3.09	Fluoride	BMB*	0.376	2.011	1.9144 ✓
3	4.30	Chloride	BMB	1.689	11.600	11.5704 ✓
4	5.06	Nitrite	BMB	0.653	3.647	2.2896 ✓
5	6.23	Bromide	BMB	0.024	0.120	0.4357 ✓
6	7.12	Nitrate	BMB	1.692	6.658	4.8687 ✓
7	10.49	Phosphate	BMB	0.310	0.728	1.8041 ✓
8	12.26	Sulfate	BMB	1.146	2.621	12.0197 ✓
TOTAL:				5.89	27.38	34.90

28 CCV
 2101270

WY/12/21

Sample Name:	CCV	Inj. Vol:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_Method	Operator:	JG
Inj. Date/Time:	07-Apr-2021 / 20:39	Run Time:	15:25

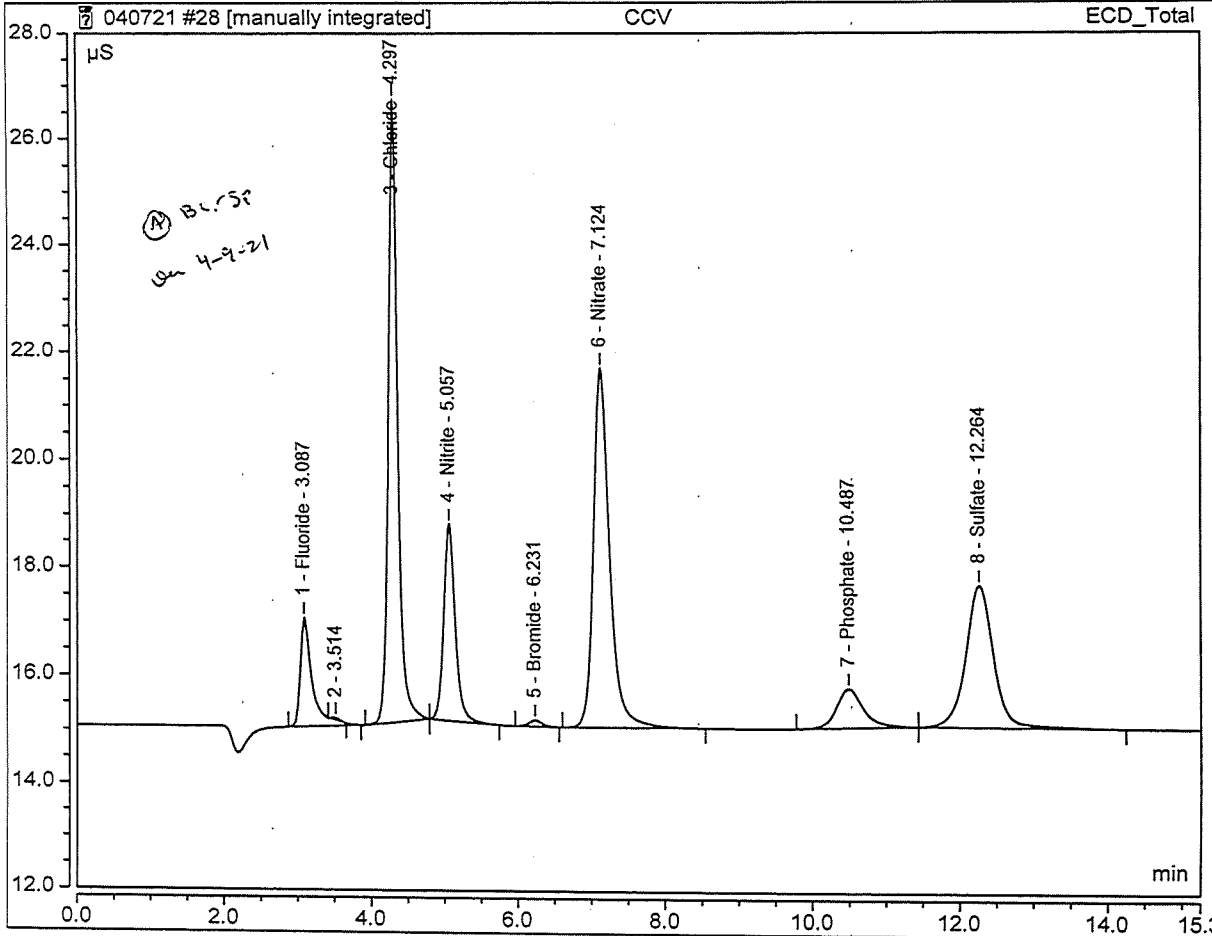


No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount PPM
1	3.09	Fluoride	BMB	0.314	1.962	1.6133
3	4.30	Chloride	BMB	1.689	11.600	11.5704
4	5.06	Nitrite	BMB	0.653	3.647	2.2896
5	6.23	Bromide	BMB	0.024	0.120	0.4357
6	7.12	Nitrate	BMB	1.692	6.658	4.8687
7	10.49	Phosphate	BMB	0.310	0.728	1.8041
8	12.26	Sulfate	BMB	1.146	2.621	12.0197
TOTAL:				5.83	27.33	34.60

28 CCV
 2101270

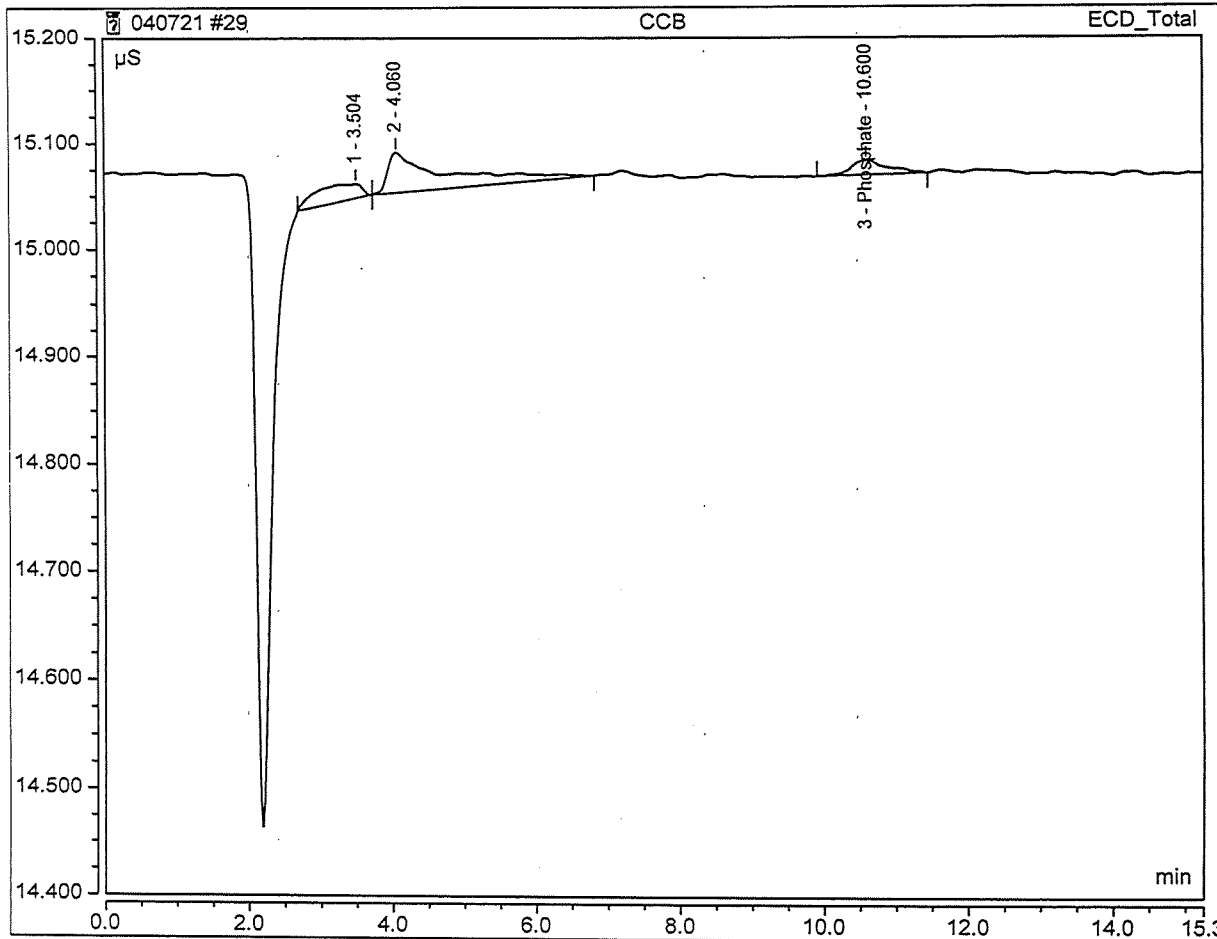
W
4/12/21

Sample Name:	CCV	Inj. Vol:	25.00
Injection Type:	Unknown	Dilution Factor:	1:0000
Instrument Method:	Anions_Method	Operator:	JG
Inj. Date / Time:	07-Apr-2021 / 20:39	Run Time:	15:25



No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount PPM
1	3.09	Fluoride	BMB*	0.376	2.011	1.9144
3	4.30	Chloride	BMB	1.689	11.600	11.5704
4	5.06	Nitrite	BMB	0.653	3.647	2.2896
5	6.23	Bromide	BMB	0.024	0.120	0.4357
6	7.12	Nitrate	BMB	1.692	6.658	4.8687
7	10.49	Phosphate	BMB	0.310	0.728	1.8041
8	12.26	Sulfate	BMB	1.146	2.621	12.0197
TOTAL:				5.89	27.38	34.90

29 CCB		<i>W 4/12/21</i>	
Sample Name:	CCB	Inj. Vol:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_Method	Operator:	JG
Inj. Date / Time:	07-Apr-2021 / 20:57	Run Time:	15:25



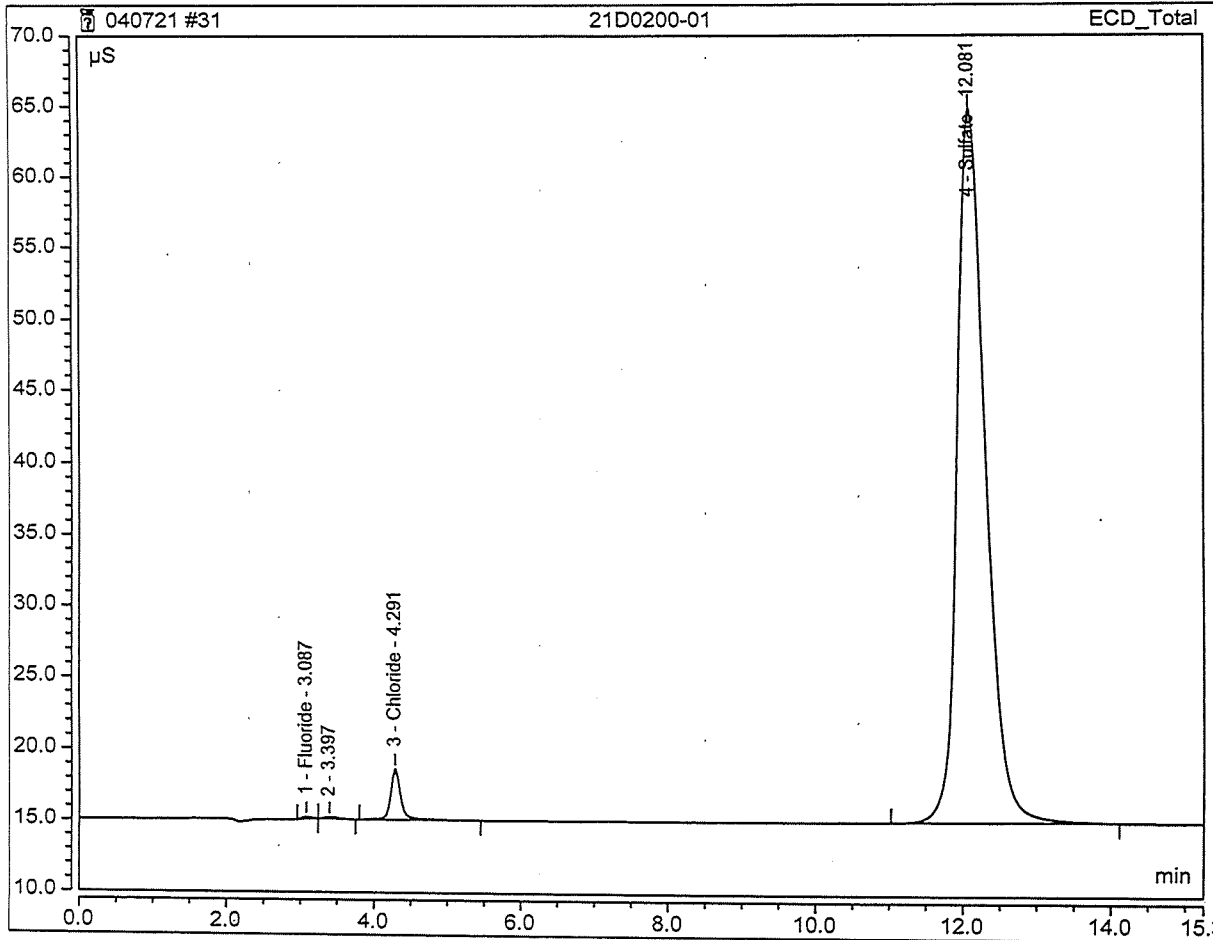
No.	Time min.	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount PPM
3	10.60	Phosphate	BMB	0.008	0.013	n.a.
TOTAL:				0.01	0.01	0.00

END
 ↓

31 21D0200-01
 F, CL, NO2, NO3, SO4

W
4/12/21

Sample Name:	21D0200-01	Inj. Vol.:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_Method	Operator:	JG
Inj. Date / Time:	07-Apr-2021 / 21:33	Run Time:	15:25



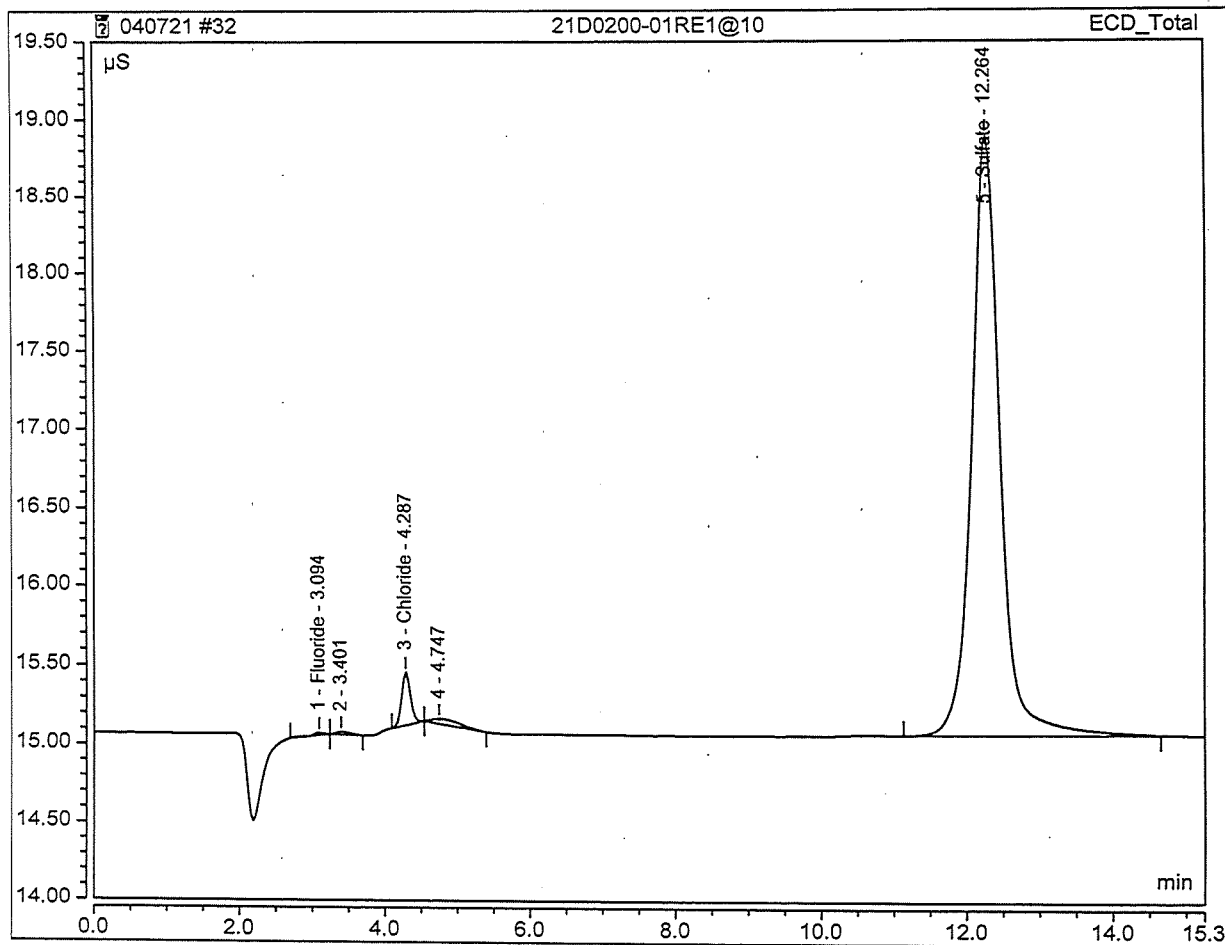
No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount PPM
1	3.09	Fluoride	BMB	0.023	0.176	0.1988 ✓
3	4.29	Chloride	BMB	0.578	3.594	4.3360 ✓
4	12.08	Sulfate	BMB	22.061	49.769	207.0853 ↑
TOTAL:				22.66	53.54	211.62

NO NO2, NO3

32 21D0200-01RE1@10
 (2104093) SO4

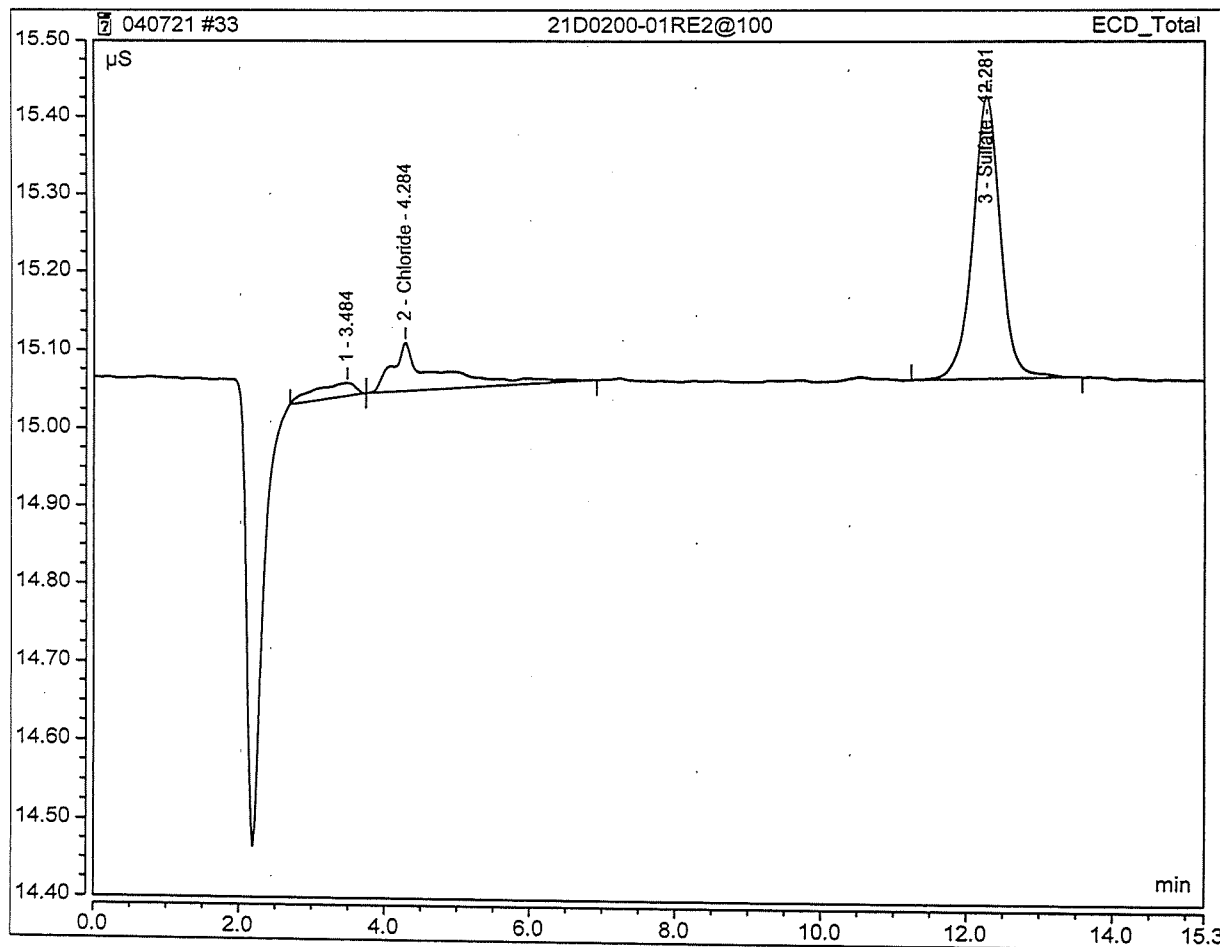
W 4/12/21

Sample Name:	21D0200-01RE1@10	Inj. Vol:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_Method	Operator:	JG
Inj. Date / Time:	07-Apr-2021 / 21:51	Run Time:	15.25



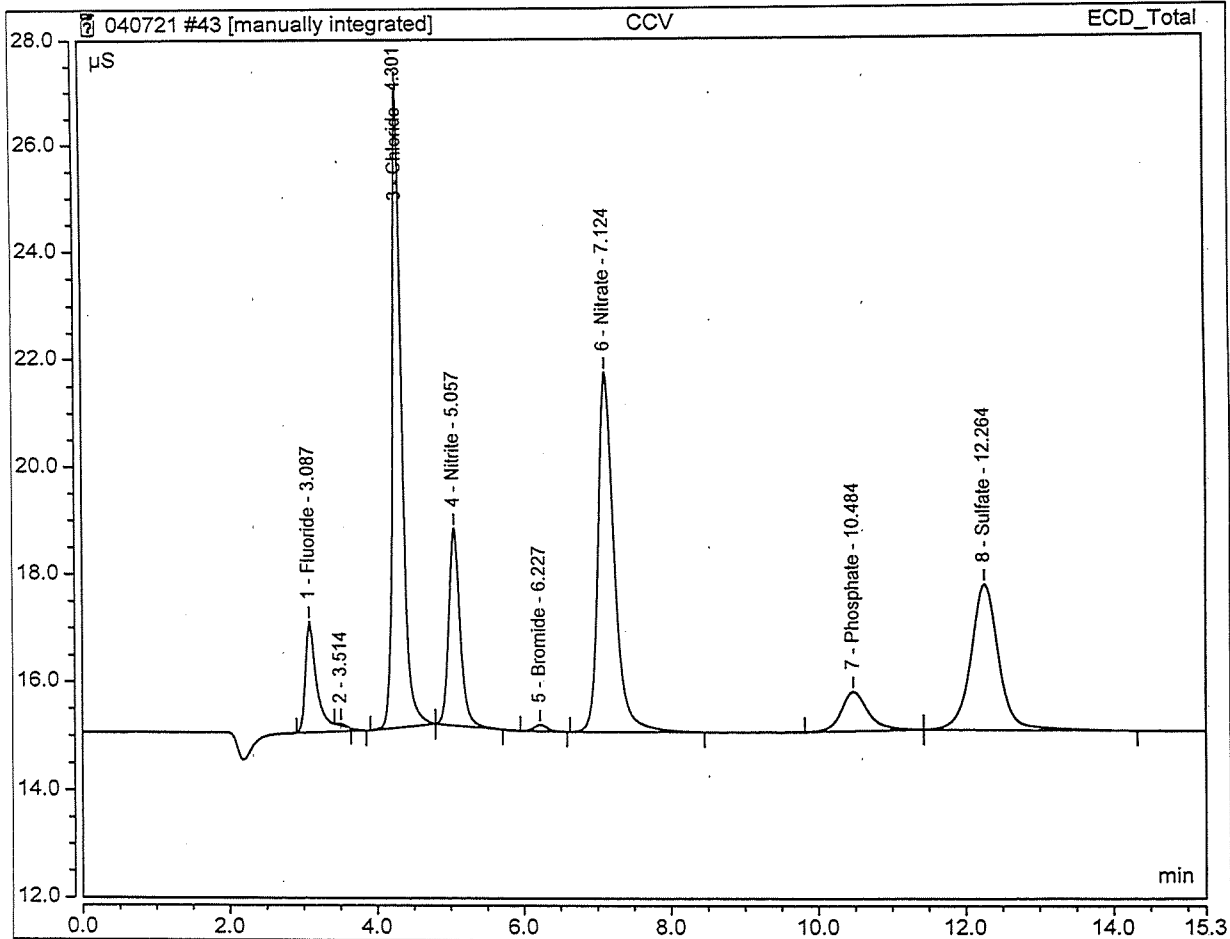
No.	Time min	Peak Name	Peak Type	Area $\mu\text{S} \cdot \text{min}$	Height μS	Amount PPM
1	3.09	Fluoride	BMB	0.003	0.018	0.1035
3	4.29	Chloride	BMB	0.047	0.337	0.8733
5	12.26	Sulfate	BMB	1.723	3.839	17.4000 ✓
TOTAL:				1.77	4.19	18.38

33 21D0200-01RE2@100 NR		Inj. Vol: 25.00	
Sample Name: 21D0200-01RE2@100		Dilution Factor: 1.0000	
Injection Type: Unknown		Operator: JG	
Instrument Method: Anions_Method		Run Time: 15:25	
Inj. Date/Time: 07-Apr-2021 1:22:10			



No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount PPM
2	4.28	Chloride	BMB	0.044	0.062	0.8549
3	12.28	Sulfate	BMB	0.156	0.360	2.7878
TOTAL:				0.20	0.42	3.64

43 CCV 2101270		<i>WJG</i> 4/18/21	
Sample Name:	CCV	Inj. Vol:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_Method	Operator:	JG
Inj. Date / Time:	08-Apr-2021 / 01:11	Run Time:	15:25

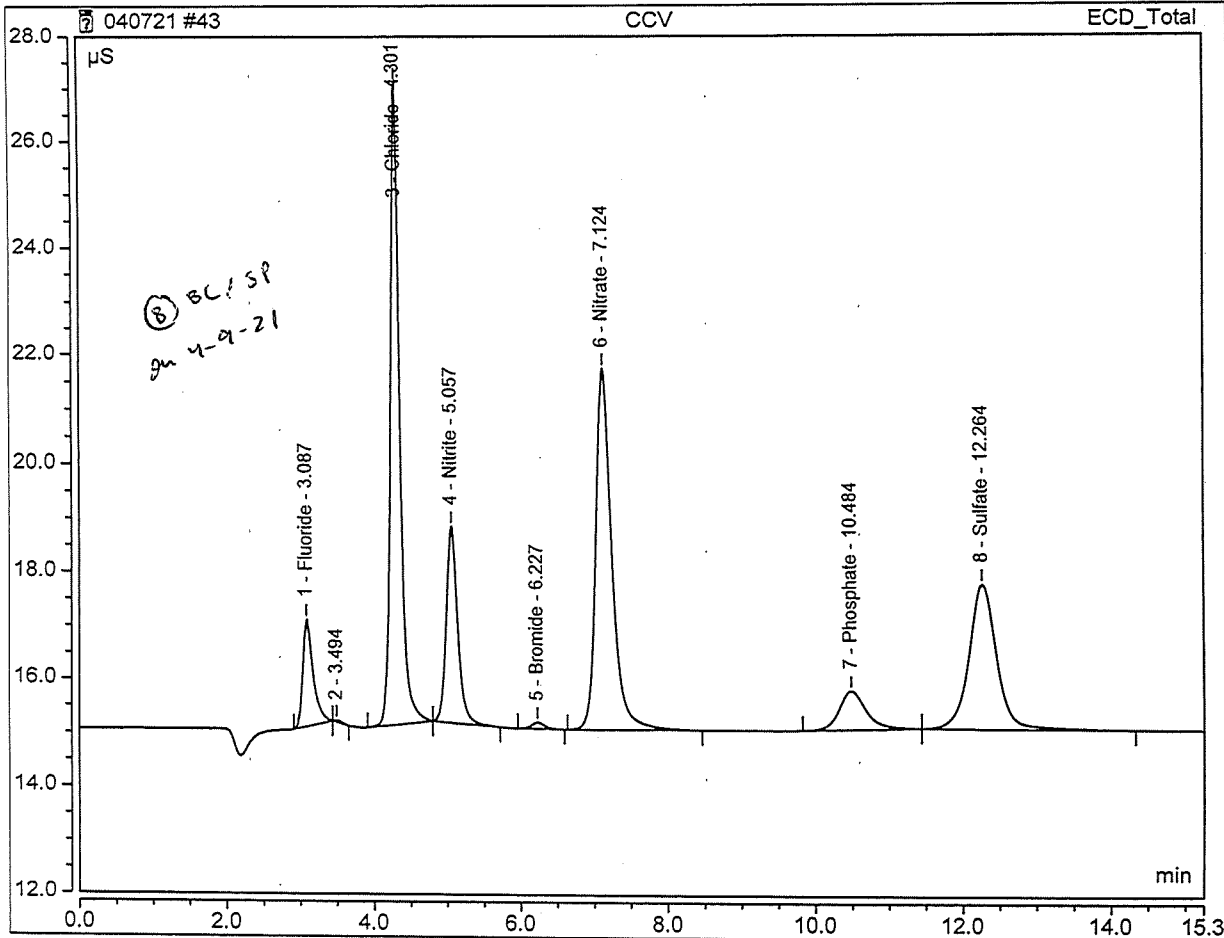


No.	Time min.	Peak Name	Peak Type	Area µS*min	Height µS	Amount PPM
1	3.09	Fluoride	BMB*	0.379	2.056	1.9303 ✓
3	4.30	Chloride	BMB	1.743	11.986	11.9189 ✓
4	5.06	Nitrite	BMB	0.654	3.666	2.2940 ✓
5	6.23	Bromide	BMB	0.023	0.118	0.4211 ✓
6	7.12	Nitrate	BMB	1.694	6.692	4.8729 ✓
7	10.48	Phosphate	BMB	0.308	0.730	1.7910 ✓
8	12.26	Sulfate	BMB	1.178	2.698	12.3165 ✓
TOTAL:				5.98	27.95	35.54

43 CCV
 2101270

Handwritten signature and date: 4/11/21

Sample Name:	CCV	Inj. Vol:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_Method	Operator:	JG
Inj. Date/Time:	08-Apr-2021 10:01:11	Run Time:	15:25

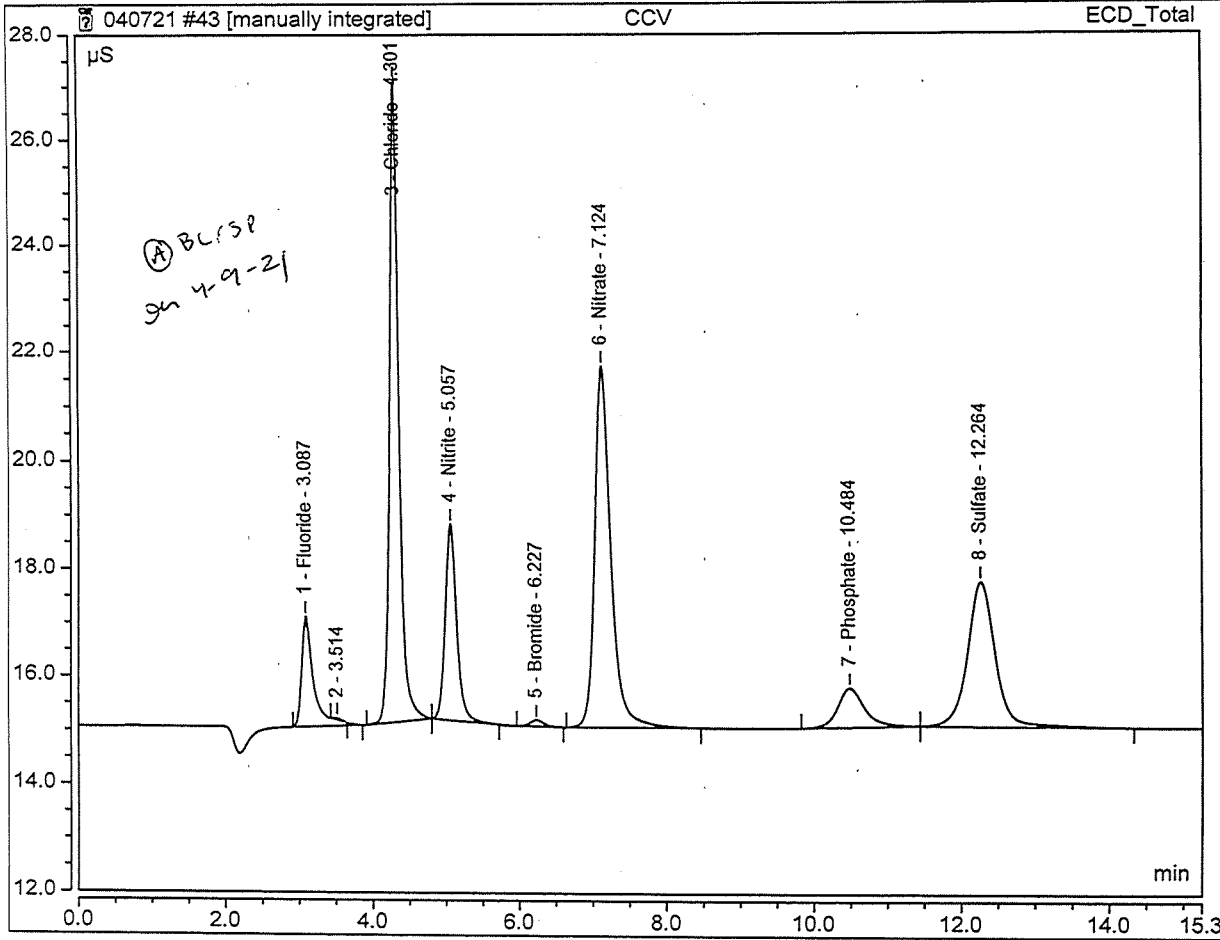


No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount PPM
1	3.09	Fluoride	BMB	0.319	2.010	1.6402
3	4.30	Chloride	BMB	1.743	11.986	11.9189
4	5.06	Nitrite	BMB	0.654	3.666	2.2940
5	6.23	Bromide	BMB	0.023	0.118	0.4211
6	7.12	Nitrate	BMB	1.694	6.692	4.8729
7	10.48	Phosphate	BMB	0.308	0.730	1.7910
8	12.26	Sulfate	BMB	1.178	2.698	12.3165
TOTAL:				5.92	27.90	35.25

W 4/12/21

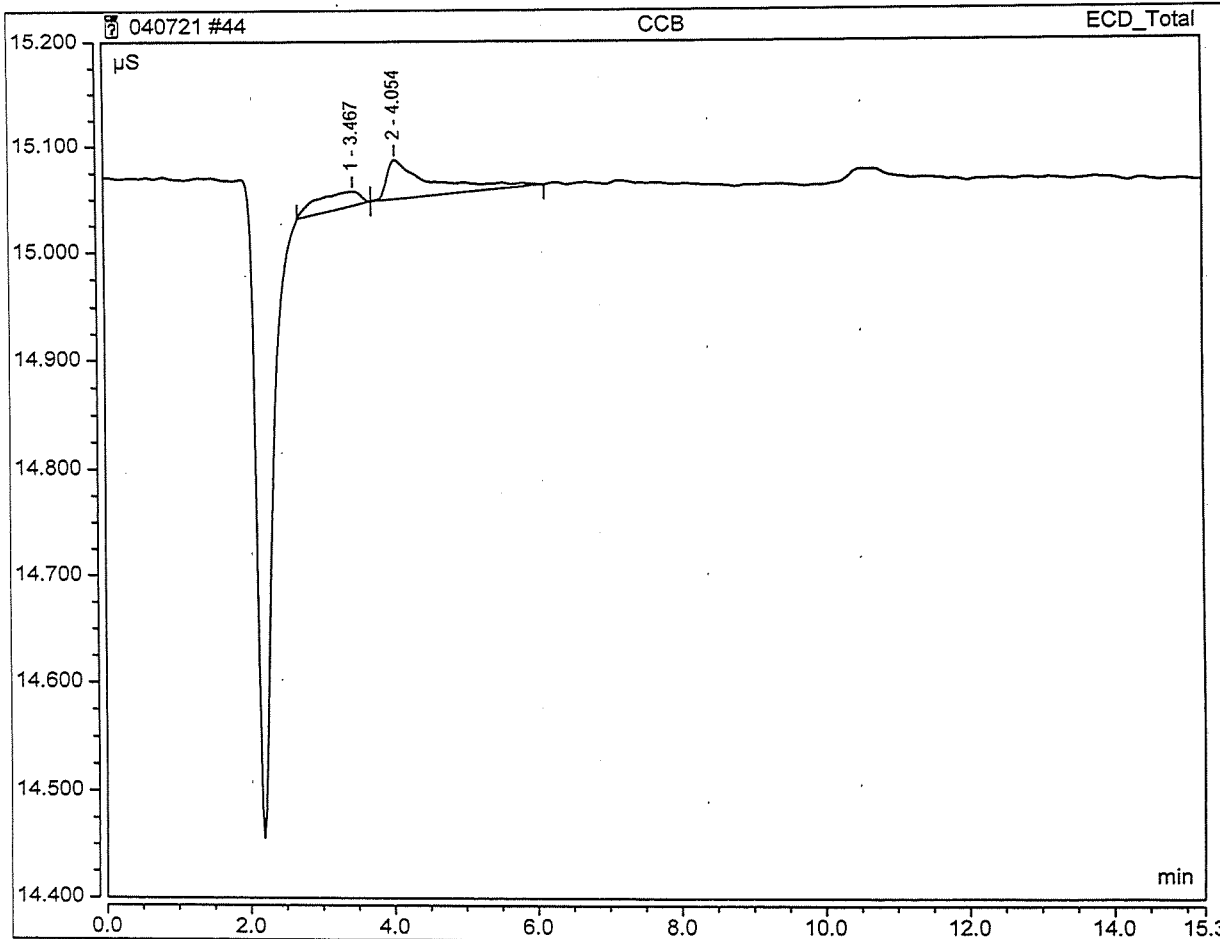
43 CCV
 2101270

Sample Name:	CCV	Inj. Vol:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_Method	Operator:	JG
Inj. Date/Time:	08-Apr-2021 / 01:11	Run Time:	15:25



No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount PPM
1	3.09	Fluoride	BMB*	0.379	2.056	1.9303
3	4.30	Chloride	BMB	1.743	11.986	11.9189
4	5.06	Nitrite	BMB	0.654	3.666	2.2940
5	6.23	Bromide	BMB	0.023	0.118	0.4211
6	7.12	Nitrate	BMB	1.694	6.692	4.8729
7	10.48	Phosphate	BMB	0.308	0.730	1.7910
8	12.26	Sulfate	BMB	1.178	2.698	12.3165
TOTAL:				5.98	27.95	35.54

44 CCB		<i>WJL</i>	
Sample Name:	CCB	Inj. Vol:	25.00
Injection Type:	Unknown	Dilution Factor:	1.0000
Instrument Method:	Anions_Method	Operator:	JG
Inj. Date / Time:	08-Apr-2021 / 01:29	Run Time:	:15:25



No.	Time min	Peak Name	Peak Type	Area $\mu\text{S}\cdot\text{min}$	Height μS	Amount n.a.
		TOTAL:		0.00	0.00	0.00

Zm

Analytical Standard Record

Turner Laboratories, Inc.

2101265

Description:	IC CAL # 1	Expires:	04/06/2021
Standard Type:	Calibration Standard	Prepared:	04/05/2021
Solvent:	H2O	Prepared By:	Jenna Gossen
Final Volume (mls):	50	Department:	IC
Vials:	1	Last Edit:	04/06/2021 09:22 by JG

FV = 50mL in DI

Analyte	CAS Number	Concentration	Units
Total Phosphorus (as P)	7723-14-0	0.5	ug/mL
Sulfate	14808-79-8	5	ug/mL
Phosphorus, Orthophosphate (As P)	7723-14-0	0.5	ug/mL
Phosphorus, Dissolved Orthophosphate (As	7723-14-0	0.5	ug/mL
Orthophosphate (as P)	7723-14-0	0.5	ug/mL
Nitrogen, Nitrite (As N)	14797-65-0	0.1	ug/mL
Nitrogen, Nitrate (As N)	14797-55-8	0.5	ug/mL
Fluoride	16984-48-8	0.5	ug/mL
Chloride	16887-00-6	1	ug/mL
Bromide	24959-67-9	0.1	ug/mL

Lot #: NA
Vendor: NA

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2101271	IC Spike/Low Intermediate Standard Solution	04/05/2021	Jenna Gossen	05/05/2021	04/06/2021 09:18 by JG	1

Analytical Standard Record

Turner Laboratories, Inc.

2101271

Description:	IC Spike/Low Intermediate Standard Solution	Expires:	05/05/2021
Standard Type:	Analyte Spike	Prepared:	04/05/2021
Solvent:	H2O	Prepared By:	Jenna Gossen
Final Volume (mls):	200	Department:	IC
Vials:	1	Last Edit:	04/06/2021 09:18 by JG

FV = 200mL in DI

Analyte	CAS Number	Concentration	Units
Total Phosphorus (as P)	7723-14-0	25	ug/mL
Sulfate	14808-79-8	250	ug/mL
Phosphorus, Orthophosphate (As P)	7723-14-0	25	ug/mL
Phosphorus, Dissolved Orthophosphate (As	7723-14-0	25	ug/mL
Orthophosphate (as P)	7723-14-0	25	ug/mL
Nitrogen, Nitrite (As N)	14797-65-0	5	ug/mL
Nitrogen, Nitrate (As N)	14797-55-8	25	ug/mL
Fluoride	16984-48-8	25	ug/mL
Chloride	16887-00-6	50	ug/mL
Bromide	24959-67-9	5	ug/mL

Lot #: NA
Vendor: NA

Parent Standards used in this standard:						
Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2000094	Chloride Standard Solution 1000 ppm stock	01/07/2020	** Vendor **	11/30/2024	01/07/2020 08:13 by EJ	10
2000729	Bromide Standard 1000 ppm	02/19/2020	** Vendor **	07/31/2021	02/19/2020 07:53 by EJ	1
2001965	Nitrate Standard Solution 1000ppm stock	05/06/2020	** Vendor **	03/26/2024	05/08/2020 10:01 by JG	5
2002272	Fluoride Standard Solution 1000ppm stock	05/28/2020	** Vendor **	09/01/2021	05/28/2020 14:53 by JG	5
2003362	Sulfate Standard Solution 1000 ppm stock	08/04/2020	** Vendor **	07/14/2022	08/04/2020 12:34 by JG	50
2005011	Phosphorous Standard Solution 1000ppm stock	11/30/2020	** Vendor **	09/30/2024	11/30/2020 08:45 by JG	5
2100843	Nitrite Standard Solution 1000ppm stock	02/22/2021	** Vendor **	08/22/2022	03/08/2021 14:33 by JG	1

Analytical Standard Record

Turner Laboratories, Inc.

2000094

Description:	Chloride Standard Solution 1000 ppm stock	Expires:	11/30/2024
Standard Type:	Other	Prepared:	01/07/2020
Solvent:	na	Prepared By:	** Vendor **
Final Volume (mls):	500	Department:	IC
Vials:	2	Last Edit:	01/07/2020 08:13 by EJ

Cat# 183-49

Analyte	CAS Number	Concentration	Units
Chloride	16887-00-6	1000	ug/mL

Lot #: A9305

Vendor: Hach

Analytical Standard Record

Turner Laboratories, Inc.

2000729

Description:	Bromide Standard 1000 ppm	Expires:	07/31/2021
Standard Type:	Other	Prepared:	02/19/2020
Solvent:	N/A	Prepared By:	** Vendor **
Final Volume (mls):	100	Department:	IC
Vials:	1	Last Edit:	02/19/2020 07:53 by EJ

Product No: 4400-IC8M

Analyte	CAS Number	Concentration	Units
Bromide	24959-67-9	1000	ug/mL

Lot #: 1039011-3
Vendor: CPI

Analytical Standard Record

Turner Laboratories, Inc.

2001965

Description:	Nitrate Standard Solution 1000ppm stock	Expires:	03/26/2024
Standard Type:	Other	Prepared:	05/06/2020
Solvent:	NA	Prepared By:	** Vendor **
Final Volume (mls):	500	Department:	IC
Vials:	2	Last Edit:	05/08/2020 10:01 by JG

CAT# 12792-49

Analyte	CAS Number	Concentration	Units
Nitrogen, Nitrate (As N)	14797-55-8	1000	ug/mL

Lot #: A0086
Vendor: Hach

Analytical Standard Record

Turner Laboratories, Inc.

2002272

Description:	Fluoride Standard Solution 1000ppm stock	Expires:	09/01/2021
Standard Type:	Other	Prepared:	05/28/2020
Solvent:	NA	Prepared By:	** Vendor **
Final Volume (mls):	120	Department:	IC
Vials:	2	Last Edit:	05/28/2020 14:53 by JG

Cat# 3173-4

Analyte	CAS Number	Concentration	Units
Fluoride	16984-48-8	1000	ug/mL

Lot #: 1002A05
Vendor: Ricca

Analytical Standard Record

Turner Laboratories, Inc.

2003362

Description:	Sulfate Standard Solution 1000 ppm stock	Expires:	07/14/2022
Standard Type:	Other	Prepared:	08/04/2020
Solvent:	NA	Prepared By:	** Vendor **
Final Volume (mls):	500	Department:	IC
Vials:	4	Last Edit:	08/04/2020 12:34 by JG

Cat# 2175749

Analyte	CAS Number	Concentration	Units
Sulfate	14808-79-8	1000	ug/mL

Lot #: A0184

Vendor: Hach

Analytical Standard Record

Turner Laboratories, Inc.

2005011

Description:	Phosphorous Standard Solution 1000ppm stock	Expires:	09/30/2024
Standard Type:	Other	Prepared:	11/30/2020
Solvent:	NA	Prepared By:	** Vendor **
Final Volume (mls):	100	Department:	IC
Vials:	2	Last Edit:	11/30/2020 08:45 by JG

CAT# 2321142
2 BOTTLE

Analyte	CAS Number	Concentration	Units
Total Phosphorus (as P)	7723-14-0	1000	ug/mL
Phosphorus, Orthophosphate (As P)	7723-14-0	1000	ug/mL
Phosphorus, Dissolved Orthophosphate (As	7723-14-0	1000	ug/mL
Orthophosphate (as P)	7723-14-0	1000	ug/mL

Lot #: A0255

Vendor: Hach

Analytical Standard Record

Turner Laboratories, Inc.

2100843

Description:	Nitrite Standard Solution 1000ppm stock	Expires:	08/22/2022
Standard Type:	Other	Prepared:	02/22/2021
Solvent:	H2O	Prepared By:	** Vendor **
Final Volume (mls):	250	Department:	IC
Vials:	1	Last Edit:	03/08/2021 14:33 by JG

P/N 4400-IC12M-250-SL

Analyte	CAS Number	Concentration	Units
Nitrogen, Nitrite (As N)	14797-65-0	1000	ug/mL

Lot #: 1059987-10

Vendor: CPI

Analytical Standard Record

Turner Laboratories, Inc.

2101266

Description: IC CAL # 2	Expires: 04/06/2021
Standard Type: Calibration Standard	Prepared: 04/05/2021
Solvent: H2O	Prepared By: Jenna Gossen
Final Volume (mls): 50	Department: IC
Vials: 1	Last Edit: 04/06/2021 09:21 by JG

Analyte	CAS Number	Concentration	Units
Total Phosphorus (as P)	7723-14-0	2.5	ug/mL
Sulfate	14808-79-8	12.5	ug/mL
Phosphorus, Orthophosphate (As P)	7723-14-0	2.5	ug/mL
Phosphorus, Dissolved Orthophosphate (As	7723-14-0	2.5	ug/mL
Orthophosphate (as P)	7723-14-0	2.5	ug/mL
Nitrogen, Nitrite (As N)	14797-65-0	2.5	ug/mL
Nitrogen, Nitrate (As N)	14797-55-8	5	ug/mL
Fluoride	16984-48-8	2	ug/mL
Chloride	16887-00-6	12.5	ug/mL
Bromide	24959-67-9	0.5	ug/mL

Lot #: NA
Vendor: NA

Parent Standards used in this standard:						
Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2101270	IC Spike/High Intermediate Standard	04/05/2021	Jenna Gossen	05/05/2021	04/06/2021 09:18 by JG	2.5

Analytical Standard Record

Turner Laboratories, Inc.

2101267

Description: IC CAL # 3
 Standard Type: Calibration Standard
 Solvent: H2O
 Final Volume (mls): 50
 Vials: 1

Expires: 04/06/2021
 Prepared: 04/05/2021
 Prepared By: Jenna Gossen
 Department: IC
 Last Edit: 04/06/2021 09:21 by JG

Analyte	CAS Number	Concentration	Units
Total Phosphorus (as P)	7723-14-0	3.75	ug/mL
Sulfate	14808-79-8	25	ug/mL
Phosphorus, Orthophosphate (As P)	7723-14-0	3.75	ug/mL
Phosphorus, Dissolved Orthophosphate (As	7723-14-0	3.75	ug/mL
Orthophosphate (as P)	7723-14-0	3.75	ug/mL
Nitrogen, Nitrite (As N)	14797-65-0	3.75	ug/mL
Nitrogen, Nitrate (As N)	14797-55-8	7.5	ug/mL
Fluoride	16984-48-8	3	ug/mL
Chloride	16887-00-6	18.75	ug/mL
Bromide	24959-67-9	0.75	ug/mL

Lot #: NA
 Vendor: NA

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2101270	IC Spike/High Intermediate Standard	04/05/2021	Jenna Gossen	05/05/2021	04/06/2021 09:18 by JG	3.75
2101273	IC Spike/SO4 Solution High Intermediate St	04/05/2021	Jenna Gossen	05/05/2021	04/06/2021 09:18 by JG	1.25

Analytical Standard Record

Turner Laboratories, Inc.

2101270

Description: IC Spike/High Intermediate Standard
 Standard Type: Analyte Spike
 Solvent: H2O
 Final Volume (mls): 200
 Vials: 1

Expires: 05/05/2021
 Prepared: 04/05/2021
 Prepared By: Jenna Gossen
 Department: IC
 Last Edit: 04/06/2021 09:18 by JG

FV = 200mL in DI

Analyte	CAS Number	Concentration	Units
Total Phosphorus (as P)	7723-14-0	50	ppm
Sulfate	14808-79-8	250	ppm
Phosphorus, Orthophosphate (As P)	7723-14-0	50	ppm
Phosphorus, Dissolved Orthophosphate (As	7723-14-0	50	ppm
Orthophosphate (as P)	7723-14-0	50	ppm
Nitrogen, Nitrite (As N)	14797-65-0	50	ppm
Nitrogen, Nitrate (As N)	14797-55-8	100	ppm
Fluoride	16984-48-8	40	ppm
Chloride	16887-00-6	250	ppm
Bromide	24959-67-9	10	ppm

Lot #: NA
 Vendor: NA

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2000094	Chloride Standard Solution 1000 ppm stock	01/07/2020	** Vendor **	11/30/2024	01/07/2020 08:13 by EJ	50
2000729	Bromide Standard 1000 ppm	02/19/2020	** Vendor **	07/31/2021	02/19/2020 07:53 by EJ	2
2001965	Nitrate Standard Solution 1000ppm stock	05/06/2020	** Vendor **	03/26/2024	05/08/2020 10:01 by JG	20
2002272	Fluoride Standard Solution 1000ppm stock	05/28/2020	** Vendor **	09/01/2021	05/28/2020 14:53 by JG	8
2003362	Sulfate Standard Solution 1000 ppm stock	08/04/2020	** Vendor **	07/14/2022	08/04/2020 12:34 by JG	50
2005011	Phosphorous Standard Solution 1000ppm stock	11/30/2020	** Vendor **	09/30/2024	11/30/2020 08:45 by JG	10
2100843	Nitrite Standard Solution 1000ppm stock	02/22/2021	** Vendor **	08/22/2022	03/08/2021 14:33 by JG	10

Analytical Standard Record

Turner Laboratories, Inc.

2101273

Description:	IC Spike/SO4 Solution High Intermediate Standard	Expires:	05/05/2021
Standard Type:	Analyte Spike	Prepared:	04/05/2021
Solvent:	H2O	Prepared By:	Jenna Gossen
Final Volume (mls):	100	Department:	IC
Vials:	1	Last Edit:	04/06/2021 09:18 by JG

25mL SO4 STD in 100mL in DI

Analyte	CAS Number	Concentration	Units
Sulfate	14808-79-8	250	ug/mL

Lot #: NA

Vendor: NA

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2003362	Sulfate Standard Solution 1000 ppm stock	08/04/2020	** Vendor **	07/14/2022	08/04/2020 12:34 by JG	25

Analytical Standard Record

Turner Laboratories, Inc.

2101268

Description:	IC CAL # 4	Expires:	04/06/2021
Standard Type:	Calibration Standard	Prepared:	04/05/2021
Solvent:	H2O	Prepared By:	Jenna Gossen
Final Volume (mls):	50	Department:	IC
Vials:	1	Last Edit:	04/06/2021 09:20 by JG

Analyte	CAS Number	Concentration	Units
Total Phosphorus (as P)	7723-14-0	5	ug/mL
Sulfate	14808-79-8	50	ug/mL
Phosphorus, Orthophosphate (As P)	7723-14-0	5	ug/mL
Phosphorus, Dissolved Orthophosphate (As	7723-14-0	5	ug/mL
Orthophosphate (as P)	7723-14-0	5	ug/mL
Nitrogen, Nitrite (As N)	14797-65-0	5	ug/mL
Nitrogen, Nitrate (As N)	14797-55-8	10	ug/mL
Fluoride	16984-48-8	4	ug/mL
Chloride	16887-00-6	25	ug/mL
Bromide	24959-67-9	1	ug/mL

Lot #: NA

Vendor: NA

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2101270	IC Spike/High Intermediate Standard	04/05/2021	Jenna Gossen	05/05/2021	04/06/2021 09:18 by JG	5
2101273	IC Spike/SO4 Solution High Intermediate St	04/05/2021	Jenna Gossen	05/05/2021	04/06/2021 09:18 by JG	5

Analytical Standard Record

Turner Laboratories, Inc.

2101269

Description:	QCS STD	Expires:	04/06/2021
Standard Type:	Calibration Standard	Prepared:	04/05/2021
Solvent:	H2O	Prepared By:	Jenna Gossen
Final Volume (mls):	50	Department:	IC
Vials:	1	Last Edit:	04/06/2021 09:20 by JG

Analyte	CAS Number	Concentration	Units
Total Phosphorus (as P)	7723-14-0	2.5	ug/mL
Sulfate	14808-79-8	12.5	ug/mL
Phosphorus, Orthophosphate (As P)	7723-14-0	2.5	ug/mL
Phosphorus, Dissolved Orthophosphate (As	7723-14-0	2.5	ug/mL
Orthophosphate (as P)	7723-14-0	2.5	ug/mL
Nitrogen, Nitrite (As N)	14797-65-0	2.5	ug/mL
Nitrogen, Nitrate (As N)	14797-55-8	5	ug/mL
Fluoride	16984-48-8	2	ug/mL
Chloride	16887-00-6	12.5	ug/mL
Bromide	24959-67-9	0.5	ug/mL

Lot #: N/A

Vendor: n/a

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2101272	IC QCS Intermediate Standard Solution	04/05/2021	Jenna Gossen	04/30/2021	04/06/2021 09:18 by JG	2.5

Analytical Standard Record

Turner Laboratories, Inc.

2101272

Description: IC QCS Intermediate Standard Solution	Expires: 04/30/2021
Standard Type: Analyte Spike	Prepared: 04/05/2021
Solvent: H2O	Prepared By: Jenna Gossen
Final Volume (mls): 200	Department: IC
Vials: 1	Last Edit: 04/06/2021 09:18 by JG

FV = 200mL in DI.

Analyte	CAS Number	Concentration	Units
Total Phosphorus (as P)	7723-14-0	50	ug/mL
Sulfate	14808-79-8	250	ug/mL
Phosphorus, Orthophosphate (As P)	7723-14-0	50	ug/mL
Phosphorus, Dissolved Orthophosphate (As	7723-14-0	50	ug/mL
Orthophosphate (as P)	7723-14-0	50	ug/mL
Nitrogen, Nitrite (As N)	14797-65-0	50	ug/mL
Nitrogen, Nitrate (As N)	14797-55-8	100	ug/mL
Fluoride	16984-48-8	40	ug/mL
Chloride	16887-00-6	250	ug/mL
Bromide	24959-67-9	10	ug/mL

Lot #: NA
Vendor: NA

Parent Standards used in this standard:						
Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1904040	Nitrate Standard Solution 1000ppm stock	09/28/2019	** Vendor **	08/31/2023	09/28/2019 10:34 by EJ	20
2001540	Chloride Standard Solution 1000 ppm stock	04/14/2020	** Vendor **	03/14/2025	07/21/2020 14:31 by JG	50
2001966	Phosphorous Standard Solution 1000ppm stock	05/06/2020	** Vendor **	04/14/2024	05/08/2020 09:59 by JG	10
2003443	Bromide Standard 1000 ppm	08/07/2020	** Vendor **	01/31/2022	08/07/2020 14:40 by JG	2
2005009	Nitrite Standard Solution 1000ppm stock	11/30/2020	** Vendor **	04/30/2021	11/30/2020 08:17 by JG	10
2005010	Fluoride Standard Solution 1000ppm stock	11/30/2020	** Vendor **	03/31/2022	11/30/2020 08:45 by JG	8
2005012	Sulfate Standard Solution 1000 ppm stock	11/30/2020	** Vendor **	10/31/2022	11/30/2020 08:45 by JG	50

Analytical Standard Record

Turner Laboratories, Inc.

1904040

Description:	Nitrate Standard Solution 1000ppm stock	Expires:	08/31/2023
Standard Type:	Other	Prepared:	09/28/2019
Solvent:	NA	Prepared By:	** Vendor **
Final Volume (mls):	500	Department:	IC
Vials:	1	Last Edit:	09/28/2019 10:34 by EJ

CAT# 1279249

Analyte	CAS Number	Concentration	Units
Nitrogen, Nitrate (As N)	14797-55-8	1000	ug/mL

Lot #: A9240
Vendor: Hach

Analytical Standard Record

Turner Laboratories, Inc.

2001540

Description:	Chloride Standard Solution 1000 ppm stock	Expires:	03/14/2025
Standard Type:	Other	Prepared:	04/14/2020
Solvent:	na	Prepared By:	** Vendor **
Final Volume (mls):	500	Department:	IC
Vials:	2	Last Edit:	07/21/2020 14:31 by JG

Cat# 183-49

Analyte	CAS Number	Concentration	Units
Chloride	16887-00-6	1000	ug/mL

Lot #: A0087
Vendor: Hach

Analytical Standard Record

Turner Laboratories, Inc.

2001966

Description:	Phosphorous Standard Solution 1000ppm stock	Expires:	04/14/2024
Standard Type:	Other	Prepared:	05/06/2020
Solvent:	NA	Prepared By:	** Vendor **
Final Volume (mls):	100	Department:	IC
Vials:	2	Last Edit:	05/08/2020 09:59 by JG

CAT# 2321142
2 BOTTLE

Analyte	CAS Number	Concentration	Units
Total Phosphorus (as P)	7723-14-0	1000	ug/mL
Phosphorus, Orthophosphate (As P)	7723-14-0	1000	ug/mL
Phosphorus, Dissolved Orthophosphate (As	7723-14-0	1000	ug/mL
Orthophosphate (as P)	7723-14-0	1000	ug/mL

Lot #: A0104
Vendor: Hach

Analytical Standard Record

Turner Laboratories, Inc.

2003443

Description:	Bromide Standard 1000 ppm	Expires:	01/31/2022
Standard Type:	Other	Prepared:	08/07/2020
Solvent:	N/A	Prepared By:	** Vendor **
Final Volume (mls):	120	Department:	IC
Vials:	1	Last Edit:	08/07/2020 14:40 by JG

Analyte	CAS Number	Concentration	Units
Bromide	24959-67-9	1000	ug/mL

Lot #: 4007J86
Vendor: Ricca

Analytical Standard Record

Turner Laboratories, Inc.

2005009

Description:	Nitrite Standard Solution 1000ppm stock	Expires:	04/30/2021
Standard Type:	Other	Prepared:	11/30/2020
Solvent:	H2O	Prepared By:	** Vendor **
Final Volume (mls):	500	Department:	IC
Vials:	2	Last Edit:	11/30/2020 08:17 by JG

CAT # 5461-16

Analyte	CAS Number	Concentration	Units
Nitrogen, Nitrite (As N)	14797-65-0	1000	ug/mL

Lot #: 4010P18
Vendor: Ricca

Analytical Standard Record

Turner Laboratories, Inc.

2005010

Description:	Fluoride Standard Solution 1000ppm stock	Expires:	03/31/2022
Standard Type:	Other	Prepared:	11/30/2020
Solvent:	NA	Prepared By:	** Vendor **
Final Volume (mls):	120	Department:	IC
Vials:	2	Last Edit:	11/30/2020 08:45 by JG

Cat# 3173-4

Analyte	CAS Number	Concentration	Units
Fluoride	16984-48-8	1000	ug/mL

Lot #: 1009D66
Vendor: Ricca

Analytical Standard Record

Turner Laboratories, Inc.

2005012

Description:	Sulfate Standard Solution 1000 ppm stock	Expires:	10/31/2022
Standard Type:	Other	Prepared:	11/30/2020
Solvent:	NA	Prepared By:	** Vendor **
Final Volume (mls):	500	Department:	IC
Vials:	2	Last Edit:	11/30/2020 08:45 by JG

Cat# 2175749

Analyte	CAS Number	Concentration	Units
Sulfate	14808-79-8	1000	ug/mL

Lot #: A0287

Vendor: Hach

Analytical Standard Record

Turner Laboratories, Inc.

2101329

Description:	IC CAL # 2 (CCV)	Expires:	04/08/2021
Standard Type:	Calibration Standard	Prepared:	04/07/2021
Solvent:	H2O	Prepared By:	Jenna Gossen
Final Volume (mls):	50	Department:	IC
Vials:	1	Last Edit:	04/08/2021 10:49 by JG

Analyte	CAS Number	Concentration	Units
Total Phosphorus (as P)	7723-14-0	2.5	ug/mL
Sulfate	14808-79-8	12.5	ug/mL
Phosphorus, Orthophosphate (As P)	7723-14-0	2.5	ug/mL
Phosphorus, Dissolved Orthophosphate (As	7723-14-0	2.5	ug/mL
Orthophosphate (as P)	7723-14-0	2.5	ug/mL
Nitrogen, Nitrite (As N)	14797-65-0	2.5	ug/mL
Nitrogen, Nitrate (As N)	14797-55-8	5	ug/mL
Fluoride	16984-48-8	2	ug/mL
Chloride	16887-00-6	12.5	ug/mL
Bromide	24959-67-9	0.5	ug/mL

Lot #: NA
Vendor: NA

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2101270	IC Spike/High Intermediate Standard	04/05/2021	Jenna Gossen	05/05/2021	04/06/2021 09:18 by JG	2.5

Analytical Standard Record

Turner Laboratories, Inc.

2101330

Description:	PQL Check	Expires:	04/08/2021
Standard Type:	Calibration Standard	Prepared:	04/07/2021
Solvent:	H2O	Prepared By:	Jenna Gossen
Final Volume (mls):	50	Department:	IC
Vials:	1	Last Edit:	04/08/2021 10:49 by JG

Analyte	CAS Number	Concentration	Units
Total Phosphorus (as P)	7723-14-0	0.5	ug/mL
Sulfate	14808-79-8	5	ug/mL
Phosphorus, Orthophosphate (As P)	7723-14-0	0.5	ug/mL
Phosphorus, Dissolved Orthophosphate (As	7723-14-0	0.5	ug/mL
Orthophosphate (as P)	7723-14-0	0.5	ug/mL
Nitrogen, Nitrite (As N)	14797-65-0	0.1	ug/mL
Nitrogen, Nitrate (As N)	14797-55-8	0.5	ug/mL
Fluoride	16984-48-8	0.5	ug/mL
Chloride	16887-00-6	1	ug/mL
Bromide	24959-67-9	0.1	ug/mL

Lot #: NA
Vendor: NA

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2101271	IC Spike/Low Intermediate Standard Solution	04/05/2021	Jenna Gossen	05/05/2021	04/06/2021 09:18 by JG	1

TURNER LABORATORIES, INC.

DATA VALIDATION REPORT

LEVEL IV

Work Order No.

21D0200-01
2104142-MS1
2104142-MSD1

Alkalinity
SM 2320B

Analysis Date – April 9, 2021

<u>Section</u>	<u>Page</u>
Prep Batch	337
Bench sheet	339
Standard log entries and traceability	341

Date Prepared: 04/09/2021 8:00:00AM

Prep Batch: 2104142 Prep Code: GEN CHEM

Technician: CWB

Sample ID	Sample ID and Source	Matrix	pH	Initial Volume (ml)	Spike 1 Added /ul	Spike 2 Added /ul	Final Vol (ml)	Comments
2104142-BLK	Blank	Non-Potable Water		50	/	/	50	
2104142-BS1	LCS	Non-Potable Water		50	2101306/250	/	50	
2104142-BSD	LCS Dup	Non-Potable Water		50	2101306/250	/	50	
2104142-MS1	Matrix Spike [21D0115-01]	Non-Potable Water		50	2101306/250	/	50	
2104142-MSD	Matrix Spike Dup [21D0115-01]	Non-Potable Water		50	2101306/250	/	50	
21D0115-01	Discharge	Non-Potable Water		50			50	
21D0146-01	Well	Drinking Water		50			50	
21D0148-01	MW19-12-20210405	Drinking Water		50			50	
21D0148-02	BW-1-20210405	Drinking Water		50			50	
21D0148-03	VW20-16-20210405	Drinking Water		50			50	
21D0148-04	VW20-13-20210405	Drinking Water		50			50	
21D0148-05	TJ-DW19-1RRR-20210405	Drinking Water		50			50	
21D0148-06	TJ-MW19-13-20210405	Drinking Water		50			50	
21D0148-07	TW-542020-20210405	Drinking Water		50			50	
21D0152-01	Well #14	Drinking Water		50			50	
21D0186-01	AVRW0105	Drinking Water		50			50	
21D0200-01	MW-9-20210407	Drinking Water		50			50	
21D0217-01	500 S 3rd Ave	Drinking Water		50			50	
21D0219-01	AVRW0106	Drinking Water		50			50	
21D0219-02	AVRW0107	Drinking Water		50			50	
21D0247-01	HC-17	Non-Potable Water		50			50	
21D0253-01	Well #23	Drinking Water		50			50	
21D0256-01	Effluent	Non-Potable Water		50			50	

Analysis: Alkalinity

Date Prepared: 04/09/2021 10:00:00AM

Prep Batch: 2104142

Prep Code: GEN CHEM

Technician: CWB

Sample ID	Sample ID and Source	Matrix	pH	Initial Volume (ml)	Spike 1 Added / μ L	Spike 2 Added / μ L	Final Vol (ml)	Comments

Number	Reagent Name
2000154	Alkalinity (Phenolphthalein Indicator)
2004945	Alkalinity (0.02N Sulfuric Acid)
2100856	Alkalinity (Bromocresol green/Methyl Red Indi

Spike ID	Spike Name
2101306	Alkalinity (Sodium Carbonate Spike Solution)

Number	Surrogate Name

Analysis: Alkalinity

Analyst: Alkalinity
Batch: 21D0148

Analyst: CB
Method: SM2320B
Date: 04-09-21

COPY

Prop: 0800
Analyzed: 1050

Sample ID	Method Blank	Conc. (100mL)	*	Readout	Results mg/L	Quality Control Data-Spikes		
						Amount Spiked mg/L	% REC %	% RPD %
1	LCSD	21D0115-01		0.1	1.0	260	96.8%	
2		21D0148-01		12.1	242	260	97.6%	0.82%
3		21D0148-01		12.2	244	260		
4		21D0148-01		6.5	130			
5		21D0148-01		12.1	242			
6		21D0148-01		12.1	242			
7		21D0148-01		12.1	242			
8		21D0148-01		12.1	242			
9		21D0148-01		12.1	242			
10		21D0152-01		12.1	242			
11		21D0186-01		12.1	242			
12		21D0200-01		12.1	242			
13		21D0217-01		12.1	242			
14		21D0219-01		12.1	242			
15		21D0247-01		12.1	242			
16		21D0248-01		12.1	242			
17		21D0253-01		12.1	242			
18		21D0256-01		12.1	242			
19		21D0115-01		12.1	242			
20		21D0115-01		12.1	242			

Calibration Standard ID

2101306

Reagent: 0.02 N H2SO4

Bromocresol: 2004945

Phenolphthalein: 2100856

% REC = (Con. Sample + Spike) / (Con. Sample) * 100
% RPD = (1st Conc. - 2nd Conc.) / Average Conc. * 100
Potential Interference used due to color interference

Due to pH < 4.5 the following samples cannot be analyzed for alkalinity:

21D0248-01
21D0248-01

low alkalinity

X The pH of sample 21D0148-01 was 12.13 which exceeds the 12.13 limit.

Analysis: Alkalinity
 Batch: 2104142

Analyst: CB
 Method: SM2320B
 Date: 04-09-21



Prep: 0800
 Analyzed: 1050

Sample ID	DF	Titration		Results mg/L				
		P	T	HCO3	CO3	OH	T	P
1 21D0148-01	-	66.1	1.2	0	0	2616	28	1322
2 \downarrow -04	-	0.6	6.6	108	24	0	132	12
3 21D0152-01	-	0.1	4.3	82	4	0	86	2
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

Calibration Standard ID 21011-2101306
 CB 04-09-21

EC= (Con. Sample + Spike) - (Conc. Sample) / Conc. Spike
 TD= (1st Conc. - 2nd Conc.) X 100 / Average Conc.

Reagent: 0.02N H2SO4: 2004945

Indicators: Bromocresol: 2100856
 Phenolphthalein: 20001574

1/1/21

Analytical Standard Record

Turner Laboratories, Inc.

2101306

Description:	Alkalinity (Sodium Carbonate Spike Solution)	Expires:	04/14/2021
Standard Type:	Analyte Spike	Prepared:	04/07/2021
Solvent:	DI	Prepared By:	Cooper Block
Final Volume (mls):	50	Department:	WETCHEM
Vials:	1	Last Edit:	04/07/2021 16:30 by CWB

Dissolve 12.5g sodium carbonate powder (2005014) in 250mL DI or
2.5g sodium carbonate in 50mL DI
1 week expiration

Analyte	CAS Number.	Concentration	Units
Alkalinity, Total (As CaCO ₃)	ALK	50000	ug/mL
Alkalinity, Bicarbonate (As CaCO ₃)	ALKBICARB	50000	ug/mL

Lot #: NA
Vendor: NA

Analytical Standard Record

Turner Laboratories, Inc.

2005014

Description:	SODIUM CARBONATE ANHYDROUS	Expires:	11/30/2021
Standard Type:	Reagent	Prepared:	11/30/2020
Solvent:	N/A	Prepared By:	** Vendor **
Final Volume (mls):	500	Department:	IC
Vials:	1	Last Edit:	11/30/2020 08:45 by JG

Cat#: LC22965

Analyte	CAS Number	Concentration	Units
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ug/mL

Lot #: K246-22
Vendor: LAB CHEM

Analytical Standard Record

Turner Laboratories, Inc.

2004945

Description:	Alkalinity (0.02N Sulfuric Acid)	Expires:	10/31/2023
Standard Type:	Reagent	Prepared:	11/23/2020
Solvent:	NA	Prepared By:	** Vendor **
Final Volume (mls):	4000	Department:	WETCHEM
Vials:	2	Last Edit:	11/23/2020 11:52 by CWB

CAT# 8200-1

Analyte	CAS Number	Concentration	Units
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ug/mL

Lot #: 2010J85
Vendor: Ricca

Analytical Standard Record

Turner Laboratories, Inc.

2000154

Description:	Alkalinity (Phenolphthalein Indicator)	Expires:	07/10/2021
Standard Type:	Reagent	Prepared:	01/09/2020
Solvent:	NA	Prepared By:	Jenna Gossen
Final Volume (mls):	100	Department:	WETCHEM
Vials:	1	Last Edit:	01/14/2020 10:40 by JG

1.0g phenolphthalein powderl (1500442) dissolved in 100mL Isopropyl Alcohol (1901645).

Analyte	CAS Number	Concentration	Units
			NA

Lot #: NA
Vendor: NA

Analytical Standard Record

Turner Laboratories, Inc.

1500442

Description:	Phenolphthalein, powder	Expires:	04/29/2021
Standard Type:	Reagent	Prepared:	02/04/2015
Solvent:	n/a	Prepared By:	** Vendor **
Final Volume (mls):	5	Department:	WETCHEM
Vials:	1	Last Edit:	06/19/2017 11:31 by LH

Re-test reagent 04/29/2021.

Analyte	CAS Number	Concentration	Units
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ug/mL

Lot #: 0000099135
Vendor: J.T. Baker

Analytical Standard Record

Turner Laboratories, Inc.

1901645

Description:	Isopropyl Alcohol 99.5% GR ACS	Expires:	04/21/2024
Standard Type:	Reagent	Prepared:	04/22/2019
Solvent:	n/a	Prepared By:	** Vendor **
Final Volume (mls):	1000	Department:	WETCHEM
Vials:	2	Last Edit:	08/20/2020 15:03 by EJ

Cat# PX1835-9 A.K.A. Isopropanol 2 1L Bottles

Analyte	CAS Number	Concentration	Units
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ug/mL

Lot #: 58114
Vendor: EMD

Analytical Standard Record

Turner Laboratories, Inc.

2100856

Description:	Alkalinity (Bromocresol green/Methyl Red Indicator)	Expires:	09/08/2022
Standard Type:	Reagent	Prepared:	03/08/2021
Solvent:	ISOPROPYL	Prepared By:	Cooper Block
Final Volume (mls):	100	Department:	WETCHEM
Vials:	1	Last Edit:	03/30/2021 09:58 by JG

0.10g bromocresol green powder (1600102) and 0.02g Methyl red powder (2004825) dissolved in 100mL Isopropyl alcohol (1901645).

Analyte	CAS Number	Concentration	Units
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ug/mL

Lot #:	NA
Vendor:	NA

Analytical Standard Record

Turner Laboratories, Inc.

1600102

Description:	Bromocresol Green Powder	Expires:	01/11/2023
Standard Type:	Reagent	Prepared:	01/12/2016
Solvent:	n/a	Prepared By:	** Vendor **
Final Volume (mls):	5	Department:	WETCHEM
Vials:	1	Last Edit:	01/26/2021 09:14 by JG

Restest on 1-11-21 Passed Extended 2 years

Analyte	CAS Number	Concentration	Units
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ug/mL

Lot #: 5180
Vendor: EMD

Analytical Standard Record

Turner Laboratories, Inc.

2004825

Description:	Methyl Red Powder	Expires:	11/13/2025
Standard Type:	Reagent	Prepared:	11/13/2020
Solvent:	n/a	Prepared By:	** Vendor **
Final Volume (mls):	25	Department:	WETCHEM
Vials:	1	Last Edit:	11/13/2020 13:48 by EJ

25g bottle recieved

Analyte	CAS Number	Concentration	Units
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ug/mL

Lot #:	MKCJ94762
Vendor:	Sigma-Aldrich

Analytical Standard Record

Turner Laboratories, Inc.

2101306

Description:	Alkalinity (Sodium Carbonate Spike Solution)	Expires:	04/14/2021
Standard Type:	Analyte Spike	Prepared:	04/07/2021
Solvent:	DI	Prepared By:	Cooper Block
Final Volume (mls):	50	Department:	WETCHEM
Vials:	1	Last Edit:	04/07/2021 16:30 by CWB

Dissolve 12.5g sodium carbonate powder (2005014) in 250mL DI or
2.5g sodium carbonate in 50mL DI
1 week expiration

Analyte	CAS Number	Concentration	Units
Alkalinity, Total (As CaCO ₃)	ALK	50000	ug/mL
Alkalinity, Bicarbonate (As CaCO ₃)	ALKBICARB	50000	ug/mL

Lot #: NA
Vendor: NA

TURNER LABORATORIES, INC.

DATA VALIDATION REPORT

LEVEL IV

Work Order No.

21D0200-01

2104100-DUP1

Total Dissolved Solids

SM2540C

Analysis Date- April 9, 2021

<u>Section</u>	<u>Page</u>
Prep batch	352
Bench sheet	354

Date Prepared: 04/08/2021 5:00:00PM

Prep Batch: 2104100 Prep Code: GEN CHEM

Technician: CWB

Sample ID	Sample ID and Source	Matrix	pH	Initial Volume (ml)	Spike 1 Added /ul	Spike 2 Added /ul	Final Vol (ml)	Comments
2104100-DUP	Duplicate [21D0106-01]	Non-Potable Water		1	/	/	1	
2104100-DUP	Duplicate [21D0106-03]	Non-Potable Water		1	/	/	1	
2104100-DUP	Duplicate [21D0215-01]	Non-Potable Water		1	/	/	1	
21C0683-17	WS PE1304	Drinking Water		1			1	
21C0685-03	RAFF AF	Non-Potable Water		1			1	
21D0032-01	Well	Drinking Water		1			1	
21D0035-01	VW20-12-20210401	Drinking Water		1			1	
21D0035-02	CW21-02-20210401	Drinking Water		1			1	
21D0035-03	CW-211818-20210401	Drinking Water		1			1	
21D0035-04	TW21-01-20210401	Drinking Water		1			1	
21D0035-05	AML-GWB-20210401	Drinking Water		1			1	
21D0035-06	TW-597785-20210401	Drinking Water		1			1	
21D0035-07	CW-803876-20210401	Drinking Water		1			1	
21D0035-08	AML-GW-20210401	Drinking Water		1			1	
21D0035-09	CW-590681-20210401	Drinking Water		1			1	
21D0092-17	HJRW	Drinking Water		1			1	
21D0106-01	Feed	Drinking Water		1			1	
21D0106-02	Permeate	Drinking Water		1			1	
21D0106-03	Concentrate	Drinking Water		1			1	
21D0126-01	AVRW0104	Drinking Water		1			1	
21D0146-01	Well	Drinking Water		1			1	
21D0148-01	MW19-12-20210405	Drinking Water		1			1	
21D0148-02	BW-1-20210405	Drinking Water		1			1	
21D0148-03	VW20-16-20210405	Drinking Water		1			1	
21D0148-04	VW20-13-20210405	Drinking Water		1			1	
21D0148-05	TJ-DW19-1RRR-20210405	Drinking Water		1			1	
21D0148-06	TJ-MW19-13-20210405	Drinking Water		1			1	
21D0148-07	TW-542020-20210405	Drinking Water		1			1	
21D0152-01	Well #14	Drinking Water		1			1	
21D0200-01	MW-9-20210407	Drinking Water		1			1	
21D0215-01	Feed	Drinking Water		1			1	
21D0215-02	Permeate	Drinking Water		1			1	
21D0215-03	Concentrate	Drinking Water		1			1	

Analysis: Total Dissolved Solids

Date Prepared: 04/08/2021 5:00:00PM

Prep Batch: 2104100

Prep Code: GEN CHEM

Technician: CWB

Sample ID	Sample ID and Source	Matrix	pH	Initial Volume (ml)	Spike 1 Added / μ L	Final Vol (ml)	Spike 2 Added / μ L	Comments
Number	Reagent Name					Number	Surrogate Name	

Analysis: Total Dissolved Solids

Batch: 2104100

SOP: INORG-32

Date Prepared: 04/08/2021 8:15:00AM

Hold Time: 7 Days

Prep Code: GEN CHEM

Technician: CWB

PQL: 20mg/L

Initial Oven Temperature

180°C

Repeat Oven Temperature

180°C

Initial Oven Drying Cycle Times/Date

04-08-21 04-08-21

Repeat Oven Drying Cycle Times/Date

04-08-21 04-08-21

Initial Weighing Time/Date

04-04-21 10:30

Repeat Weighing Time/Date

04-04-21 16:09

Sample ID and Source

Volume of Sample

Weight of Dish

Initial Weight of Evap Dish + Residue

Initial Weight of Residue

Repeat Weight of Evap Dish + Residue

Repeat Weight of Residue

Difference in Weight of Residue

Sample Result *

% RPD

Comments

Sample ID	Sample ID and Source	Volume of Sample	Weight of Dish	Initial Weight of Evap Dish + Residue	Initial Weight of Residue	Repeat Weight of Evap Dish + Residue	Repeat Weight of Residue	Difference in Weight of Residue	Sample Result *	% RPD	Comments
B2	P2104100-DUP1 Duplicate [21D0106-01]	25	88.2069	88.41091	0.2022	88.4106	0.2027	1.5	RB	1.9%	8072
WH	P2104100-DUP2 Duplicate [21D0106-03]	↓	83.2742	83.7217	0.4475	83.7213	0.4471	0.4	RB	0.09%	
JK	P2104100-DUP3 Duplicate [21D0215-01]	↑	80.1523	80.3548	0.2025	80.3558	0.2035	1.0	RB	0.25%	8084
BS	P21C0683-17 WSP PE1304	100	81.0222	81.0641	0.0419	81.0589	0.0367	6.2	RB		339
Li	P21C0685-03 RAFF_AF	10	82.0634	82.1451	0.0817	82.1450	0.0816	0.1	RB		8160
B5	P21D0032-01 Well	100	80.3242	82.2350	1.9108	82.2351	1.9109	0.1	RB		19109
O2	P21D0035-01 VW20-12-20210401	↓	89.4275	89.51639	0.1364	89.51644	0.1369	0.5	RB		1365
q1	P21D0035-02 CW21-02-20210401	↓	83.1005	83.1733	0.0728	83.1746	0.0741	1.3	RB		731
TK	P21D0035-03 CW211818-20210401	↓	80.3109	80.3744	0.0635	80.3745	0.0636	0.1	RB		636
Y2	P21D0035-04 TW21-01-20210401	↓	83.6388	83.6974	0.0586	83.6978	0.0590	0.4	RB		590
VD	P21D0035-05 AMI-GWB-20210401	↓	81.7020	81.7017	-0.0003	81.7021	0.0001	0.4	RB		1
LVK	P21D0035-06 TW-597785-20210401	↓	82.8230	82.8621	0.0391	82.8624	0.0394	0.3	RB		394
BY	P21D0035-07 CW-803876-20210401	↓	82.4408	82.4775	0.0367	82.4789	0.0381	1.4	RB		367
FML	P21D0035-08 AMI-GW-20210401	↓	84.3839	84.4201	0.0362	84.4214	0.0375	1.3	RB		381
PE	P21D0035-09 CW-590681-20210401	↓	84.9043	84.9327	0.0284	84.9333	0.0290	0.6	RB		295
HW	P21D0092-17 HJRW	↓	89.7662	84.7856	0.0194	84.7867	0.0205	1.1	RB		209
18	P21D0106-01 Feed	25	80.2251	80.4341	0.2090	80.4334	0.2083	0.7	RB		224
∞	P21D0106-02 Permeate	100	79.4128	79.4193	0.0065	79.4192	0.0064	0.1	RB		64
GA	P21D0106-03 Concentrate	25	94.2483	94.6951	0.4468	94.6950	0.4467	0.1	RB		17868
LB	P21D0126-01 AVRW0102	100	77.3879	77.4857	0.0978	77.4858	0.0979	0.1	RB		979
NA	P21D0146-01 Well	↓	80.5534	80.5963	0.0429	80.5967	0.0433	0.4	RB		433
80	P21D0148-01 MW19-12-20210405	↓	90.0308	90.1795	0.1487	90.1787	0.1479	0.8	RB		1460
R	P21D0148-02 BW-1-20210405	↓	90.6754	90.6770	0.0216	90.6982	0.0228	1.2	RB		224

Balance Checked: CG Date: 04-09-21, 04-11-21, 04-08-21

WV 411914

Initial Oven Temperature See Page 1
 Initial Oven Drying Cycle Times/Date _____
 Initial Weighing Time/Date 1

Repeat Oven Temperature See Page 1
 Repeat Oven Drying Cycle Times/Date _____
 Repeat Weighing Time/Date 1

Sample ID	Sample ID and Source	Volume of Sample	Weight of Evap Dish	Initial Weight of Evap Dish + Residue	Initial Weight of Residue	Repeat Weight of Evap Dish + Residue	Repeat Weight of Residue	Difference In Weight of Residue	Sample Result *	% RPD	Comments
AT04	P1D0148-03 VW20-16-20210405	50 mL	86.2490	86.3172	0.0682	86.3172	0.0682	0	68 mg/L, 21		
PB	P1D0148-04 VW-20-13-20210405	100	81.9230	81.9392	0.0162	81.9400	0.0170	0.8	PB		170
Mg	P1D0148-05 TSDW19-1RRR-2021040	50	81.3948	81.5020	0.1072	81.5039	0.1091	1.9	PB		2169
AN	P1D0148-06 TS-MW19-13-20210405	↓	79.2881	79.4320	0.1439	79.4316	0.1435	0.4	2870		
2 nd	P1D0148-07 TW-542020-20210405	100	72.7332	72.7838	0.0506	72.7836	0.0504	0.2	504		
2 nd	P1D0152-01 Well #14	↓	71.1399	71.1673	0.0274	71.1670	0.0271	0.3	271		
LPD	P1D0200-01 MW-9-20210407	↓	76.3350	76.3710	0.0360	76.3207	0.0357	0.3	357		
Ag	P1D0215-01 Feed	25	74.3435	74.5457	0.2022	74.5461	0.2026	0.4	8104		
PLC	P1D0215-02 Permeate	100	80.6945	80.7029	0.0084	80.7040	0.0065	1.1	PB		55
SF	P1D0215-03 Concentrate	25	99.6717	99.7205	0.4548	99.7254	0.4537	1.1	PB		18100

TDS (mg/L) = ((Weight of dish and residue - Weight of dish) x 1,000,000) / volume of sample
 Relative Percent Difference (RPD) = (1st value - 2nd value) / Average Value x 100
 *Final sample result calculated using the repeat weight.

low
 4113121

Balance Checked CR Date: 04-09-21, 04-11-21, 04-28-21

Method: SM 2840C

RB3: 04-11-21 1630

Analysis: VD
Date/Time: 04-11-21 1630

RB4: 04-12-21 0940 - 1314

EW3: 04-12-21 0903

EW4: 04-12-21 1539

Hold Time: 7 days
PAL: 20 mg/L
SOP: INORG-32

Diab #	Sample ID	Sample Type	Volume of Sample	Weight of Hvy Dish	Weight of Hvy Dish + Residue	Initial Weight of Residue	Report Weight of Hvy Dish + Residue	Report Weight of Residue	Difference in Weight of Residue	Sample Residue	%RPD
BK	21D0106-01	BUR SAMP	25 ml	88.2069	88.4087	0.2018	-	-	< 0.6 mg or 4%	mg/L	
SKR	21D0215-01	BUR SAMP	↓	80.1523	80.3544	0.2021	-	-	1.9 / 0.94%	8072	
500x	21C01683-17	SAMP	100	81.0222	81.0565	0.0343	81.0516	0.0339	1.4 / 0.69%	8084	
O2	21D0035-01	SAMP	↓	89.4275	89.5640	0.1365	-	-	0.4	339	
Q1	-02	SAMP	↓	88.1005	88.1716	0.0711	83.1733	0.0728	1.7	1365	
BK	-07	SAMP	↓	82.4408	82.4771	0.0363	82.4774	0.0367	0.3	RB	
FML	-08	SAMP	↓	84.3839	84.4204	0.0365	84.4198	0.0359	0.5	RB	
PE	-09	SAMP	↓	84.9043	84.9343	0.0300	84.9338	0.0295	1.8 / 0.64%	RB	
DW1	21D0092-17	SAMP	↓	84.7662	84.7871	0.0209	-	-	0.4	209	
18	21D0106-01	SAMP	25	80.2251	80.4307	0.2056	-	-	2.7 / 1.3%	8224	
CA	-03	SAMP	↓	94.2463	-	-	-	-	-	-	
80	21D0148-01	SAMP	100	90.0308	90.1768	0.1460	-	-	1.9 / 1.3%	1460	
R	-02	SAMP	↓	90.6754	90.6978	0.0224	-	-	0.4	224	
Pb	-04	SAMP	↓	81.9230	81.9379	0.0149	81.9389	0.0159	1.0	RB	
Mg	-05	SAMP	50	81.3948	81.5032	0.1084	-	-	0.7 / 0.64%	2168	
TLC	21D0215-02	SAMP	100	80.6975	80.7029	0.0054	80.7030	0.0055	0.1	55	
SF	-03	SAMP	25	98.6719	99.1242	0.4525	-	-	1.2 / 0.26%	18100	
		SAMP									
		SAMP									
		SAMP									
		SAMP									
		DUP									

Rollup Percent Difference (RPD) = (1st value - 2nd value) / Average Value * 100
Final sample result calculated using the report weight.

Balance Checked *CS*

Comments

WWS
04/13/21

08 04-12-21

TURNER LABORATORIES, INC.

DATA VALIDATION REPORT

LEVEL IV

Work Order No.
21D0200-01
2104144-DUP1

Total Suspended Solids
SM2540D

Analysis Date – April 12, 2021

Section	Page
Prep batch	359
Bench sheet	361

Date Prepared: 04/12/2021 10:58:00AM

Prep Batch: 2104144 Prep Code: GEN CHEM

Technician: CWB

Sample ID	Sample ID and Source	Matrix	pH	Initial Volume (ml)	Spike 1 Added /uL	Final Vol (ml)	Spike 2 Added /uL	Comments
2104144-DUP	Duplicate [21D0149-02]	Non-Potable Water		1	/	1	/	
2104144-DUP	Duplicate [21D0175-02]	Non-Potable Water		1	/	1	/	
21D0111-01	Composite	Non-Potable Water		1		1		
21D0112-01	AMARG Composite	Non-Potable Water		1		1		
21D0118-01	Loc 1-Bus Maint. by Pumps-Composite	Non-Potable Water		1		1		
21D0118-03	Loc 2- Autoshop-Composite	Non-Potable Water		1		1		
21D0119-01	Composite	Non-Potable Water		1		1		
21D0122-01	Composite	Non-Potable Water		1		1		
21D0124-01	Location 300	Non-Potable Water		1		1		
21D0149-02	Effluent	Non-Potable Water		1		1		
21D0175-01	Inf Comp	Non-Potable Water		1		1		
21D0175-02	Eff Comp	Non-Potable Water		1		1		
21D0176-01	Composite	Non-Potable Water		1		1		
21D0177-03	040721-TSS	Non-Potable Water		1		1		
21D0178-01	FDB	Non-Potable Water		1		1		
21D0184-01	Comp	Non-Potable Water		1		1		Custom Alert Level
21D0185-01	Tribal Herd DW62 Well Id 263	Drinking Water		1		1		
21D0200-01	MW-9-20210407	Drinking Water		1		1		
21D0273-01	Feed	Drinking Water		1		1		
21D0273-02	Permeate	Drinking Water		1		1		
21D0273-03	Concentrate	Drinking Water		1		1		

Analysis: Total Suspended Solids

Date Prepared: 04/12/2021 10:58:00AM

Prep Batch: 2104144 Prep Code: GEN CHEM

Technician: CWB

Sample ID	Sample ID and Source	Matrix	pH	Initial Volume (ml)	Spike 1 Added /uL	Final Vol (ml)	Spike 2 Added /uL	Comments
Number	Reagent Name			Spike ID	Spike Name		Number	Surrogate Name

Analysis: Total Suspended Solids

Batch: 2104144

Date Prepared: 04/11/2021 4:06:00PM

Prep Code: GEN CHEM

Date Analyzed: 04-12-21

Technician: CWB

Initial Oven Temperature 104°C

Repeat Oven Temperature 104°C

Initial Oven Drying Cycle Times/Date 04-12-21 1058 - 1360

Repeat Oven Drying Cycle Times/Date 04-12-21 1316 - 1337

Initial Weighing Time/Date 04-12-21 1316

Repeat Weighing Time/Date 04-12-21 1615

Sample ID	Sample ID and Source	Volume of Sample	Weight of Filler & Pan	Initial Weight of Filler & Pan + Residue	Initial Weight of Residue	Repeat Weight of Filler & Pan + Residue	Repeat Weight of Residue	Difference in Weight of Residue	Sample Result *	% RPD	Comments
1	2104144-DUP1 Duplicate [21D0149-02]	100	1.3893	1.3890	-0.0003	1.3894	0.0002	0.4	2		Q9
2	2104144-DUP2 Duplicate [21D0175-02]	↓	1.4191	1.4187	-0.0004	1.4191	0	0.4	0		↓
3	21D0111-01 Composite	15	1.4232	1.4445	0.0213	1.4449	0.0217	0.4	1446.7		Q9
4	21D0112-01 ANARG Composite	100	1.4172	1.4182	0.0010	1.4182	0.0010	0	10		Q9
5	21D0118-01 Loc 1-Bus Maint. by Pump		1.4080	1.4080	0	1.4084	0.0004	0.4	4		↓
6	21D0118-03 Loc 2-Autoshop-Compos		1.3917	1.4075	0.0158	1.4077	0.0160	0.2	160		↓
7	21D0119-01 Composite		1.4116	1.4116	0	1.4120	0.0004	0.4	21		Q9
8	21D0122-01 Composite		1.4097	1.4106	0.0009	1.4110	0.0013	0.4	13		↓
9	21D0124-01 Location 300		1.3994	1.4049	0.0055	1.4052	0.0058	0.3	58		
10	21D0149-02 Effluent	↓	1.4141	1.4138	-0.0003	1.4142	0.0001	0.4	1		Q9
11	21D0175-01 Inf Comp	15	1.4190	1.4906	0.0816	1.4910	0.0820	0.4	5466.7		
12	21D0175-02 Eff Comp	100	1.3998	1.3995	-0.0003	1.3999	0.0001	0.4	1		Q9
13	21D0176-01 Composite		1.4050	1.4058	0.0008	1.4062	0.0012	0.4	12		↓
14	21D0177-03 040721-TSS		1.4020	1.4021	0.0001	1.4024	0.0004	0.3	4		↓
15	21D0178-01 FDB		1.4167	1.4199	0.0032	1.4203	0.0036	0.4	36		
16	21D0184-01 Comp		1.4147	1.4240	0.0093	1.4244	0.0097	0.4	97		Custom Alert Level
17	21D0185-01 Tribal Herd DW62 Well Id		1.4206	1.4204	-0.0002	1.4208	0.0002	0.4	2		Q9
18	21D0200-01 MW-9-20210407		1.3972	1.4071	0.0099	1.4075	0.0103	0.4	103		
19	21D0273-01 Feed	↓	1.4218	1.4225	0.0007	1.4229	0.0011	0.4	11		Q9
20	21D0273-02 Permeate	50	1.3978	1.3974	-0.0004	1.3978	0	0.4	0		↓
21	21D0273-03 Concentrate	25	1.4006	1.4353	0.0347	1.4353	0.0347	0	1388		

TSS (mg/L) = (Weight of dish and residue - Weight of dish) x 1,000,000 / Volume of sample
 Relative Percent Difference (RPD) = (1st value - 2nd value) / Average Value x 100
 *Final sample result calculated using the repeat weight.

Balance Checked CB Date: 04-12-21

WMB
4/13/21

Analysis: TSS Filter Prep
 Method: SM 2540D

Analyst: CB

SOP: INORG-33

Initial Oven Temp/Date/Time: 105°C / 04-06-21 / 1051--1230
 Initial Weighing Time: 04-06-21 / 1250

Repeat Oven Temp/Date/Time: 105°C / 04-06-21 / 1309
 Repeat Weighing Time: 04-06-21 / 1014

Silver

Pan Number	Initial Dry Weight of Filter & Pan g	Repeat Dry Weight of Filter & Pan g	Difference in Weight <0.5 mg
1	1.3888	1.3892	0.4
2	1.4187	1.4191	0.4
3	1.4229	1.4232	0.3
4	1.4171	1.4172	0.1
5	1.39080	1.4080	0
6	1.3915	1.3917	0.2
7	1.4114	1.4116	0.2
8	1.4094	1.4097	0.3
9	1.3991	1.3994	0.3
10	1.4146	1.4141	0.1
11	1.4087	1.4090	0.3
12	1.3995	1.3998	0.3
13	1.4049	1.4056	0.1
14	1.4018	1.4020	0.2
15	1.4164	1.4167	0.3
16	1.4143	1.4147	0.4
17	1.4202	1.4206	0.4
18	1.3968	1.3972	0.4
19	1.4214	1.4218	0.4
20	1.3974	1.3978	0.4
21	1.4025	1.4029	0.4
22	1.4004	1.4006	0.2

Temperature measured in °C

JMM

Balance Checked

CB

4/13/21

TURNER LABORATORIES, INC.

DATA VALIDATION REPORT

LEVEL IV

Work Order No.

21D0200-01

2104117-MS1

2104117-MSD1

Cyanide

SM4500-CN B,E

Analysis Date – April 8, 2021

<u>Section</u>	<u>Page</u>
Prep batch	364
Bench sheet	366
Standard log entries and traceability	367

Date Prepared: 04/08/2021 8:30:00AM

Prep Batch: 2104117 Prep Code: SPECTRO PREP Technician: JG

Sample ID	Sample ID and Source	Matrix	pH	Initial Volume (ml)	Spike 1 Added /ul	Spike 2 Added /ul	Final Vol (ml)	Comments
2104117-BLK	Blank	Non-Potable Water		50	/	/	50	
2104117-BS1	LCS	Non-Potable Water		50	2101351/1000	/	50	
2104117-BSD	LCS Dup	Non-Potable Water		50	2101351/1000	/	50	
2104117-MRL	MRL Check	Non-Potable Water		50	2101355/50	/	50	
2104117-MS1	Matrix Spike [21D0035-07]	Non-Potable Water		50	2101351/1000	/	50	
2104117-MSD	Matrix Spike Dup [21D0035-07]	Non-Potable Water		50	2101351/1000	/	50	
21D0035-01	VW20-12-20210401	Drinking Water		50			50	Run as MS/MSD/DUP
21D0035-02	CW21-02-20210401	Drinking Water		50			50	Run as MS/MSD/DUP
21D0035-03	CW211818-20210401	Drinking Water		50			50	Run as MS/MSD/DUP
21D0035-04	TW21-01-20210401	Drinking Water		50			50	Run as MS/MSD/DUP
21D0035-05	AMI-GWB-20210401	Drinking Water		50			50	Run as MS/MSD/DUP
21D0035-06	TW-597785-20210401	Drinking Water		50			50	Run as MS/MSD/DUP
21D0035-07	CW-803876-20210401	Drinking Water		50			50	Run as MS/MSD/DUP
21D0035-08	AMI-GW-20210401	Drinking Water		50			50	Run as MS/MSD/DUP
21D0035-09	CW-590681-20210401	Drinking Water		50			50	Run as MS/MSD/DUP
21D0112-02	AMARG Grab	Non-Potable Water		50			50	
21D0115-01	Discharge	Non-Potable Water		50			50	
21D0148-01	MWV19-12-20210405	Drinking Water		50			50	
21D0148-02	BW-1-20210405	Drinking Water		50			50	
21D0148-03	VW20-16-20210405	Drinking Water		50			50	
21D0148-04	VW-20-13-20210405	Drinking Water		50			50	
21D0148-05	TSDW19-1RRR-20210405	Drinking Water		50			50	
21D0148-06	TS-MWV19-13-20210405	Drinking Water		50			50	
21D0148-07	TW-542020-20210405	Drinking Water		50			50	
21D0178-02	CSB #2	Non-Potable Water		50			50	
21D0200-01	MW-9-20210407	Drinking Water		50			50	Run as MS/MSD/DUP

Analysis: Cyanide

Analysis: Cyanide
 Method: SM4500-BE/EPA 335.4
 Analyst: JF
 Date/Time: 4-8-21
 4-9-21
 2104117
 Date/Time: 08:30
 ANALYZED: 11:50
 Hold Time: 14 days
 POL: 0.10 mg/L
 SOP: INORG-13

Sample ID	Type	pH	Chlorine (VIN)	DF	Readout	mg/L	Sample Result	Std. ID	Conc. of Std	Aliquot of Std	Solvent	Final Volume	Final Conc.	%REC	%RPD
0.10 mg/L	ICAL				0.010			2101354	10	1.0	Reagent H2O	1.0	0.10	± 10% GC/VICV	± 15%
0.50 mg/L	ICAL				0.194				10	0.1	Reagent H2O	1.0	0.50		
1.0 mg/L	ICAL				0.436				10	0.2	Reagent H2O	1.0	1.0		
2.0 mg/L	ICAL				0.847				10	0.3	Reagent H2O	1.0	2.0		
3.0 mg/L	ICAL				1.249				10	0.5	Reagent H2O	1.0	3.0		
1.0 mg/L	CVS				0.354		0.917	2101355	100	1.0	Reagent H2O	50	2.0	91.7	
2.0 mg/L	ICV/IPC				0.748		1.832		100	1.0	Reagent H2O	50	2.0	91.6	
2.0 mg/L	CB				0.000		0.001		100	1.0	Reagent H2O	50	2.0		
Method Blank	MBLK				0.001		0.001		100	1.0	Reagent H2O	50	2.0		
Method Blank	LCS				0.779		1.498		100	1.0	Reagent H2O	50	2.0		
LCSD	LCSD				0.007		0.016		100	1.0	Reagent H2O	50	2.0		
1 2100035-01	SAMP	pH 7.2	N	1	-0.003		-0.006		0.04 N NaOH	2101352	Sulfamic Acid	2100416			
2 2100035-01	SAMP				0.004		0.011		CN Color Reagent	2100509	Acetate Buffer	2100510			
3	SAMP				-0.006		-0.013		Chloramine T	2101353	50% H2SO4	2101347			
4	SAMP				-0.001		-0.001		51% Magnesium Chloride	2100291					
5	SAMP				0.005		0.013								
6	SAMP				0.006		0.015								
7	SAMP				-0.005		-0.011								
8	SAMP				0.003		0.008								
9	SAMP				0.003		0.008								
10 2100112-02	SAMP				0.071		1.439	2101355	100	1.0	Reagent H2O	50	2.0	92.0	
2.0 mg/L	CCV				0.000		0.001								
Calibration Blank	CB				0.004		0.020								
11 2100115-01	SAMP	pH 7.2	N	1	-0.005		-0.011								
12 2100148-01	SAMP				0.005		0.011								
13	SAMP				-0.001		-0.009								
14	SAMP				-0.005		-0.011								
15	SAMP				-0.005		-0.011								
16	SAMP				-0.005		-0.011								
17	SAMP				0.004		0.009								
18	SAMP				0.011		0.027								
19 2100178-02	SAMP				-0.005		-0.011								
20 2100200-01	SAMP				0.797		1.901	2101351	100	1.0	210035-01	50	2.0	93.9	1.3
210035-01	MSD				0.787		1.877		100	1.0	Reagent H2O	50	2.0	96.6	
2.0 mg/L	CCV				0.610		1.432	2101355	100	1.0	Reagent H2O	50	0.1	77.3	
2.0 mg/L	PQL				0.032		0.077		100	0.05	Reagent H2O	50	0.1		
Calibration Blank	CB				0.000		0.001								

Relative Percent Difference (RPD) = (1st value - 2nd value) / Average Value * 100
 Percent Recovery (REC) = (100) ((Conc. Sample + Spike) - (Conc. Sample)) / Spike conc.
 CN = ((readout value - y-intercept) / slope) (Dilution Factor)
 Method Blank < PQL

Coefficient of Determination R²: 0.9912
 Slope: 0.4944
 y-intercept: -0.0004

Www 4/14/21

Comments:

Analytical Standard Record

Turner Laboratories, Inc.

2101354

Description:	Cyanide spike 10 ppm CAL stds	Expires:	04/10/2021
Standard Type:	Analyte Spike	Prepared:	04/09/2021
Solvent:	na	Prepared By:	Jenna Gossen
Final Volume (mls):	25	Department:	SPECTRO
Vials:	1	Last Edit:	04/09/2021 08:25 by JG

0.25 mL of 1000ppm KCN stock standard in 25 mLs of 0.04 N NaOH.

Analyte	CAS Number	Concentration	Units
Cyanide, Amenable to Chlorination	57-12-5	10	ug/mL
Cyanide	57-12-5	10	ug/mL

Lot #: na
Vendor: NA

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2100091	(KCN) CN 1000 ppm Stock Standard	01/11/2021	Jenna Gossen	07/11/2022	01/11/2021 16:13 by JG	0.25

Analytical Standard Record

Turner Laboratories, Inc.

2100091

Description:	(KCN) CN 1000 ppm Stock Standard	Expires:	07/11/2022
Standard Type:	Analyte Spike	Prepared:	01/11/2021
Solvent:	DI water	Prepared By:	Jenna Gossen
Final Volume (mls):	100	Department:	SPECTRO
Vials:	1	Last Edit:	01/11/2021 16:13 by JG

0.2510g KCN (1600763) in 100 mL, with one pellet of KOH as a preservative
18 MONTH IN LAB EXPIRATION

Analyte	CAS Number	Concentration	Units
Cyanide, Amenable to Chlorination	57-12-5	1000	ug/mL
Cyanide	57-12-5	1000	ug/mL

Lot #: 975321

Vendor: Fisher

Analytical Standard Record

Turner Laboratories, Inc.

1600763

Description:	CN - Potassium Cyanide	Expires:	02/28/2023
Standard Type:	Reagent	Prepared:	02/29/2016
Solvent:	N/A	Prepared By:	** Vendor **
Final Volume (mls):	25	Department:	SPECTRO
Vials:	1	Last Edit:	03/02/2021 07:57 by JG

P/N 207810-25G
Retested 3-1-21 Extended 2 years

Analyte	CAS Number	Concentration	Units
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ug/mL

Lot #: MKBT5031V
Vendor: Sigma-Aldrich

Analytical Standard Record

Turner Laboratories, Inc.

2101355

Description:	CN 100 ppm CVS/CCV	Expires:	04/10/2021
Standard Type:	Analyte Spike	Prepared:	04/08/2021
Solvent:	na	Prepared By:	Jenna Gossen
Final Volume (mls):	25	Department:	SPECTRO
Vials:	1	Last Edit:	04/09/2021 08:25 by JG

2.5 mL -1000ppm NaCN stock standard in 25 ml 0.25N NaOH.

Analyte	CAS Number	Concentration	Units
Cyanide, Amenable to Chlorination	57-12-5	100	ug/mL
Cyanide	57-12-5	100	ug/mL

Lot #: na
Vendor: NA

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2100092	(NaCN) CN 1000 ppm Stock Standard (CVS01/11/2021		Jenna Gossen	07/11/2022	01/11/2021 16:14 by JG	2.5

Analytical Standard Record

Turner Laboratories, Inc.

2100092

Description:	(NaCN) CN 1000 ppm Stock Standard (CVS/CCV)	Expires:	07/11/2022
Standard Type:	Analyte Spike	Prepared:	01/11/2021
Solvent:	DI water	Prepared By:	Jenna Gossen
Final Volume (mls):	100	Department:	SPECTRO
Vials:	1	Last Edit:	01/11/2021 16:14 by JG

0.191g NaCN (1600762) in 100mL with one NaOH pellet added as a preservative

Analyte	CAS Number	Concentration	Units
Cyanide, Amenable to Chlorination	57-12-5	1000	ug/mL
Cyanide	57-12-5	1000	ug/mL

Lot #: 975321

Vendor: Fisher

Analytical Standard Record

Turner Laboratories, Inc.

1600762

Description:	CN - Sodium Cyanide	Expires:	02/28/2023
Standard Type:	Reagent	Prepared:	02/29/2016
Solvent:	N/A	Prepared By:	** Vendor **
Final Volume (mls):	100	Department:	SPECTRO
Vials:	1	Last Edit:	03/02/2021 07:58 by JG

P/N 380970-100g
Retested 3-1-21 retest extended 2 years

Analyte	CAS Number	Concentration	Units
			ug/mL

Lot #: MKBX0939V
Vendor: Sigma-Aldrich

Analytical Standard Record

Turner Laboratories, Inc.

2101351

Description:	Cyanide spike 2.0 ppm	Expires:	04/10/2021
Standard Type:	Analyte Spike	Prepared:	04/08/2021
Solvent:	na	Prepared By:	Jenna Gossen
Final Volume (mls):	25	Department:	SPECTRO
Vials:	1	Last Edit:	04/09/2021 08:26 by JG

2.5 ml -1000ppm KCN stock standard in 25 ml 0.25N NaOH.

Analyte	CAS Number	Concentration	Units
Cyanide, Amenable to Chlorination	57-12-5	100	ug/mL
Cyanide	57-12-5	100	ug/mL

Lot #: na
Vendor: NA

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2100091	(KCN) CN 1000 ppm Stock Standard	01/11/2021	Jenna Gossen	07/11/2022	01/11/2021 16:13 by JG	2.5

Analytical Standard Record

Turner Laboratories, Inc.

2101352

Description:	CN - 0.04 N Sodium Hydroxide Absorbtion Solution	Expires:	04/10/2021
Standard Type:	Reagent	Prepared:	04/09/2021
Solvent:	DI water	Prepared By:	Jenna Gossen
Final Volume (mls):	1000	Department:	SPECTRO
Vials:	1	Last Edit:	04/09/2021 08:24 by JG

1.6g NaOH (1902821) in 1 L

Analyte	CAS Number	Concentration	Units
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ug/mL

Lot #: NA
Vendor: NA

Analytical Standard Record

Turner Laboratories, Inc.

2100509

Description:	CN - Color Reagent	Expires:	08/09/2021
Standard Type:	Reagent	Prepared:	02/09/2021
Solvent:	na	Prepared By:	Jenna Gossen
Final Volume (mls):	1000	Department:	SPECTRO
Vials:	1	Last Edit:	02/12/2021 08:37 by JG

60.0 g Barbarturic Acid (2003361), 300mL Pyridine (1904633), 60mL HCl (2003514), DI to 1000mL.
6 month expiration

Analyte	CAS Number	Concentration	Units
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ug/mL

Lot #: na
Vendor: NA

Analytical Standard Record

Turner Laboratories, Inc.

2003361

Description:	CN - BARBITURIC ACID	Expires:	08/04/2025
Standard Type:	Reagent	Prepared:	08/04/2020
Solvent:	N/A	Prepared By:	** Vendor **
Final Volume (mls):	500	Department:	SPECTRO
Vials:	1	Last Edit:	08/04/2020 12:30 by JG

Part # 185698
PCode: 101943551
No expiration given by manufacturer - retest in 5 years.

Analyte	CAS Number	Concentration	Units
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Lot #: WXBC8508V
Vendor: Sigma-Aldrich

Analytical Standard Record

Turner Laboratories, Inc.

1904633

Description:	CN - PYRIDINE	Expires:	10/30/2024
Standard Type:	Reagent	Prepared:	10/31/2019
Solvent:	N/A	Prepared By:	** Vendor **
Final Volume (mls):	1000	Department:	SPECTRO
Vials:	3	Last Edit:	09/25/2020 09:47 by JG

Part # 360570-1L
No expiration given by manufacturer, set to 5 years

Analyte	CAS Number	Concentration	Units
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ug/mL

Lot #: SHBL2526
Vendor: Sigma-Aldrich

Analytical Standard Record

Turner Laboratories, Inc.

2003514

Description: Hydrochloric Acid Trace Metal
Standard Type: Reagent
Solvent: N/A
Final Volume (mls): 2500
Vials: 4

Expires: 03/24/2023
Prepared: 08/13/2020
Prepared By: ** Vendor **
Department: ICP
Last Edit: 08/13/2020 12:24 by MH

Received in lab: 4) 2.5 L HCl

Analyte	CAS Number	Concentration	Units
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Lot #: 4120020
Vendor: Fisher

Analytical Standard Record

Turner Laboratories, Inc.

2101353

Description:	CN Chloramine T	Expires:	04/10/2021
Standard Type:	Reagent	Prepared:	04/09/2021
Solvent:	DI water	Prepared By:	Jenna Gossen
Final Volume (mls):	50	Department:	SPECTRO
Vials:	1	Last Edit:	04/09/2021 08:24 by JG

0.5 g Chloramine T (1803484) (Retest 07/19/23) in 50mls DI water

Analyte	CAS Number	Concentration	Units
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ug/mL

Lot #: 47208

Vendor: EMD

Analytical Standard Record

Turner Laboratories, Inc.

1803484

Description:	Chloramine T Trihydrite	Expires:	07/19/2023
Standard Type:	Reagent	Prepared:	08/24/2018
Solvent:	N/A	Prepared By:	** Vendor **
Final Volume (mls):	1	Department:	SPECTRO
Vials:	1	Last Edit:	04/05/2021 15:44 by JG

100G BOTTLE RETEST 07/19/23

Analyte	CAS Number	Concentration	Units
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ug/mL

Lot #: 18241184
Vendor: GFS

Analytical Standard Record

Turner Laboratories, Inc.

2100416

Description: CN - Sulfamic Acid
Standard Type: Reagent
Solvent: n/a
Final Volume (mls): 100
Vials: 1

Expires: 01/31/2022
Prepared: 02/02/2021
Prepared By: ** Vendor **
Department: SPECTRO
Last Edit: 02/02/2021 09:18 by JG

1 BOTTLE 100G EACH
RETEST 01/31/2021

Analyte	CAS Number	Concentration	Units
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Lot #: BCCC7172
Vendor: Sigma-Aldrich

Analytical Standard Record

Turner Laboratories, Inc.

2100510

Description:	CN - ACETATE BUFFER	Expires:	02/09/2022
Standard Type:	Reagent	Prepared:	02/09/2021
Solvent:	na	Prepared By:	Jenna Gossen
Final Volume (mls):	500	Department:	SPECTRO
Vials:	1	Last Edit:	04/05/2021 15:46 by JG

Add approximately 247 g Anhydrous Sodium Acetate (2002713) to 500ml of Reagent Water.
Add approximately 500 mL Glacial Acetic Acid (1903871) to a final pH of 4.5.
1 YEAR EXP

Analyte	CAS Number	Concentration	Units
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ug/mL

Lot #: n/a
Vendor: NA

Analytical Standard Record

Turner Laboratories, Inc.

2002713

Description: Sodium Acetate Anhydrous
Standard Type: Reagent
Solvent: N/A
Final Volume (mls): 500
Vials: 1

Expires: 05/11/2025
Prepared: 06/24/2020
Prepared By: Jenna Gossen
Department: SPECTRO
Last Edit: 06/24/2020 15:18 by JG

CAS# 127-09-3
Retest date : 5/ 11/ 2025

Analyte	CAS Number	Concentration	Units
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ug/mL

Lot #: 0000219656
Vendor: J.T. Baker

Analytical Standard Record

Turner Laboratories, Inc.

1903871

Description:	Acetic Acid, Glacial, Omni-Trace	Expires:	05/14/2024
Standard Type:	Reagent	Prepared:	09/16/2019
Solvent:	Acetic Acid	Prepared By:	** Vendor **
Final Volume (mls):	2500	Department:	ICP
Vials:	1	Last Edit:	09/16/2019 14:11 by EJ

Acetic Acid
Item # AX0077-2
Retest 9/15/24, 5 year from manufacturer date

Analyte	CAS Number	Concentration	Units
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Lot #: 59107
Vendor: EMD

Analytical Standard Record

Turner Laboratories, Inc.

2101347

Description:	CN - 50% H2SO4	Expires:	10/08/2022
Standard Type:	Reagent	Prepared:	04/08/2021
Solvent:	n/a	Prepared By:	Jenna Gossen
Final Volume (mls):	1000	Department:	SPECTRO
Vials:	1	Last Edit:	04/09/2021 08:07 by JG

500 mL conc H2SO4 (2005234) in 500 mL DI H2O
(18 month Exp)

Analyte	CAS Number	Concentration	Units
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Lot #: n/a
Vendor: n/a

Analytical Standard Record

Turner Laboratories, Inc.

2005234

Description:	Sulfuric Acid	Expires:	12/16/2021
Standard Type:	Reagent	Prepared:	12/16/2020
Solvent:	N/A	Prepared By:	** Vendor **
Final Volume (mls):	2500	Department:	Hg
Vials:	4	Last Edit:	12/21/2020 14:36 by LB

Rcvd in lab: 4) 2.5 Liters P/N SX1247-2 93-98% OmniTrace
--

Analyte	CAS Number	Concentration	Units
			NA

Lot #: 60150
Vendor: Sigma-Aldrich

Analytical Standard Record

Turner Laboratories, Inc.

2100291

Description:	CN - 51% Magnesium Chloride	Expires:	05/31/2022
Standard Type:	Reagent	Prepared:	01/22/2021
Solvent:	n/a	Prepared By:	** Vendor **
Final Volume (mls):	1000	Department:	SPECTRO
Vials:	1	Last Edit:	01/22/2021 15:32 by EJ

CAT# 4470-32

Analyte	CAS Number	Concentration	Units
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ug/mL

Lot #: 1005E34
Vendor: Ricca

TURNER LABORATORIES, INC.

DATA VALIDATION REPORT

LEVEL IV

Work Order No.

21D0200-01

2104145-MS1

2104145-MSD1

Nitrogen, Ammonia as N

SM450-NH3 B,C

Analysis Date – April 9, 2021

Section	Page
Prep batch	389
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Standard log entries and traceability	392

Date Prepared: 04/09/2021 10:30:00AM

Prep Batch: 2104145 Prep Code: GEN CHEM

Technician: JG

Sample ID	Sample ID and Source	Matrix	pH	Initial Volume (ml)	Spike 1 Added /uL	Spike 2 Added /uL	Final Vol (ml)	Comments
2104145-BLK	Blank	Non-Potable Water		25	/	/	25	
2104145-BS1	LCS	Non-Potable Water		25	1903267/1250	/	25	
2104145-BSD	LCS Dup	Non-Potable Water		25	1903267/1250	/	25	
2104145-MRL	MRL Check	Non-Potable Water		25	1903267/125	/	25	
2104145-MS1	Matrix Spike [21D0005-01]	Non-Potable Water		25	1903267/1250	/	25	
2104145-MS2	Matrix Spike [21D0008-01]	Non-Potable Water		25	1903267/1250	/	25	
2104145-MSD	Matrix Spike Dup [21D0005-01]	Non-Potable Water		25	1903267/1250	/	25	
2104145-MSD	Matrix Spike Dup [21D0008-01]	Non-Potable Water		25	1903267/1250	/	25	
21C0652-01	Reclaim	Non-Potable Water		25			25	
21D0001-01	Reclaim	Non-Potable Water		25			25	
21D0005-01	Reclaim	Non-Potable Water		25			25	
21D0008-01	Reclaim	Non-Potable Water		25			25	
21D0035-05	AMI-GWb-20210401	Drinking Water		25			25	Report samples/MB to MDL
21D0035-06	TW-597785-20210401	Drinking Water		25			25	Report samples/MB to MDL
21D0035-07	CW-803876-20210401	Drinking Water		25			25	Report samples/MB to MDL
21D0035-08	AMI-GW-20210401	Drinking Water		25			25	Report samples/MB to MDL
21D0035-09	CW-590681-20210401	Drinking Water		25			25	Report samples/MB to MDL
21D0113-01	Reclaim	Non-Potable Water		25			25	
21D0120-01	Reclaim	Non-Potable Water		25			25	
21D0148-01	MW19-12-20210405	Drinking Water		25			25	Report samples/MB to MDL
21D0148-02	BW-1-20210405	Drinking Water		25			25	Report samples/MB to MDL
21D0148-03	VW20-16-20210405	Drinking Water		25			25	Report samples/MB to MDL
21D0148-04	VW-20-13-20210405	Drinking Water		25			25	Report samples/MB to MDL
21D0148-05	TSDW19-1RRR-20210405	Drinking Water		25			25	Report samples/MB to MDL
21D0148-06	TS-MW19-13-20210405	Drinking Water		25			25	Report samples/MB to MDL
21D0148-07	TW-542020-20210405	Drinking Water		25			25	Report samples/MB to MDL
21D0175-03	Eff Grab	Non-Potable Water		25			25	Art Dechlorinates
21D0200-01	MW-9-20210407	Drinking Water		25			25	Report samples/MB to MDL

Analysis: Nitrogen, Ammonia as N

Date Prepared: 04/09/2021 10:30:00AM

Prep Batch: 2104145 Prep Code: GEN CHEM

Technician: JG

Sample ID	Sample ID and Source	Matrix	pH	Initial Volume (ml)	Spike 1 Added /uL	Spike 2 Added /uL	Final Vol (ml)	Comments																																				
<table border="1"> <thead> <tr> <th>Number</th> <th>Reagent Name</th> <th>Spike ID</th> <th>Spike Name</th> <th>Number</th> <th>Surrogate Name</th> </tr> </thead> <tbody> <tr> <td>2004590</td> <td>1N NaOH for Ammonia</td> <td>1903267</td> <td>Ammonia 100 ppm</td> <td></td> <td></td> </tr> <tr> <td>2004945</td> <td>Alkalinity (0.02N Sulfuric Acid)</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2101241</td> <td>1N Sulfuric Acid for Ammonia</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2101377</td> <td>Ammonia Boric Acid Indicator</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2101378</td> <td>Ammonia Borate Buffer</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>									Number	Reagent Name	Spike ID	Spike Name	Number	Surrogate Name	2004590	1N NaOH for Ammonia	1903267	Ammonia 100 ppm			2004945	Alkalinity (0.02N Sulfuric Acid)					2101241	1N Sulfuric Acid for Ammonia					2101377	Ammonia Boric Acid Indicator					2101378	Ammonia Borate Buffer				
Number	Reagent Name	Spike ID	Spike Name	Number	Surrogate Name																																							
2004590	1N NaOH for Ammonia	1903267	Ammonia 100 ppm																																									
2004945	Alkalinity (0.02N Sulfuric Acid)																																											
2101241	1N Sulfuric Acid for Ammonia																																											
2101377	Ammonia Boric Acid Indicator																																											
2101378	Ammonia Borate Buffer																																											

Analysis: Nitrogen, Ammonia as N

Analysis: Ammonia (NH3)
Method: SM 4500-NH₃-B,C

2104145

Analyst: JCA/KJR
Date/Time: 4-9-21

PEEP: 10:30

AWAYED: 16:50

Hold Time: 28 days
PQL: 0.5 mg/L
SOP: INORG-4

Sample ID	Sample Type	A mL Sample	B mL 0.02N H2SO4	Sample Result mg/L	Std. ID	Conc. of Std mg/L	Alliquot of Std mL	Matrix	Final Volume mL	Final Conc. mg/L	%REC ±10% LC/SLCSD/QCS/ICV ±20% MS/MSD	%RPD <10% LC/SLCSD <20% MS/MSD
MBLK	MBLK	25	0.000	0.050				DI	25	0.5	94.1	
0.5 mg/L	MRL	25	0.042	0.470	1903267	100	0.125	DI	25	2.5	100.8	
2.5 mg/L	ICV	25	0.225	2.520		100	0.625	DI	25	10.0	93.6	
10.0 mg/L	ICV	25	0.880	9.856		100	2.5	DI	25	5.0	95.4	
5.0 mg/L	QCS	25	0.426	4.771	1903268	100	1.25	DI	25	5.0	96.3	
LCS	LCS	25	0.430	4.816	1903267	100	1.25	DI	25	5.0	96.8	0.5
LCSD	LCSD	25	0.432	4.838		100	1.25	DI	25	5.0		
1 2100052-01	SAMP	25	0.064	0.717					25	5.0	96.3	0.4
2 2100001-01	SAMP	25	0.068	0.762					25	5.0	95.9	
3 2100005-01	SAMP	25	0.088	0.986					25	5.0		
4 2100008-01	SAMP	25	0.012	0.134					25	5.0		
5 2100035-05	SAMP	25	0.004	0.045					25	5.0		
6	SAMP	25	0.002	0.022					25	5.0		
7	SAMP	25	0.002	0.022					25	5.0		
8	SAMP	25	0.004	0.045					25	5.0		
9	SAMP	25	0.060	0.672					25	5.0		
10 2100113-01	MS	25	0.498	5.578	1903267	100	1.25		25	5.0	95.9	0.4
11 2100120-01	SAMP	25	0.072	0.806					25	5.0		
12 2100148-01	SAMP	25	0.368	4.054					25	5.0		
13	SAMP	25	0.010	0.112					25	5.0		
14	SAMP	25	0.000	0.000					25	5.0		
15	SAMP	25	0.014	0.157					25	5.0		
16	SAMP	25	0.000	0.000					25	5.0		
17	SAMP	25	0.004	0.045					25	5.0		
18	SAMP	25	0.000	0.000					25	5.0		
19 2100175-03	SAMP	25	0.000	0.000					25	5.0		
20 2100200-01	SAMP	25	0.498	5.578	1903267	100	1.25		25	5.0	91.8	0.4
21 2100008-01	MS	25	0.500	5.606		100	1.25		25	5.0	94.3	
6.0 mg/L	MSD	25	0.430	4.816		100	1.25		25	5.0		
CCB	CCB	25	0.000	0.000					25	5.0		

Reagent IDs
Borate Buffer
Boric Acid
0.02N H2SO4

Relative Percent Difference (RPD) = (1st value - 2nd value) / Average Value * 100
Percent Recovery (REC) = (100) * ((Conc. Sample + Spike) - (Conc. Sample)) / Spike conc.

Comments:

Ww 4/12/21

Analytical Standard Record

Turner Laboratories, Inc.

1903267

Description:	Ammonia 100 ppm	Expires:	07/31/2024
Standard Type:	Analyte Spike	Prepared:	08/07/2019
Solvent:	n/a	Prepared By:	** Vendor **
Final Volume (mls):	500	Department:	WETCHEM
Vials:	2	Last Edit:	08/07/2019 14:21 by EJ

cat# 24065-49

Analyte	CAS Number	Concentration	Units
Nitrogen, Ammonia (As N)	7664-41-7	100	ug/mL

Lot #: A9184
Vendor: Hach

Analytical Standard Record

Turner Laboratories, Inc.

1903268

Description:	Ammonia 100 ppm	Expires:	07/31/2024
Standard Type:	Analyte Spike	Prepared:	08/07/2019
Solvent:	n/a	Prepared By:	** Vendor **
Final Volume (mls):	500	Department:	WETCHEM
Vials:	1	Last Edit:	08/07/2019 14:24 by EJ

cat# 24065-49

Analyte	CAS Number	Concentration	Units
Nitrogen, Ammonia (As N)	7664-41-7	100	ug/mL

Lot #: A9193
Vendor: Hach

Analytical Standard Record

Turner Laboratories, Inc.

2101378

Description:	Ammonia Borate Buffer	Expires:	04/10/2021
Standard Type:	Reagent	Prepared:	04/09/2021
Solvent:	DI	Prepared By:	Jenna Gossen
Final Volume (mls):	3500	Department:	WETCHEM
Vials:	1	Last Edit:	04/12/2021 08:08 by JG

1750mls of 0.025 M Sodium tetraborate (16.625 g Sodium tetraborate (2002619) in 1750 mls DI). Adjust the pH to 9.5 with 308mls of 0.1N NaOH (2101328), dilute to 3500 mls with DI

Analyte	CAS Number	Concentration	Units
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ug/mL

Lot #: NA
Vendor: n/a

Analytical Standard Record

Turner Laboratories, Inc.

2002619

Description:	Sodium Borate Decahydrate for NH3	Expires:	12/13/2024
Standard Type:	Reagent	Prepared:	06/19/2020
Solvent:	n/a	Prepared By:	Jenna Gossen
Final Volume (mls):	500	Department:	WETCHEM
Vials:	1	Last Edit:	06/19/2020 10:50 by JG

500g SX0355-1
retest 5 years after manufacture date 12/13/24

Analyte	CAS Number	Concentration	Units
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ug/mL

Lot #: 2019111354
Vendor: EMD

Analytical Standard Record

Turner Laboratories, Inc.

2101328

Description: 0.1N NaOH for Ammonia
Standard Type: Reagent
Solvent: DI Water
Final Volume (mls): 1000
Vials: 1

Expires: 10/07/2021
Prepared: 04/07/2021
Prepared By: Jenna Gossen
Department: WETCHEM
Last Edit: 04/08/2021 09:15 by JG

4.0g NaOH (1902821) diluted to 1000mL with DI Water
Use 88 mL for every liter of Ammonia Borate Buffer
6 MONTH EXP

Analyte	CAS Number	Concentration	Units
			NA

Lot #: n/a

Vendor: n/a

Analytical Standard Record

Turner Laboratories, Inc.

1902821

Description:	Sodium Hydroxide Pellets	Expires:	04/17/2022
Standard Type:	Reagent	Prepared:	07/09/2019
Solvent:	N/A	Prepared By:	** Vendor **
Final Volume (mls):	2500	Department:	WETCHEM
Vials:	1	Last Edit:	06/25/2020 12:12 by JG

221465-2.5KG
Recommended Retest Date (per C of A): April 2020 Retest Passed
Retest Date: April 2022

Analyte	CAS Number	Concentration	Units
			NA

Lot #: MKCC2622
Vendor: Sigma-Aldrich

Analytical Standard Record

Turner Laboratories, Inc.

2101377

Description:	Ammonia Boric Acid Indicator	Expires:	04/10/2021
Standard Type:	Reagent	Prepared:	04/09/2021
Solvent:	DI	Prepared By:	Jenna Gossen
Final Volume (mls):	2000	Department:	WETCHEM
Vials:	1	Last Edit:	04/12/2021 08:07 by JG

40 g Boric Acid (2003737)+ 5 mL Mixed Indicator solution (2101128) diluted to 2 L with DI Water

Analyte	CAS Number	Concentration	Units
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ug/mL

Lot #: NA
Vendor: n/a

Analytical Standard Record

Turner Laboratories, Inc.

2003737

Description:	Boric Acid Granular (ACS) for TKN/NH3	Expires:	08/18/2024
Standard Type:	Reagent	Prepared:	08/31/2020
Solvent:	n/a	Prepared By:	** Vendor **
Final Volume (mls):	500	Department:	WETCHEM
Vials:	6	Last Edit:	08/31/2020 10:21 by JG

CCI P/N 087000-80101 - 500g CAS: 10043-35-3 40g in 2000 mL for TKN/NH3 analysis

Analyte	CAS Number	Concentration	Units
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ug/mL

Lot #: 2019100913
Vendor: CCI

Analytical Standard Record

Turner Laboratories, Inc.

2101128

Description:	Ammonia - Mixed Indicator Solution	Expires:	04/26/2021
Standard Type:	Reagent	Prepared:	03/26/2021
Solvent:	Isopropyl Alcohol/48225	Prepared By:	Jenna Gossen
Final Volume (mls):	75	Department:	WETCHEM
Vials:	1	Last Edit:	03/26/2021 14:25 by JG

0.10g. methyl red indicator (2004825) in 50mL isopropyl alcohol + 0.05g. methylene blue (2003269) in 25mL isopropyl alcohol (1901645). Combine solutions.
(1 month expiration, given in Standard Methods)

Analyte	CAS Number	Concentration	Units
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ug/mL

Lot #: n/a

Vendor: n/a

Analytical Standard Record

Turner Laboratories, Inc.

2004825

Description:	Methyl Red Powder	Expires:	11/13/2025
Standard Type:	Reagent	Prepared:	11/13/2020
Solvent:	n/a	Prepared By:	** Vendor **
Final Volume (mls):	25	Department:	WETCHEM
Vials:	1	Last Edit:	11/13/2020 13:48 by EJ

25g bottle recieved

Analyte	CAS Number	Concentration	Units
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ug/mL

Lot #: MKCJ94762
Vendor: Sigma-Aldrich

Analytical Standard Record

Turner Laboratories, Inc.

2003269

Description:	Methylene Blue Powder	Expires:	07/24/2025
Standard Type:	Reagent	Prepared:	07/29/2020
Solvent:	n/a	Prepared By:	** Vendor **
Final Volume (mls):	25	Department:	WETCHEM
Vials:	1	Last Edit:	12/15/2020 09:21 by JG

Vendor: SIGMA PRODUCT #: M9140-25G
Retest in 5 years after open RETEST 7/24/25: EXTENDED 2 YEARS

Analyte	CAS Number	Concentration	Units
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Lot #: SHBL6024
Vendor: Sigma-Aldrich

Analytical Standard Record

Turner Laboratories, Inc.

1901645

Description:	Isopropyl Alcohol 99.5% GR ACS	Expires:	04/21/2024
Standard Type:	Reagent	Prepared:	04/22/2019
Solvent:	n/a	Prepared By:	** Vendor **
Final Volume (mls):	1000	Department:	WETCHEM
Vials:	2	Last Edit:	08/20/2020 15:03 by EJ

Cat# PX1835-9 A.K.A. Isopropanol 2 1L Bottles

Analyte	CAS Number	Concentration	Units
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ug/mL

Lot #: 58114
Vendor: EMD

Analytical Standard Record

Turner Laboratories, Inc.

2004945

Description:	Alkalinity (0.02N Sulfuric Acid)	Expires:	10/31/2023
Standard Type:	Reagent	Prepared:	11/23/2020
Solvent:	NA	Prepared By:	** Vendor **
Final Volume (mls):	4000	Department:	WETCHEM
Vials:	2	Last Edit:	11/23/2020 11:52 by CWB

CAT# 8200-1

Analyte	CAS Number	Concentration	Units
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ug/mL

Lot #: 2010J85
Vendor: Ricca

Analytical Standard Record

Turner Laboratories, Inc.

2004590

Description:	1N NaOH for Ammonia	Expires:	04/27/2022
Standard Type:	Reagent	Prepared:	10/27/2020
Solvent:	DI Water	Prepared By:	Jenna Gossen
Final Volume (mls):	250	Department:	WETCHEM
Vials:	1	Last Edit:	10/27/2020 14:17 by JG

10.0g NaOH (1902821) diluted to 250mL with DI Water
Neutralizing agent for samples, 18 month expiration

Analyte	CAS Number	Concentration	Units
			NA

Lot #: n/a
Vendor: n/a

Analytical Standard Record

Turner Laboratories, Inc.

2101241

Description:	1N Sulfuric Acid for Ammonia	Expires:	10/02/2022
Standard Type:	Reagent	Prepared:	04/02/2021
Solvent:	N/A	Prepared By:	Jenna Gossen
Final Volume (mls):	250	Department:	WETCHEM
Vials:	1	Last Edit:	04/02/2021 14:14 by JG

7.0 mL sulfuric acid (2000273) in 250mL DI. Neutralizing agent for samples

Analyte	CAS Number	Concentration	Units
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ug/mL

Lot #: N/A
Vendor: n/a

Analytical Standard Record

Turner Laboratories, Inc.

2000273

Description:	Sulfuric Acid	Expires:	10/08/2025
Standard Type:	Reagent	Prepared:	01/16/2020
Solvent:	N/A	Prepared By:	** Vendor **
Final Volume (mls):	2500	Department:	EXPIRED STANDARDS
Vials:	1	Last Edit:	10/09/2020 14:42 by MH

Rcvd in lab: 4) 2.5 Liters
P/N SX1247-4
CONSUMED

Analyte	CAS Number	Concentration	Units
			NA

Lot #: K0618
Vendor: ACP

Analytical Standard Record

Turner Laboratories, Inc.

2101241

Description:	1N Sulfuric Acid for Ammonia	Expires:	10/02/2022
Standard Type:	Reagent	Prepared:	04/02/2021
Solvent:	N/A	Prepared By:	Jenna Gossen
Final Volume (mls):	250	Department:	WETCHEM
Vials:	1	Last Edit:	04/02/2021 14:14 by JG

7.0 mL sulfuric acid (2000273) in 250mL DI. Neutralizing agent for samples

Analyte	CAS Number	Concentration	Units
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ug/mL

Lot #: N/A
Vendor: n/a

TURNER LABORATORIES, INC.

DATA VALIDATION REPORT

LEVEL IV

Work Order No.

21D0200-01
2104210-MS1
2104210-MSD1

Dissolved Silica
SM4500-SiO₂ C

Analysis Date – April 7, 2021

Section	Page
Prep batch	410
Bench Sheet	411
Standard log entries and traceability	414

Date Prepared: 04/16/2021 1:25:00PM

Prep Batch: 2104210 Prep Code: SPECTRO PREP

Technician: CWB

Sample ID	Sample ID and Source	Matrix	pH	Initial Volume (ml)	Spike 1 Added /ul	Spike 2 Added /ul	Final Vol (ml)	Comments
2104210-BLK Blank		Drinking Water		25	/	/	25	
2104210-BS1 LCS		Drinking Water		25	2100713/200	/	25	
2104210-BSD LCS Dup		Drinking Water		25	2100713/200	/	25	
2104210-MS1 Matrix Spike [21D0200-01]		Drinking Water		5	2100713/200	/	5	[Spk] 5ml->25ml; 25ml->25ml; S
2104210-MSD Matrix Spike Dup [21D0200-01]		Drinking Water		5	2100713/200	/	5	[Spk] 5ml->25ml; 25ml->25ml; S
21D0185-01 Tribal Herd DW62 Well Id 263		Drinking Water		25			25	
21D0200-01 MW-9-20210407		Drinking Water		25			25	Report samples/MB to MDL
21D0248-01 PLS		Non-Potable Water		25			25	
21D0248-02 RAFF		Non-Potable Water		25			25	
21D0342-01 Range Well E1 Well Id #606		Drinking Water		25			25	
21D0437-01 Feed		Drinking Water		25			25	
21D0437-02 Permeate		Drinking Water		25			25	

Number	Reagent Name
2100425	Silica - 1:1 HCl Solution
2100638	Silica - Ammonium Molybdate Solution
2100639	Silica - Oxalic Acid Solution

Spike ID	Spike Name
2100713	Silica Standard Solution 1000ppm

Number	Surrogate Name

Analysis: Silica, Dissolved

Analysis: Silica, Dissolved
Method: SM 4500-SiO2 C

2104210

Analyst: CB
Date/Time: 04-16-21

Prep: 1325 Analyzed: 1415

Hold Time: 28 days
PQL: 2 mg/L
SOP: INORG-28

Sample ID	Sample Type	DF	Readout	Sample Result mg/L	Amount Spiked mg/L	Std ID	Conc. of Std mg/L	Aliquot of Std mL	Solvent	Final Volume mL	Final Conc. mg/L	% REC + 10% ICV/CV/LCS/LCSD 30% MS/MSD (MW) MS/MSD (DW)	% RPD +15% <20% LCS/LCSD <20% MS/MSD
2 mg/L	ICAL	1x	0.135		8	2105713	1000	0.05	DI	25	2		
8 mg/L	ICAL	1	0.481		8	2105713	1000	0.2	DI	25	8		
16 mg/L	ICAL	1	0.924		8	2105713	1000	0.4	DI	25	16		
8 mg/L	ICV	1	0.497	8.377	8	2105713	1000	0.2	DI	25	8	104.7%	
MBLK	MBLK		0.004	-0.379	8	2105713	1000		DI	25	8		
LCS	LCS	1	0.487	8.199	8	2105713	1000	0.2	DI	25	8	102.5%	
LCSD	LCSD	1	0.494	8.323	8	2105713	1000	0.2	DI	25	8	104.0%	1.5%
2105185-01	SAMP	5x	0.492	8.199	8	2105713	1000	0.2	DI	25	8		
2105200-01	SAMP	1	0.247	3.936	8	2105713	1000		DI	25	8		
3105248-01	SAMP	20x	0.510	8.607	8	2105713	1000		DI	25	8		
4	SAMP	10x	0.874	15.072	8	2105713	1000		DI	25	8		
5 2105342-01	SAMP	5x	0.606	10.312	8	2105713	1000		DI	25	8		
6 2105347-01	SAMP	10x	0.870	15.001	8	2105713	1000		DI	25	8		
7	SAMP	1x	0.110	1.503	8	2105713	1000		DI	25	8		
8	SAMP				8	2105713	1000		DI	25	8		
9	SAMP				8	2105713	1000		DI	25	8		
10	SAMP				8	2105713	1000		DI	25	8		
11	SAMP				8	2105713	1000		DI	25	8		
12	SAMP				8	2105713	1000		DI	25	8		
13	SAMP				8	2105713	1000		DI	25	8		
14	SAMP				8	2105713	1000		DI	25	8		
15	SAMP				8	2105713	1000		DI	25	8		
16	SAMP				8	2105713	1000		DI	25	8		
17	SAMP				8	2105713	1000		DI	25	8		
18	SAMP				8	2105713	1000		DI	25	8		
19	SAMP				8	2105713	1000		DI	25	8		
20	SAMP	1x	0.134	1.929	8	2105713	1000	0.05	DI	25	8		
2105200-01	MS	5x	0.739	12.675	8	2105713	1000	0.2	DI	25	8	109.2%	
MSD	MSD	1	0.734	12.586	8	2105713	1000	0.2	DI	25	8	108.1%	
8 mg/L	CCV	1x	0.498	8.394	8	2105713	1000	0.2	DI	25	8	104.9%	

Reagent IDs:
Ammonium Molybdate: 2100638
Oxalic Acid: 2100639
1:1HCl: 2100425

Relative Percent Difference (RPD) = (1st value - 2nd value) / Average Value * 100
Percent Recovery (REC) = (100) [(Conc. Sample + Spike) - (Conc. Sample)] / Spike conc.
Method Blank < PQL

for
dilution

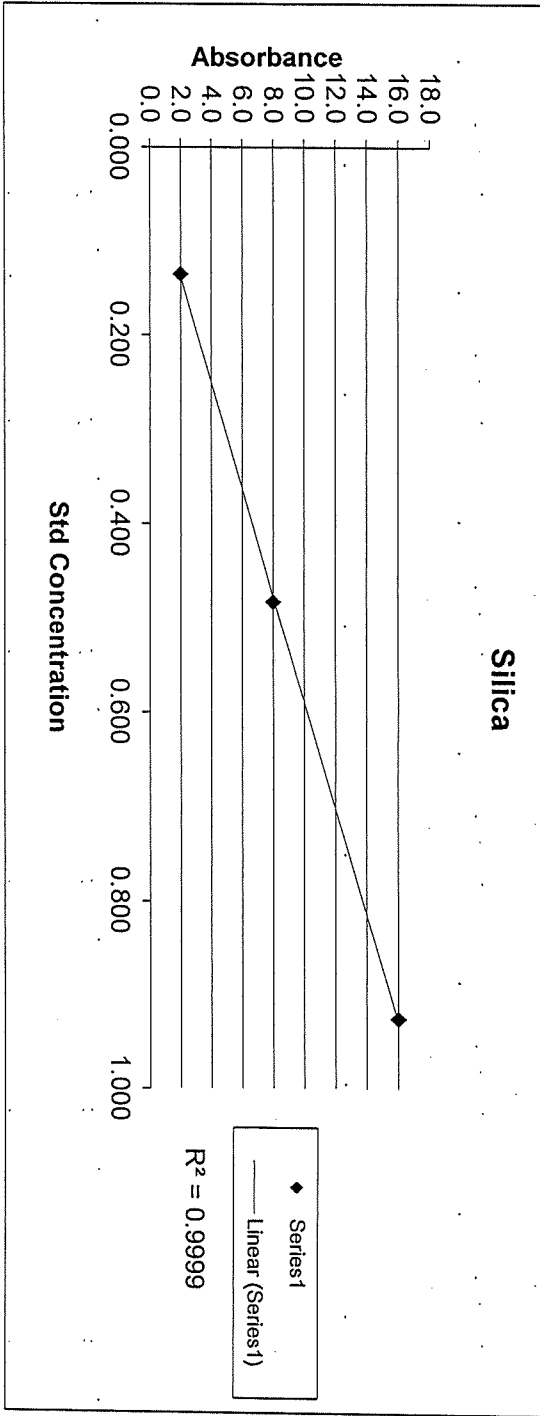
2104210

4/16/2021 Silica dissolved regression

	Absorbance (y)	Concentration (x)		
Cal 1	0.135	2.0		
Cal 2	0.481	8.0		
Cal 3	0.924	16.0		
Intercept	0.0254			
Slope	0.0563		r^2	
Corr Coeff. -r	0.9999		0.9999	
			% REC	% RPD
ICV/QCS	0.497	8.377	104.7	
Blank	0.004	-0.379		
LCS	0.487	8.199	102.5	1.5
LCSD	0.494	8.323	104.0	
1	0.492	8.288		
2	0.247	3.936		
3	0.510	8.607		
4	0.874	15.072		
5	0.606	10.312		
6	0.870	15.001		
7	0.110	1.503		
8		-0.450		
9		-0.450		
10		-0.450		
11		-0.450		
12		-0.450		
13		-0.450		
14		-0.450		
15		-0.450		
16		-0.450		
17		-0.450		
18		-0.450		
19		-0.450		
20		-0.450		
PQL	0.134	1.929	96.5	
MS 1	0.739	12.675	54.8	0.7
MSD 1	0.734	12.586	53.7	
CCV	0.498	8.394	104.9	

144
4/16/21

2104210



uv
4/16/14

Analytical Standard Record

Turner Laboratories, Inc.

1302714

Description:	Oxalic Acid, Dihydrate, Crystal	Expires:	08/01/2022
Standard Type:	Reagent	Prepared:	08/01/2013
Solvent:	NA	Prepared By:	** Vendor **
Final Volume (mls):	500	Department:	SPECTRO
Vials:	1	Last Edit:	03/31/2021 14:43 by CWB

No expiration date given by manufacturer. Retest after 5 years from received date.
6/21/2018 - visually inspected, retest date extended 2 years

Analyte	CAS Number	Concentration	Units
			NA

Lot #: K50465
Vendor: J.T. Baker

Analytical Standard Record

Turner Laboratories, Inc.

2100713

Description:	Silica Standard Solution 1000ppm	Expires:	01/31/2022
Standard Type:	Analyte Spike	Prepared:	02/25/2021
Solvent:	n/a	Prepared By:	** Vendor **
Final Volume (mls):	500	Department:	SPECTRO
Vials:	1	Last Edit:	04/05/2021 08:01 by MH

Cat# 194-49

Analyte	CAS Number	Concentration	Units
Silica	7631-86-9	1000	mg/L

Lot #: A1011
Vendor: Hach

Analytical Standard Record

Turner Laboratories, Inc.

2005064

Description:	Silica QCS Stock Standard 1000ppm	Expires:	07/31/2026
Standard Type:	Analyte Spike	Prepared:	12/01/2020
Solvent:	N/A	Prepared By:	** Vendor **
Final Volume (mls):	125	Department:	SPECTRO
Vials:	1	Last Edit:	12/08/2020 16:13 by MH

QCS STANDARD
CAT # ICP-014A

Analyte	CAS Number	Concentration	Units
Silica	7631-86-9	1000	ug/mL

Lot #: 0006470623
Vendor: Agilent

Analytical Standard Record

Turner Laboratories, Inc.

2100638

Description:	Silica - Ammonium Molybdate Solution	Expires:	02/19/2022
Standard Type:	Reagent	Prepared:	02/19/2021
Solvent:	DI Water	Prepared By:	Cooper Block
Final Volume (mls):	250	Department:	SPECTRO
Vials:	1	Last Edit:	02/19/2021 14:29 by CWB

Dissolve 20.0g Ammonium Molybdate crystal (2003091) in 200mL DI, adjust pH to between 7-8 w/NaOH (50% solution - 2003268)

Analyte	CAS Number	Concentration	Units
Silica	7631-86-9	1	NA

Lot #: n/a

Vendor: n/a

Analytical Standard Record

Turner Laboratories, Inc.

2003268

Description: 50 % SODIUM HYDROXIDE
Standard Type: Reagent
Solvent: n/a
Final Volume (mls): 4000
Vials: 1

Expires: 06/30/2021
Prepared: 07/29/2020
Prepared By: ** Vendor **
Department: WETCHEM
Last Edit: 07/29/2020 11:35 by JG

CAT # BDH7246-4

Analyte

CAS Number

Concentration

Units

ug/mL

Lot #: 19F2656173
Vendor: VWR

Analytical Standard Record

Turner Laboratories, Inc.

2100425

Description:	Silica - 1:1 HCl Solution	Expires:	08/03/2021
Standard Type:	Reagent	Prepared:	02/02/2021
Solvent:	n/a	Prepared By:	Cooper Block
Final Volume (mls):	200	Department:	SPECTRO
Vials:	1	Last Edit:	02/11/2021 08:28 by JG

100 ml DI, 100 ml HCL (2003514)

Analyte	CAS Number	Concentration	Units
Silica	7631-86-9	1	NA

Lot #: n/a
Vendor: n/a

Analytical Standard Record

Turner Laboratories, Inc.

2003514

Description:	Hydrochloric Acid Trace Metal	Expires:	03/24/2023
Standard Type:	Reagent	Prepared:	08/13/2020
Solvent:	N/A	Prepared By:	** Vendor **
Final Volume (mls):	2500	Department:	EXPIRED STANDARDS
Vials:	4	Last Edit:	05/05/2021 09:22 by MH

Received in lab: 4) 2.5 L HCl
CONSUMED

Analyte	CAS Number	Concentration	Units
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ug/mL

Lot #: 4120020
Vendor: Fisher



December 15, 2021

Louise Spencer
Arizona Minerals Inc.
2210 E. Fort Lowell Rd
Tucson, AZ 85719

TEL (802) 235-5563
FAX

RE: AMI-310

Work Order No.: 21F0336
Order Name: Hermosa Project

Dear Louise Spencer,

Turner Laboratories, Inc. received 7 sample(s) on 06/09/2021 for the analyses presented in the following report.

All results are intended to be considered in their entirety, and Turner Laboratories, Inc. is not responsible for use of less than the complete report. Results apply only to the samples analyzed. Samples will be disposed of 30 days after issue of our report unless special arrangements are made.

The pages that follow may contain sensitive, privileged or confidential information intended solely for the addressee named above. If you receive this message and are not the agent or employee of the addressee, this communication has been sent in error. Please do not disseminate or copy any of the attached and notify the sender immediately by telephone. Please also return the attached sheet(s) to the sender by mail.

Please call if you have any questions.

Respectfully submitted,

Turner Laboratories, Inc.
ADHS License AZ0066

Kevin Brim
Project Manager

Client: Arizona Minerals Inc.
Project: AMI-310
Work Order: 21F0336
Date Received: 06/09/2021

Order: Hermosa Project

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date/Time
21F0336-03	MW-9-20210608	Ground Water	06/08/2021 1030

Client: Arizona Minerals Inc.
Project: AMI-310
Work Order: 21F0336
Date Received: 06/09/2021

Case Narrative

- E4 Concentration estimated. Analyte was detected below laboratory Minimum Reporting Limit (MRL) but above MDL.
 - E8 Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
 - M2 Matrix spike recovery was low; the associated LCS/LCSD was acceptable.
 - M3 The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated LCS/LCSD recovery was acceptable.
 - Q9 Insufficient sample received to meet method QC requirements.
- All soil, sludge, and solid matrix determinations are reported on a wet weight basis unless otherwise noted.
- ND Not Detected at or above the PQL
 - PQL Practical Quantitation Limit
 - DF Dilution Factor
-

Turner Laboratories, Inc.**Date: 12/15/2021**

Client: Arizona Minerals Inc.
Project: AMI-310
Work Order: 21F0336
Lab Sample ID: 21F0336-03

Client Sample ID: MW-9-20210608
Collection Date/Time: 06/08/2021 1030
Matrix: Ground Water
Order Name: Hermosa Project

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
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Hardness-Calculation

Hardness, Calcium/Magnesium (As 120 CaCO3)					mg/L	1	06/15/2021	120: 06/17/2021	121	MH
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ICP Dissolved Metals-E 200.7 (4.4)

Boron	0.16		0.10		mg/L	1	06/10/2021	110: 06/17/2021	172	MH
Calcium	31		4.0		mg/L	1	06/10/2021	110: 06/17/2021	172	MH
Iron	0.036	0.0031	0.30	E4	mg/L	1	06/10/2021	110: 06/17/2021	172	MH
Magnesium	1.1	0.10	3.0	E4	mg/L	1	06/10/2021	110: 06/17/2021	172	MH
Potassium	0.94	0.14	5.0	E4	mg/L	1	06/10/2021	110: 06/17/2021	172	MH
Silica	17		0.20		mg/L	1	06/10/2021	110: 06/17/2021	172	MH
Sodium	79		5.0		mg/L	1	06/10/2021	110: 06/17/2021	172	MH

ICP/MS Dissolved Metals-E 200.8 (5.4)

Aluminum	ND	0.066	0.20	E8	mg/L	5	06/10/2021	110: 06/10/2021	154	CR
Antimony	ND	0.00020	0.0025	E8	mg/L	5	06/10/2021	110: 06/10/2021	154	CR
Arsenic	0.0056		0.0025		mg/L	5	06/10/2021	110: 06/10/2021	154	CR
Barium	0.021		0.0025		mg/L	5	06/10/2021	110: 06/10/2021	154	CR
Beryllium	ND	0.000066	0.0013	E8	mg/L	5	06/10/2021	110: 06/10/2021	154	CR
Cadmium	ND	0.00025	0.0013	E8	mg/L	5	06/10/2021	110: 06/10/2021	154	CR
Chromium	ND	0.00012	0.0025	E8	mg/L	5	06/10/2021	110: 06/10/2021	154	CR
Cobalt	ND	0.000052	0.0013	E4	mg/L	5	06/10/2021	110: 06/10/2021	154	CR
Copper	0.0086		0.0025	M2	mg/L	5	06/10/2021	110: 06/10/2021	154	CR
Lead	ND	0.00029	0.0025	E8	mg/L	5	06/10/2021	110: 06/10/2021	154	CR
Manganese	0.23		0.0013		mg/L	5	06/10/2021	110: 06/10/2021	154	CR
Nickel	0.0089		0.0025		mg/L	5	06/10/2021	110: 06/10/2021	154	CR
Selenium	0.0013		0.013	M2	mg/L	5	06/10/2021	110: 06/10/2021	154	CR
Silver	ND		0.0025	M2	mg/L	5	06/10/2021	110: 06/10/2021	154	CR
Thallium	ND	0.00012	0.0025	E8	mg/L	5	06/10/2021	110: 06/10/2021	154	CR
Uranium	0.00035	0.000074	0.0025	E4	mg/L	5	06/10/2021	110: 06/10/2021	154	CR
Zinc	ND	0.011	0.20	E8	mg/L	5	06/10/2021	110: 06/10/2021	154	CR

CVAA Dissolved Mercury-E 245.1

Mercury	ND	0.0000041	0.0010	E8	mg/L	1	06/11/2021	084: 06/11/2021	123	CR
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ICP Total Metals-E200.7 (4.4)

Turner Laboratories, Inc.**Date: 12/15/2021**

Client: Arizona Minerals Inc.
Project: AMI-310
Work Order: 21F0336
Lab Sample ID: 21F0336-03

Client Sample ID: MW-9-20210608
Collection Date/Time: 06/08/2021 1030
Matrix: Ground Water
Order Name: Hermosa Project

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Boron	0.21		0.20		mg/L	1	06/15/2021	120: 06/17/2021	121 MH
Calcium	42		8.0		mg/L	1	06/15/2021	120: 06/17/2021	121 MH
Iron	6.5		0.60	M3	mg/L	1	06/15/2021	120: 06/17/2021	121 MH
Magnesium	4.7	0.21	6.0	E4	mg/L	1	06/15/2021	120: 06/17/2021	121 MH
Potassium	3.7	0.28	10	E4	mg/L	1	06/15/2021	120: 06/17/2021	121 MH
Silica	59		0.40		mg/L	1	06/15/2021	120: 06/17/2021	121 MH
Sodium	78		10		mg/L	1	06/15/2021	120: 06/17/2021	121 MH

ICP/MS Total Metals-E200.8 (5.4)

Aluminum	6.1		0.40		mg/L	5	06/15/2021	124: 06/15/2021	162 CR
Antimony	0.00072	0.00016	0.0020	E4, M2	mg/L	2	06/15/2021	124: 06/15/2021	134 CR
Arsenic	0.015		0.0020		mg/L	2	06/15/2021	124: 06/15/2021	134 CR
Barium	0.13		0.0020		mg/L	2	06/15/2021	124: 06/15/2021	134 CR
Beryllium	0.00048	0.000052	0.0010	E4	mg/L	2	06/15/2021	124: 06/15/2021	134 CR
Cadmium	ND	0.00020	0.0010	E8	mg/L	2	06/15/2021	124: 06/15/2021	134 CR
Chromium	0.0060		0.0020		mg/L	2	06/15/2021	124: 06/15/2021	134 CR
Cobalt	0.00293		0.00100		mg/L	2	06/15/2021	124: 06/15/2021	134 CR
Copper	0.027		0.0020		mg/L	2	06/15/2021	124: 06/15/2021	134 CR
Lead	0.094		0.0020		mg/L	2	06/15/2021	124: 06/15/2021	134 CR
Manganese	0.47		0.0010	M2	mg/L	2	06/15/2021	124: 06/15/2021	134 CR
Nickel	0.0097		0.0020		mg/L	2	06/15/2021	124: 06/15/2021	134 CR
Selenium	ND	0.0010	0.010	E8	mg/L	2	06/15/2021	124: 06/15/2021	134 CR
Silver	0.00048	0.00021	0.0050	E4	mg/L	5	06/15/2021	124: 06/15/2021	175 CR
Thallium	0.0013	0.000093	0.0020	E4	mg/L	2	06/15/2021	124: 06/15/2021	134 CR
Uranium	0.0033		0.0020		mg/L	2	06/15/2021	124: 06/15/2021	134 CR
Zinc	0.14	0.0091	0.16	E4	mg/L	2	06/15/2021	124: 06/15/2021	134 CR

CVAA Total Mercury-E245.1

Mercury	ND	0.00071	0.0020	E8	mg/L	1	06/15/2021	082: 06/15/2021	141 CR
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Anions by Ion Chromatography-E300.0 (2.1)

Chloride	5.1		1.0		mg/L	1	06/09/2021	151: 06/09/2021	221 JG
Fluoride	ND	0.29	0.50	E8	mg/L	1	06/09/2021	151: 06/09/2021	221 JG
Nitrogen, Nitrate (As N)	ND	0.20	0.50	E8	mg/L	1	06/09/2021	151: 06/09/2021	221 JG
Nitrogen, Nitrite (As N)	ND	0.027	0.10	E8	mg/L	1	06/09/2021	151: 06/09/2021	221 JG
Sulfate	170		100		mg/L	20	06/09/2021	151: 06/14/2021	234 JG

Calculation-Ion Balance

Turner Laboratories, Inc.**Date: 12/15/2021**

Client: Arizona Minerals Inc.
Project: AMI-310
Work Order: 21F0336
Lab Sample ID: 21F0336-03

Client Sample ID: MW-9-20210608
Collection Date/Time: 06/08/2021 1030
Matrix: Ground Water
Order Name: Hermosa Project

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anion	6.78				meq/L	1	06/22/2021 140	06/22/2021 140	KB
Cation	5.11				meq/L	1	06/22/2021 140	06/22/2021 140	KB
Cation/Anion, % Difference	14.1				meq/L	1	06/22/2021 140	06/22/2021 140	KB
Alkalinity-SM2320B									
Alkalinity, Bicarbonate (As CaCO3)	130		2.0		mg/L	1	06/11/2021 080	06/11/2021 140	JG
Alkalinity, Carbonate (As CaCO3)	ND		2.0		mg/L	1	06/11/2021 080	06/11/2021 140	JG
Alkalinity, Hydroxide (As CaCO3)	ND		2.0		mg/L	1	06/11/2021 080	06/11/2021 140	JG
Alkalinity, Total (As CaCO3)	130		2.0		mg/L	1	06/11/2021 080	06/11/2021 140	JG
Total Dissolved Solids (Residue, Filterable)-SM2540 C									
Total Dissolved Solids (Residue, Filterable)	380		20		mg/L	1	06/11/2021 104	06/15/2021 122	EJ
Total Suspended Solids (Residue, Non-Filterable)-SM2540 D									
Total Suspended Solids	240		10		mg/L	1	06/11/2021 101	06/11/2021 152	CWB
Cyanide-SM4500-CN BE									
Cyanide	ND		0.10		mg/L	1	06/10/2021 080	06/11/2021 142	JG
Ammonia as N-SM4500-NH3 B,C									
Nitrogen, Ammonia (As N)	0.20	0.045	0.50	E4	mg/L	1	06/15/2021 080	06/15/2021 124	JG
Silica-SM4500-SiO2 C									
Silica	19		10		mg/L	5	06/11/2021 122	06/11/2021 140	CWB

Client: Arizona Minerals Inc.
 Project: AMI-310
 Work Order: 21F0336
 Date Received: 06/09/2021

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Qual
Batch 2106071 - E 200.7 (4.4)										
Blank (2106071-BLK1)										
Prepared: 06/16/2021 Analyzed: 06/17/2021										
Boron	ND	0.10	mg/L							
Calcium	ND	4.0	mg/L							
Iron	ND	0.30	mg/L							
Magnesium	ND	3.0	mg/L							
Potassium	ND	5.0	mg/L							
Silica	0.029	0.20	mg/L							
Sodium	ND	5.0	mg/L							
LCS (2106071-BS1)										
Prepared: 06/16/2021 Analyzed: 06/17/2021										
Boron	1.0	0.10	mg/L	1.000		104	85-115			
Calcium	10	4.0	mg/L	10.00		101	85-115			
Iron	1.1	0.30	mg/L	1.000		109	85-115			
Magnesium	10	3.0	mg/L	10.00		102	85-115			
Potassium	10	5.0	mg/L	10.00		101	85-115			
Sodium	10	5.0	mg/L	10.00		101	85-115			
LCS (2106071-BS2)										
Prepared: 06/16/2021 Analyzed: 06/17/2021										
Silica	9.4	0.20	mg/L	10.00		94	85-115			
LCS Dup (2106071-BSD1)										
Prepared: 06/16/2021 Analyzed: 06/17/2021										
Boron	1.0	0.10	mg/L	1.000		102	85-115	2	20	
Calcium	10	4.0	mg/L	10.00		103	85-115	1	20	
Iron	1.1	0.30	mg/L	1.000		111	85-115	1	20	
Magnesium	10	3.0	mg/L	10.00		103	85-115	0.6	20	
Potassium	10	5.0	mg/L	10.00		103	85-115	1	20	
Sodium	10	5.0	mg/L	10.00		104	85-115	3	20	
LCS Dup (2106071-BSD2)										
Prepared: 06/16/2021 Analyzed: 06/17/2021										
Silica	9.4	0.20	mg/L	10.00		94	85-115	0.7	20	
Matrix Spike (2106071-MS1)										
Source: 21F0336-03 Prepared: 06/16/2021 Analyzed: 06/17/2021										
Boron	1.2	0.10	mg/L	1.000	0.16	104	70-130			
Calcium	41	4.0	mg/L	10.00	31	100	70-130			
Iron	1.1	0.30	mg/L	1.000	0.036	107	70-130			
Magnesium	11	3.0	mg/L	10.00	1.1	101	70-130			
Potassium	12	5.0	mg/L	10.00	0.94	106	70-130			
Sodium	88	5.0	mg/L	10.00	79	91	70-130			
Matrix Spike (2106071-MS2)										
Source: 21F0282-01 Prepared: 06/16/2021 Analyzed: 06/17/2021										
Boron	1.2	0.10	mg/L	1.000	0.15	104	70-130			
Calcium	120	4.0	mg/L	10.00	110	89	70-130			
Iron	1.1	0.30	mg/L	1.000	0.016	106	70-130			
Magnesium	16	3.0	mg/L	10.00	6.2	101	70-130			
Potassium	16	5.0	mg/L	10.00	4.9	106	70-130			
Sodium	55	5.0	mg/L	10.00	47	85	70-130			
Matrix Spike (2106071-MS3)										
Source: 21F0336-03 Prepared: 06/16/2021 Analyzed: 06/17/2021										
Silica	30	0.20	mg/L	10.00	17	126	70-130			

Client: Arizona Minerals Inc.
 Project: AMI-310
 Work Order: 21F0336
 Date Received: 06/09/2021

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual		
Batch 2106071 - E 200.7 (4.4)												
Matrix Spike (2106071-MS4)			Source: 21F0282-01		Prepared: 06/16/2021		Analyzed: 06/17/2021					
Silica	28	0.20	mg/L	10.00	17	105	70-130					
Batch 2106123 - E 200.8 (5.4)												
Blank (2106123-BLK1)			Prepared: 06/08/2021								Analyzed: 06/10/2021	
Aluminum	ND	0.040	mg/L									
Antimony	ND	0.00050	mg/L									
Arsenic	ND	0.00050	mg/L									
Barium	ND	0.00050	mg/L									
Beryllium	ND	0.00025	mg/L									
Cadmium	ND	0.00025	mg/L									
Chromium	ND	0.00050	mg/L									
Cobalt	ND	0.00025	mg/L									
Copper	ND	0.00050	mg/L									
Lead	ND	0.00050	mg/L									
Manganese	0.000089	0.00025	mg/L									
Nickel	ND	0.00050	mg/L									
Selenium	ND	0.0025	mg/L									
Silver	ND	0.00050	mg/L									
Thallium	ND	0.00050	mg/L									
Uranium	ND	0.00050	mg/L									
Zinc	ND	0.040	mg/L									
LCS (2106123-BS1)												
			Prepared: 06/08/2021								Analyzed: 06/10/2021	
Aluminum	0.11	0.040	mg/L	0.1000		107	85-115					
Antimony	0.050	0.00050	mg/L	0.05000		100	85-115					
Arsenic	0.050	0.00050	mg/L	0.05000		101	85-115					
Barium	0.051	0.00050	mg/L	0.05000		101	85-115					
Beryllium	0.050	0.00025	mg/L	0.05000		100	85-115					
Cadmium	0.050	0.00025	mg/L	0.05000		99	85-115					
Chromium	0.050	0.00050	mg/L	0.05000		101	85-115					
Cobalt	0.051	0.00025	mg/L	0.05000		102	85-115					
Copper	0.050	0.00050	mg/L	0.05000		101	85-115					
Lead	0.051	0.00050	mg/L	0.05000		101	85-115					
Manganese	0.051	0.00025	mg/L	0.05000		101	85-115					
Nickel	0.051	0.00050	mg/L	0.05000		101	85-115					
Selenium	0.049	0.0025	mg/L	0.05000		98	85-115					
Silver	0.050	0.00050	mg/L	0.05000		100	85-115					
Thallium	0.051	0.00050	mg/L	0.05000		102	85-115					
Uranium	0.050	0.00050	mg/L	0.05000		100	85-115					
Zinc	0.10	0.040	mg/L	0.1000		102	85-115					

Client: Arizona Minerals Inc.
Project: AMI-310
Work Order: 21F0336
Date Received: 06/09/2021

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2106123 - E 200.8 (5.4)										
LCS Dup (2106123-BSD1)				Prepared: 06/08/2021 Analyzed: 06/10/2021						
Aluminum	0.10	0.040	mg/L	0.1000		104	85-115	3	20	
Antimony	0.049	0.00050	mg/L	0.05000		98	85-115	2	20	
Arsenic	0.049	0.00050	mg/L	0.05000		99	85-115	2	20	
Barium	0.049	0.00050	mg/L	0.05000		99	85-115	3	20	
Beryllium	0.048	0.00025	mg/L	0.05000		97	85-115	3	20	
Cadmium	0.049	0.00025	mg/L	0.05000		98	85-115	1	20	
Chromium	0.049	0.00050	mg/L	0.05000		99	85-115	2	20	
Cobalt	0.049	0.00025	mg/L	0.05000		99	85-115	3	20	
Copper	0.049	0.00050	mg/L	0.05000		98	85-115	3	20	
Lead	0.049	0.00050	mg/L	0.05000		98	85-115	4	20	
Manganese	0.049	0.00025	mg/L	0.05000		99	85-115	2	20	
Nickel	0.050	0.00050	mg/L	0.05000		99	85-115	2	20	
Selenium	0.047	0.0025	mg/L	0.05000		94	85-115	4	20	
Silver	0.049	0.00050	mg/L	0.05000		98	85-115	2	20	
Thallium	0.049	0.00050	mg/L	0.05000		98	85-115	4	20	
Uranium	0.049	0.00050	mg/L	0.05000		98	85-115	2	20	
Zinc	0.099	0.040	mg/L	0.1000		99	85-115	2	20	
Matrix Spike (2106123-MS1)				Source: 21F0282-01 Prepared: 06/08/2021 Analyzed: 06/10/2021						
Aluminum	0.12	0.20	mg/L	0.1000	ND	115	70-130			
Antimony	0.051	0.0025	mg/L	0.05000	ND	102	70-130			
Arsenic	0.063	0.0025	mg/L	0.05000	0.011	102	70-130			
Barium	0.10	0.0025	mg/L	0.05000	0.047	104	70-130			
Beryllium	0.050	0.0013	mg/L	0.05000	ND	99	70-130			
Cadmium	0.049	0.0013	mg/L	0.05000	ND	97	70-130			
Chromium	0.049	0.0025	mg/L	0.05000	0.00013	97	70-130			
Cobalt	0.049	0.0013	mg/L	0.05000	0.00015	98	70-130			
Copper	0.039	0.0025	mg/L	0.05000	ND	77	70-130			
Lead	0.058	0.0025	mg/L	0.05000	ND	117	70-130			
Manganese	0.52	0.0013	mg/L	0.05000	0.45	128	70-130			
Nickel	0.050	0.0025	mg/L	0.05000	0.0015	96	70-130			
Selenium	0.040	0.013	mg/L	0.05000	ND	80	70-130			
Silver	0.036	0.0025	mg/L	0.05000	ND	72	70-130			
Thallium	0.059	0.0025	mg/L	0.05000	ND	117	70-130			
Uranium	0.065	0.0025	mg/L	0.05000	0.00023	130	70-130			
Zinc	0.098	0.20	mg/L	0.1000	ND	98	70-130			

Client: Arizona Minerals Inc.
 Project: AMI-310
 Work Order: 21F0336
 Date Received: 06/09/2021

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2106123 - E 200.8 (5.4)										
Matrix Spike (2106123-MS2)		Source: 21F0336-03			Prepared: 06/08/2021 Analyzed: 06/10/2021					
Aluminum	0.10	0.20	mg/L	0.1000	ND	104	70-130			
Antimony	0.047	0.0025	mg/L	0.05000	ND	95	70-130			
Arsenic	0.052	0.0025	mg/L	0.05000	0.0056	92	70-130			
Barium	0.070	0.0025	mg/L	0.05000	0.021	97	70-130			
Beryllium	0.046	0.0013	mg/L	0.05000	ND	92	70-130			
Cadmium	0.045	0.0013	mg/L	0.05000	ND	90	70-130			
Chromium	0.045	0.0025	mg/L	0.05000	ND	90	70-130			
Cobalt	0.045	0.0013	mg/L	0.05000	0.000084	89	70-130			
Copper	0.035	0.0025	mg/L	0.05000	0.0086	52	70-130			M2
Lead	0.055	0.0025	mg/L	0.05000	ND	110	70-130			
Manganese	0.28	0.0013	mg/L	0.05000	0.23	100	70-130			
Nickel	0.053	0.0025	mg/L	0.05000	0.0089	88	70-130			
Selenium	0.026	0.013	mg/L	0.05000	0.0013	49	70-130			M2
Silver	0.027	0.0025	mg/L	0.05000	ND	55	70-130			M2
Thallium	0.055	0.0025	mg/L	0.05000	ND	109	70-130			
Uranium	0.061	0.0025	mg/L	0.05000	0.00035	122	70-130			
Zinc	0.096	0.20	mg/L	0.1000	ND	96	70-130			
Batch 2106159 - E 245.1										
Blank (2106159-BLK1)		Prepared & Analyzed: 06/11/2021								
Mercury	ND	0.0010	mg/L							
LCS (2106159-BS1)		Prepared & Analyzed: 06/11/2021								
Mercury	0.0051	0.0010	mg/L	0.005000		101	85-115			
LCS Dup (2106159-BSD1)		Prepared & Analyzed: 06/11/2021								
Mercury	0.0051	0.0010	mg/L	0.005000		101	85-115	0.2	20	
Matrix Spike (2106159-MS1)		Source: 21F0336-03			Prepared & Analyzed: 06/11/2021					
Mercury	0.0051	0.0010	mg/L	0.005000	ND	103	70-130			
Matrix Spike (2106159-MS2)		Source: 21F0202-01			Prepared & Analyzed: 06/11/2021					
Mercury	0.0051	0.0010	mg/L	0.005000	ND	102	70-130			
Matrix Spike Dup (2106159-MSD1)		Source: 21F0336-03			Prepared & Analyzed: 06/11/2021					
Mercury	0.0051	0.0010	mg/L	0.005000	ND	103	70-130	0.1	20	
Matrix Spike Dup (2106159-MSD2)		Source: 21F0202-01			Prepared & Analyzed: 06/11/2021					
Mercury	0.0049	0.0010	mg/L	0.005000	ND	98	70-130	3	20	
Batch 2106207 - E245.1										
Blank (2106207-BLK1)		Prepared & Analyzed: 06/15/2021								
Mercury	ND	0.0010	mg/L							
LCS (2106207-BS1)		Prepared & Analyzed: 06/15/2021								
Mercury	0.0051	0.0010	mg/L	0.005000		102	85-115			
LCS Dup (2106207-BSD1)		Prepared & Analyzed: 06/15/2021								
Mercury	0.0050	0.0010	mg/L	0.005000		100	85-115	2	20	

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2106207 - E245.1										
Matrix Spike (2106207-MS1)		Source: 21F0336-03		Prepared & Analyzed: 06/15/2021						
Mercury	5.0		ug/L	5.000	-0.0088	100	70-130			
Matrix Spike (2106207-MS2)		Source: 21F0247-01		Prepared & Analyzed: 06/15/2021						
Mercury	0.0050	0.0010	mg/L	0.005000	ND	100	70-130			
Matrix Spike Dup (2106207-MSD1)		Source: 21F0336-03		Prepared & Analyzed: 06/15/2021						
Mercury	5.0		ug/L	5.000	-0.0088	101	70-130	0.4	20	
Matrix Spike Dup (2106207-MSD2)		Source: 21F0247-01		Prepared & Analyzed: 06/15/2021						
Mercury	0.0050	0.0010	mg/L	0.005000	ND	101	70-130	0.7	20	
Batch 2106215 - E200.8 (5.4)										
Blank (2106215-BLK1)				Prepared & Analyzed: 06/15/2021						
Aluminum	ND	0.040	mg/L							
Antimony	ND	0.00050	mg/L							
Arsenic	ND	0.00050	mg/L							
Barium	ND	0.00050	mg/L							
Beryllium	ND	0.00025	mg/L							
Cadmium	ND	0.00025	mg/L							
Chromium	ND	0.00050	mg/L							
Cobalt	ND	0.000250	mg/L							
Copper	ND	0.00050	mg/L							
Lead	ND	0.00050	mg/L							
Manganese	0.000098	0.00025	mg/L							
Nickel	ND	0.00050	mg/L							
Selenium	ND	0.0025	mg/L							
Silver	ND	0.00050	mg/L							
Thallium	ND	0.00050	mg/L							
Uranium	ND	0.00050	mg/L							
Zinc	ND	0.040	mg/L							
LCS (2106215-BS1)				Prepared & Analyzed: 06/15/2021						
Aluminum	0.098	0.040	mg/L	0.1000		98	85-115			
Antimony	0.048	0.00050	mg/L	0.05000		96	85-115			
Arsenic	0.049	0.00050	mg/L	0.05000		97	85-115			
Barium	0.046	0.00050	mg/L	0.05000		92	85-115			
Beryllium	0.048	0.00025	mg/L	0.05000		96	85-115			
Cadmium	0.048	0.00025	mg/L	0.05000		96	85-115			
Chromium	0.047	0.00050	mg/L	0.05000		94	85-115			
Cobalt	0.0455	0.000250	mg/L	0.05000		91	85-115			
Copper	0.046	0.00050	mg/L	0.05000		93	85-115			
Lead	0.046	0.00050	mg/L	0.05000		93	85-115			
Manganese	0.047	0.00025	mg/L	0.05000		94	85-115			
Nickel	0.047	0.00050	mg/L	0.05000		94	85-115			
Selenium	0.051	0.0025	mg/L	0.05000		102	85-115			
Silver	0.050	0.00050	mg/L	0.05000		101	85-115			
Thallium	0.046	0.00050	mg/L	0.05000		93	85-115			
Uranium	0.047	0.00050	mg/L	0.05000		94	85-115			
Zinc	0.10	0.040	mg/L	0.1000		104	85-115			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2106215 - E200.8 (5.4)										
LCS Dup (2106215-BSD1)				Prepared & Analyzed: 06/15/2021						
Aluminum	0.096	0.040	mg/L	0.1000		96	85-115	2	20	
Antimony	0.048	0.00050	mg/L	0.05000		96	85-115	0.3	20	
Arsenic	0.048	0.00050	mg/L	0.05000		97	85-115	0.5	20	
Barium	0.046	0.00050	mg/L	0.05000		92	85-115	0.7	20	
Beryllium	0.048	0.00025	mg/L	0.05000		96	85-115	0.2	20	
Cadmium	0.048	0.00025	mg/L	0.05000		95	85-115	0.4	20	
Chromium	0.048	0.00050	mg/L	0.05000		95	85-115	1	20	
Cobalt	0.0461	0.000250	mg/L	0.05000		92	85-115	1	20	
Copper	0.046	0.00050	mg/L	0.05000		93	85-115	0.4	20	
Lead	0.046	0.00050	mg/L	0.05000		92	85-115	0.3	20	
Manganese	0.047	0.00025	mg/L	0.05000		94	85-115	0.2	20	
Nickel	0.047	0.00050	mg/L	0.05000		95	85-115	0.7	20	
Selenium	0.051	0.0025	mg/L	0.05000		102	85-115	0.5	20	
Silver	0.050	0.00050	mg/L	0.05000		101	85-115	0.2	20	
Thallium	0.047	0.00050	mg/L	0.05000		94	85-115	1	20	
Uranium	0.047	0.00050	mg/L	0.05000		93	85-115	1	20	
Zinc	0.10	0.040	mg/L	0.1000		103	85-115	0.3	20	
Matrix Spike (2106215-MS1)				Source: 21F0320-01		Prepared & Analyzed: 06/15/2021				
Aluminum	0.13	0.040	mg/L	0.1000	0.035	99	70-130			
Antimony	0.051	0.00050	mg/L	0.05000	0.00015	102	70-130			
Arsenic	0.064	0.00050	mg/L	0.05000	0.013	103	70-130			
Barium	0.075	0.00050	mg/L	0.05000	0.025	101	70-130			
Beryllium	0.049	0.00025	mg/L	0.05000	ND	97	70-130			
Cadmium	0.048	0.00025	mg/L	0.05000	ND	95	70-130			
Chromium	0.049	0.00050	mg/L	0.05000	0.0026	93	70-130			
Cobalt	0.0455	0.000250	mg/L	0.05000	0.0000815	91	70-130			
Copper	0.099	0.00050	mg/L	0.05000	0.057	85	70-130			
Lead	0.054	0.00050	mg/L	0.05000	0.0033	100	70-130			
Manganese	0.055	0.00025	mg/L	0.05000	0.0075	94	70-130			
Nickel	0.061	0.00050	mg/L	0.05000	0.016	89	70-130			
Selenium	0.051	0.0025	mg/L	0.05000	ND	103	70-130			
Silver	0.041	0.00050	mg/L	0.05000	0.000036	81	70-130			
Thallium	0.051	0.00050	mg/L	0.05000	0.00021	102	70-130			
Uranium	0.060	0.00050	mg/L	0.05000	0.0038	112	70-130			
Zinc	0.22	0.040	mg/L	0.1000	0.12	99	70-130			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2106215 - E200.8 (5.4)										
Matrix Spike (2106215-MS2)		Source: 21F0336-03			Prepared & Analyzed: 06/15/2021					
Aluminum	6.3	0.40	mg/L	0.2000	6.1	99	70-130			
Antimony	0.063	0.0020	mg/L	0.1000	0.00072	62	70-130			M2
Arsenic	0.11	0.0020	mg/L	0.1000	0.015	95	70-130			
Barium	0.22	0.0020	mg/L	0.1000	0.13	85	70-130			
Beryllium	0.098	0.0010	mg/L	0.1000	0.00048	97	70-130			
Cadmium	0.096	0.0010	mg/L	0.1000	ND	96	70-130			
Chromium	0.10	0.0020	mg/L	0.1000	0.0060	94	70-130			
Cobalt	0.0943	0.00100	mg/L	0.1000	0.00293	91	70-130			
Copper	0.11	0.0020	mg/L	0.1000	0.027	86	70-130			
Lead	0.19	0.0020	mg/L	0.1000	0.094	93	70-130			
Manganese	0.48	0.0010	mg/L	0.1000	0.47	1	70-130			M2
Nickel	0.10	0.0020	mg/L	0.1000	0.0097	91	70-130			
Selenium	0.094	0.010	mg/L	0.1000	ND	94	70-130			
Silver	0.10	0.0050	mg/L	0.1000	0.00048	101	70-130			
Thallium	0.097	0.0020	mg/L	0.1000	0.0013	96	70-130			
Uranium	0.11	0.0020	mg/L	0.1000	0.0033	103	70-130			
Zinc	0.31	0.16	mg/L	0.2000	0.14	86	70-130			
Batch 2106226 - E200.7 (4.4)										
Blank (2106226-BLK1)				Prepared: 06/15/2021 Analyzed: 06/17/2021						
Boron	ND	0.10	mg/L							
Calcium	ND	4.0	mg/L							
Iron	ND	0.30	mg/L							
Magnesium	ND	3.0	mg/L							
Potassium	ND	5.0	mg/L							
Silica	ND	0.20	mg/L							
Sodium	ND	5.0	mg/L							
LCS (2106226-BS1)				Prepared: 06/15/2021 Analyzed: 06/17/2021						
Boron	1.0	0.10	mg/L	1.000		102	85-115			
Calcium	9.9	4.0	mg/L	10.00		99	85-115			
Iron	1.1	0.30	mg/L	1.000		106	85-115			
Magnesium	9.8	3.0	mg/L	10.00		98	85-115			
Potassium	9.8	5.0	mg/L	10.00		98	85-115			
Sodium	10	5.0	mg/L	10.00		100	85-115			
LCS (2106226-BS2)				Prepared: 06/15/2021 Analyzed: 06/17/2021						
Silica	9.4	0.20	mg/L	10.00		94	85-115			
LCS Dup (2106226-BSD1)				Prepared: 06/15/2021 Analyzed: 06/17/2021						
Boron	1.0	0.10	mg/L	1.000		104	85-115	2	20	
Calcium	9.8	4.0	mg/L	10.00		98	85-115	0.6	20	
Iron	1.0	0.30	mg/L	1.000		104	85-115	1	20	
Magnesium	9.7	3.0	mg/L	10.00		97	85-115	1	20	
Potassium	9.8	5.0	mg/L	10.00		98	85-115	0.4	20	
Sodium	9.8	5.0	mg/L	10.00		98	85-115	2	20	
LCS Dup (2106226-BSD2)				Prepared: 06/15/2021 Analyzed: 06/17/2021						
Silica	9.2	0.20	mg/L	10.00		92	85-115	2	20	

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2106226 - E200.7 (4.4)										
Matrix Spike (2106226-MS1)		Source: 21F0336-03			Prepared: 06/15/2021		Analyzed: 06/17/2021			
Boron	1.1		mg/L	1.000	0.11	99	70-130			
Calcium	31		mg/L	10.00	21	100	70-130			
Iron	5.1		mg/L	1.000	3.2	188	70-130			M3
Magnesium	13		mg/L	10.00	2.4	107	70-130			
Potassium	13		mg/L	10.00	1.9	110	70-130			
Sodium	49		mg/L	10.00	39	98	70-130			
Matrix Spike (2106226-MS2)		Source: 21F0194-01			Prepared: 06/15/2021		Analyzed: 06/17/2021			
Boron	1.2	0.10	mg/L	1.000	0.15	102	70-130			
Calcium	95	4.0	mg/L	10.00	90	50	70-130			M3
Iron	1.7	0.30	mg/L	1.000	0.67	102	70-130			
Magnesium	21	3.0	mg/L	10.00	12	96	70-130			
Potassium	17	5.0	mg/L	10.00	6.6	102	70-130			
Sodium	84	5.0	mg/L	10.00	79	51	70-130			M3
Matrix Spike (2106226-MS3)		Source: 21F0194-01			Prepared: 06/15/2021		Analyzed: 06/17/2021			
Silica	40	0.20	mg/L	10.00	33	77	70-130			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2106138 - SM2540 C										
Duplicate (2106138-DUP1)		Source: 21F0336-03			Prepared: 06/11/2021		Analyzed: 06/15/2021			
Total Dissolved Solids (Residue, Filterable)	390	20	mg/L		380			2	5	
Duplicate (2106138-DUP2)		Source: 21F0336-04			Prepared: 06/11/2021		Analyzed: 06/15/2021			
Total Dissolved Solids (Residue, Filterable)	360	20	mg/L		360			0.6	5	
Duplicate (2106138-DUP3)		Source: 21F0336-05			Prepared: 06/11/2021		Analyzed: 06/15/2021			
Total Dissolved Solids (Residue, Filterable)	360	20	mg/L		350			2	5	
Batch 2106160 - SM2540 D										
Blank (2106160-BLK1)					Prepared & Analyzed: 06/11/2021					
Total Suspended Solids	ND	10	mg/L							Q9
Duplicate (2106160-DUP1)		Source: 21F0336-03			Prepared & Analyzed: 06/11/2021					
Total Suspended Solids	240	10	mg/L		240			0.8	5	
Duplicate (2106160-DUP2)		Source: 21F0362-04			Prepared & Analyzed: 06/11/2021					
Total Suspended Solids	6900	10	mg/L		7000			2	5	
Batch 2106175 - SM4500-CN BE										
Blank (2106175-BLK1)					Prepared: 06/10/2021 Analyzed: 06/11/2021					
Cyanide	ND	0.10	mg/L							
LCS (2106175-BS1)					Prepared: 06/10/2021 Analyzed: 06/11/2021					
Cyanide	1.9	0.10	mg/L	2.000		93	85-115			
LCS Dup (2106175-BSD1)					Prepared: 06/10/2021 Analyzed: 06/11/2021					
Cyanide	1.9	0.10	mg/L	2.000		93	85-115	0.2	15	
Matrix Spike (2106175-MS1)		Source: 21F0336-03			Prepared: 06/10/2021 Analyzed: 06/11/2021					
Cyanide	1.9	0.10	mg/L	2.000	ND	95	80-120			
Matrix Spike Dup (2106175-MSD1)		Source: 21F0336-03			Prepared: 06/10/2021 Analyzed: 06/11/2021					
Cyanide	1.7	0.10	mg/L	2.000	ND	86	80-120	11	15	
Batch 2106177 - SM2320B										
Blank (2106177-BLK1)					Prepared & Analyzed: 06/11/2021					
Alkalinity, Bicarbonate (As CaCO3)	ND	2.0	mg/L							
Alkalinity, Carbonate (As CaCO3)	ND	2.0	mg/L							
Alkalinity, Hydroxide (As CaCO3)	ND	2.0	mg/L							
Alkalinity, Total (As CaCO3)	ND	2.0	mg/L							
LCS (2106177-BS1)					Prepared & Analyzed: 06/11/2021					
Alkalinity, Total (As CaCO3)	260	2.0	mg/L	250.0		103	90-110			
LCS Dup (2106177-BSD1)					Prepared & Analyzed: 06/11/2021					
Alkalinity, Total (As CaCO3)	260	2.0	mg/L	250.0		102	90-110	0.8	10	

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2106177 - SM2320B										
Matrix Spike (2106177-MS1)		Source: 21F0336-03		Prepared & Analyzed: 06/11/2021						
Alkalinity, Total (As CaCO3)	380	2.0	mg/L	250.0	130	98	70-130			
Matrix Spike Dup (2106177-MSD1)		Source: 21F0336-03		Prepared & Analyzed: 06/11/2021						
Alkalinity, Total (As CaCO3)	370	2.0	mg/L	250.0	130	94	70-130	2	10	
Batch 2106180 - SM4500-SiO2 C										
Blank (2106180-BLK1)		Prepared & Analyzed: 06/11/2021								
Silica	ND	2.0	mg/L							
LCS (2106180-BS1)		Prepared & Analyzed: 06/11/2021								
Silica	8.1	2.0	mg/L	8.000		102	90-110			
LCS Dup (2106180-BSD1)		Prepared & Analyzed: 06/11/2021								
Silica	8.0	2.0	mg/L	8.000		101	90-110	1	20	
Matrix Spike (2106180-MS1)		Source: 21F0336-03		Prepared & Analyzed: 06/11/2021						
Silica	57	10	mg/L	40.00	19	93	85-115			
Matrix Spike Dup (2106180-MSD1)		Source: 21F0336-03		Prepared & Analyzed: 06/11/2021						
Silica	56	10	mg/L	40.00	19	92	85-115	0.8	20	
Batch 2106228 - SM4500-NH3 B,C										
Blank (2106228-BLK1)		Prepared & Analyzed: 06/15/2021								
Nitrogen, Ammonia (As N)	ND	0.50	mg/L							
LCS (2106228-BS1)		Prepared & Analyzed: 06/15/2021								
Nitrogen, Ammonia (As N)	4.9	0.50	mg/L	5.000		98	90-110			
LCS Dup (2106228-BSD1)		Prepared & Analyzed: 06/15/2021								
Nitrogen, Ammonia (As N)	5.0	0.50	mg/L	5.000		99	90-110	0.9	10	
Matrix Spike (2106228-MS1)		Source: 21F0030-01		Prepared & Analyzed: 06/15/2021						
Nitrogen, Ammonia (As N)	4.9	0.50	mg/L	5.000	0.067	96	75-120			
Matrix Spike (2106228-MS2)		Source: 21F0336-03		Prepared & Analyzed: 06/15/2021						
Nitrogen, Ammonia (As N)	4.7	0.50	mg/L	5.000	0.20	90	75-120			
Matrix Spike Dup (2106228-MSD1)		Source: 21F0030-01		Prepared & Analyzed: 06/15/2021						
Nitrogen, Ammonia (As N)	5.0	0.50	mg/L	5.000	0.067	99	75-120	2	20	
Matrix Spike Dup (2106228-MSD2)		Source: 21F0336-03		Prepared & Analyzed: 06/15/2021						
Nitrogen, Ammonia (As N)	4.8	0.50	mg/L	5.000	0.20	92	75-120	2	20	

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2106130 - E300.0 (2.1)										
Blank (2106130-BLK1)				Prepared & Analyzed: 06/09/2021						
Chloride	ND	1.0	mg/L							
Fluoride	ND	0.50	mg/L							
Nitrogen, Nitrate (As N)	ND	0.50	mg/L							
Nitrogen, Nitrite (As N)	ND	0.10	mg/L							
Sulfate	ND	5.0	mg/L							
LCS (2106130-BS1)				Prepared & Analyzed: 06/09/2021						
Chloride	13	1.0	mg/L	12.50		102	90-110			
Fluoride	2.1	0.50	mg/L	2.000		107	90-110			
Nitrogen, Nitrate (As N)	5.3	0.50	mg/L	5.000		105	90-110			
Nitrogen, Nitrite (As N)	2.5	0.10	mg/L	2.500		102	90-110			
Sulfate	13	5.0	mg/L	12.50		105	90-110			
LCS Dup (2106130-BSD1)				Prepared & Analyzed: 06/09/2021						
Chloride	13	1.0	mg/L	12.50		102	90-110	0.07	10	
Fluoride	2.1	0.50	mg/L	2.000		104	90-110	3	10	
Nitrogen, Nitrate (As N)	5.3	0.50	mg/L	5.000		106	90-110	0.4	10	
Nitrogen, Nitrite (As N)	2.5	0.10	mg/L	2.500		101	90-110	0.5	10	
Sulfate	13	5.0	mg/L	12.50		105	90-110	0.02	10	
Matrix Spike (2106130-MS1)				Source: 21F0336-03		Prepared: 06/10/2021 Analyzed: 06/17/2021				
Chloride	1200	100	mg/L	1250	ND	97	80-120			
Fluoride	180	50	mg/L	200.0	ND	91	80-120			
Nitrogen, Nitrate (As N)	530	50	mg/L	500.0	ND	107	80-120			
Nitrogen, Nitrite (As N)	210	10	mg/L	250.0	ND	84	80-120			
Sulfate	1400	500	mg/L	1250	ND	115	80-120			
Matrix Spike (2106130-MS2)				Source: 21F0335-01		Prepared: 06/10/2021 Analyzed: 06/17/2021				
Nitrogen, Nitrate (As N)	54	5.0	mg/L	50.00	ND	108	80-120			
Sulfate	280	50	mg/L	125.0	190	74	80-120			M2
Matrix Spike (2106130-MS3)				Source: 21F0311-01		Prepared: 06/10/2021 Analyzed: 06/22/2021				
Sulfate	19000	5000	mg/L	12500	13000	44	80-120			M2
Matrix Spike Dup (2106130-MSD1)				Source: 21F0336-03		Prepared: 06/10/2021 Analyzed: 06/17/2021				
Chloride	1200	100	mg/L	1250	ND	97	80-120	0.5	10	
Fluoride	180	50	mg/L	200.0	ND	91	80-120	0.3	10	
Nitrogen, Nitrate (As N)	530	50	mg/L	500.0	ND	107	80-120	0.01	10	
Nitrogen, Nitrite (As N)	210	10	mg/L	250.0	ND	84	80-120	0.05	10	
Sulfate	1400	500	mg/L	1250	ND	115	80-120	0.3	10	
Matrix Spike Dup (2106130-MSD2)				Source: 21F0335-01		Prepared: 06/10/2021 Analyzed: 06/17/2021				
Nitrogen, Nitrate (As N)	54	5.0	mg/L	50.00	ND	108	80-120	0.3	10	
Sulfate	280	50	mg/L	125.0	190	75	80-120	0.7	10	M2
Matrix Spike Dup (2106130-MSD3)				Source: 21F0311-01		Prepared: 06/10/2021 Analyzed: 06/22/2021				
Sulfate	19000	5000	mg/L	12500	13000	43	80-120	0.2	10	M2



December 15, 2021

Louise Spencer
Arizona Minerals Inc.
2210 E. Fort Lowell Rd
Tucson, AZ 85719

TEL (802) 235-5563
FAX

RE: AMI-310

Work Order No.: 2110664
Order Name: Hermosa Project

Dear Louise Spencer,

Turner Laboratories, Inc. received 3 sample(s) on 09/24/2021 for the analyses presented in the following report.

All results are intended to be considered in their entirety, and Turner Laboratories, Inc. is not responsible for use of less than the complete report. Results apply only to the samples analyzed. Samples will be disposed of 30 days after issue of our report unless special arrangements are made.

The pages that follow may contain sensitive, privileged or confidential information intended solely for the addressee named above. If you receive this message and are not the agent or employee of the addressee, this communication has been sent in error. Please do not disseminate or copy any of the attached and notify the sender immediately by telephone. Please also return the attached sheet(s) to the sender by mail.

Please call if you have any questions.

Respectfully submitted,

Turner Laboratories, Inc.
ADHS License AZ0066

Kevin Brim
Project Manager

Client: Arizona Minerals Inc.
Project: AMI-310
Work Order: 21I0664
Date Received: 09/24/2021

Order: Hermosa Project

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date/Time
21I0664-01	MW-9-2021-20922	Ground Water	09/23/2021 1025

Client: Arizona Minerals Inc.
Project: AMI-310
Work Order: 2110664
Date Received: 09/24/2021

Case Narrative

TW-618224-20210923 is a resample of TW-618224-20210915. Only Nitrate, Nitrite, Total Dissolved Solids and Total Suspended Solids were needed.

N1 = The Sample / Sample Duplicate recovered slightly above the 5% acceptance limits for the RPD. A lower sample volume was used due to limited sample volume for the sample that was duplicated. The original analysis of the sample correlates with the re-analysis within 5%.

- E4 Concentration estimated. Analyte was detected below laboratory Minimum Reporting Limit (MRL) but above MDL.
- E8 Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
- H2 Initial analysis was performed within holding time. Reanalysis for the required dilution was past holding time.
- M1 Matrix spike recovery was high; the associated LCS/LCSD was acceptable.
- M2 Matrix spike recovery was low; the associated LCS/LCSD was acceptable.
- M3 The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated LCS/LCSD recovery was acceptable.
- N1 See case narrative.
- Q9 Insufficient sample received to meet method QC requirements.
- R12 RPD/RSD exceeded the method acceptance limit. Result less than 5 times the PQL.
- V1 CCV recovery was above method acceptance limits. This target analyte was not detected in the sample.

All soil, sludge, and solid matrix determinations are reported on a wet weight basis unless otherwise noted.

- ND Not Detected at or above the PQL
 - PQL Practical Quantitation Limit
 - DF Dilution Factor
-

Turner Laboratories, Inc.**Date: 12/15/2021**

Client: Arizona Minerals Inc.
Project: AMI-310
Work Order: 21I0664
Lab Sample ID: 21I0664-01

Client Sample ID: MW-9-2021-20922
Collection Date/Time: 09/23/2021 1025
Matrix: Ground Water
Order Name: Hermosa Project

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
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Hardness-Calculation

Hardness, Calcium/Magnesium (As 110 CaCO3)					mg/L	1	10/01/2021	091: 10/04/2021	134	MH
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ICP Dissolved Metals-E 200.7 (4.4)

Boron	0.12		0.10		mg/L	1	09/30/2021	095: 10/01/2021	123	MH
Calcium	30		4.0		mg/L	1	09/30/2021	095: 10/01/2021	123	MH
Iron	0.084	0.0031	0.30	E4	mg/L	1	09/30/2021	095: 10/01/2021	123	MH
Magnesium	0.95	0.10	3.0	E4	mg/L	1	09/30/2021	095: 10/01/2021	123	MH
Potassium	0.91	0.14	5.0	E4	mg/L	1	09/30/2021	095: 10/01/2021	123	MH
Silica	19		0.20		mg/L	1	09/30/2021	095: 10/01/2021	123	MH
Sodium	74		5.0		mg/L	1	09/30/2021	095: 10/01/2021	123	MH

ICP/MS Dissolved Metals-E 200.8 (5.4)

Aluminum	ND	0.013	0.040	E8	mg/L	1	09/30/2021	095: 10/04/2021	124	CR
Antimony	0.000082	0.000039	0.00050	E4	mg/L	1	09/30/2021	095: 09/30/2021	185	CR
Arsenic	0.010		0.00050		mg/L	1	09/30/2021	095: 09/30/2021	185	CR
Barium	0.023		0.00050		mg/L	1	09/30/2021	095: 10/04/2021	124	CR
Beryllium	ND	0.000013	0.00025	E8	mg/L	1	09/30/2021	095: 10/04/2021	124	CR
Cadmium	ND	0.000050	0.00025	E8	mg/L	1	09/30/2021	095: 09/30/2021	185	CR
Chromium	0.000074	0.000023	0.00050	E4	mg/L	1	09/30/2021	095: 09/30/2021	185	CR
Cobalt	ND		0.00025		mg/L	1	09/30/2021	095: 09/30/2021	185	CR
Copper	ND	0.00015	0.00050	E8	mg/L	1	09/30/2021	095: 09/30/2021	185	CR
Lead	ND	0.000057	0.00050	E8	mg/L	1	09/30/2021	095: 10/04/2021	124	CR
Manganese	0.35		0.00025		mg/L	1	09/30/2021	095: 09/30/2021	185	CR
Nickel	ND	0.000015	0.00050	E8	mg/L	1	09/30/2021	095: 09/30/2021	185	CR
Selenium	ND	0.00025	0.0025	E8	mg/L	1	09/30/2021	095: 09/30/2021	185	CR
Silver	ND	0.000021	0.00050	E8	mg/L	1	09/30/2021	095: 10/04/2021	124	CR
Thallium	ND	0.000023	0.00050	E8	mg/L	1	09/30/2021	095: 10/04/2021	124	CR
Uranium	0.00034	0.000015	0.00050	E4	mg/L	1	09/30/2021	095: 10/04/2021	124	CR
Zinc	ND	0.0023	0.040	E8	mg/L	1	09/30/2021	095: 09/30/2021	185	CR

CVAA Dissolved Mercury-E 245.1

Mercury	ND	0.000041	0.0010	E8	mg/L	1	10/04/2021	100: 10/04/2021	145	RAD
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ICP Total Metals-E 200.7 (4.4)

Turner Laboratories, Inc.

Date: 12/15/2021

Client: Arizona Minerals Inc.
 Project: AMI-310
 Work Order: 21I0664
 Lab Sample ID: 21I0664-01

Client Sample ID: MW-9-2021-20922
 Collection Date/Time: 09/23/2021 1025
 Matrix: Ground Water
 Order Name: Hermosa Project

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Boron	0.20		0.10		mg/L	1	10/01/2021	091: 10/04/2021	134 MH
Calcium	38		4.0		mg/L	1	10/01/2021	091: 10/04/2021	134 MH
Iron	3.8		0.30		mg/L	1	10/01/2021	091: 10/04/2021	134 MH
Magnesium	2.9	0.10	3.0	E4	mg/L	1	10/01/2021	091: 10/04/2021	134 MH
Potassium	2.4	0.14	5.0	E4	mg/L	1	10/01/2021	091: 10/04/2021	134 MH
Silica	43		0.20		mg/L	1	10/01/2021	091: 10/04/2021	134 MH
Sodium	78		25		mg/L	5	10/01/2021	091: 10/05/2021	101 MH

ICP/MS Total Metals-E200.8 (5.4)

Aluminum	3.3		0.40		mg/L	10	10/01/2021	082: 10/05/2021	162 CR
Antimony	0.00055		0.00050		mg/L	1	10/01/2021	082: 10/05/2021	160 CR
Arsenic	0.013		0.00050		mg/L	1	10/01/2021	082: 10/05/2021	160 CR
Barium	0.10		0.00050		mg/L	1	10/01/2021	082: 10/05/2021	160 CR
Beryllium	0.00023	0.000013	0.00025	E4	mg/L	1	10/01/2021	082: 10/05/2021	160 CR
Cadmium	0.00067		0.00025		mg/L	1	10/01/2021	082: 10/05/2021	160 CR
Chromium	0.0037		0.00050		mg/L	1	10/01/2021	082: 10/05/2021	160 CR
Cobalt	0.00158		0.000250		mg/L	1	10/01/2021	082: 10/05/2021	160 CR
Copper	0.011		0.00050		mg/L	1	10/01/2021	082: 10/05/2021	160 CR
Lead	0.045		0.00050		mg/L	1	10/01/2021	082: 10/05/2021	160 CR
Manganese	0.52		0.00025		mg/L	1	10/01/2021	082: 10/05/2021	160 CR
Nickel	0.0040		0.00050		mg/L	1	10/01/2021	082: 10/05/2021	160 CR
Selenium	0.00098	0.00025	0.0025	E4	mg/L	1	10/01/2021	082: 10/05/2021	160 CR
Silver	0.00012	0.000021	0.00050	E4	mg/L	1	10/01/2021	082: 10/05/2021	160 CR
Thallium	0.00018	0.000023	0.00050	E4	mg/L	1	10/01/2021	082: 10/05/2021	160 CR
Uranium	0.0023		0.00050		mg/L	1	10/01/2021	082: 10/05/2021	160 CR
Zinc	0.064		0.040		mg/L	1	10/01/2021	082: 10/05/2021	160 CR

CVAA Total Mercury-E245.1

Mercury	ND	0.00036	0.0010	E8	mg/L	1	10/01/2021	130: 10/01/2021	164 RAD
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Anions by Ion Chromatography-E300.0 (2.1)

Chloride	4.3		1.0		mg/L	1	09/24/2021	141: 09/24/2021	141 EJ
Fluoride	ND		0.50		mg/L	1	09/24/2021	141: 09/24/2021	141 EJ
Nitrogen, Nitrate (As N)	0.23		0.50		mg/L	1	09/24/2021	141: 09/24/2021	141 EJ
Nitrogen, Nitrite (As N)	ND		0.10	H2, V1	mg/L	1	09/24/2021	141: 09/28/2021	234 EJ
Sulfate	160		25		mg/L	5	09/24/2021	141: 09/29/2021	000 EJ

Calculation-Ion Balance

Client: Arizona Minerals Inc.
 Project: AMI-310
 Work Order: 21I0664
 Lab Sample ID: 21I0664-01

Client Sample ID: MW-9-2021-20922
 Collection Date/Time: 09/23/2021 1025
 Matrix: Ground Water
 Order Name: Hermosa Project

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Anion	6.77				meq/L	1	10/08/2021	160	10/08/2021 160 KB
Cation	4.83				meq/L	1	10/08/2021	160	10/08/2021 160 KB
Cation/Anion, % Difference	16.7				meq/L	1	10/08/2021	160	10/08/2021 160 KB
Alkalinity-SM2320B									
Alkalinity, Bicarbonate (As CaCO ₃)	140		2.0		mg/L	1	09/29/2021	110	09/29/2021 130 AGC
Alkalinity, Carbonate (As CaCO ₃)	ND		2.0		mg/L	1	09/29/2021	110	09/29/2021 130 AGC
Alkalinity, Hydroxide (As CaCO ₃)	ND		2.0		mg/L	1	09/29/2021	110	09/29/2021 130 AGC
Alkalinity, Phenolphthalein (As CaCO ₃)	ND		2.0		mg/L	1	09/29/2021	110	09/29/2021 130 AGC
Alkalinity, Total (As CaCO ₃)	140		2.0		mg/L	1	09/29/2021	110	09/29/2021 130 AGC
Total Dissolved Solids (Residue, Filterable)-SM2540 C									
Total Dissolved Solids (Residue, Filterable)	330		20		mg/L	1	09/28/2021	081	09/30/2021 123 AGC
Total Suspended Solids (Residue, Non-Filterable)-SM2540 D									
Total Suspended Solids	72		10		mg/L	1	09/28/2021	081	09/29/2021 083 AGC
Cyanide-SM4500-CN BE									
Cyanide	ND	0.067	0.10	E8, V1	mg/L	1	09/30/2021	083	10/01/2021 110 ACG
Ammonia as N-SM4500-NH3 B,C									
Nitrogen, Ammonia (As N)	ND	0.045	0.50	E8	mg/L	1	10/06/2021	140	10/06/2021 172 ACG
Silica-SM4500-SiO2 C									
Silica	19		10	M1	mg/L	5	10/04/2021	100	10/04/2021 110 AGC

Client: Arizona Minerals Inc.
Project: AMI-310
Work Order: 2110664
Date Received: 09/24/2021

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2109293 - E 200.8 (5.4)										
Blank (2109293-BLK1)				Prepared: 09/23/2021 Analyzed: 10/01/2021						
Aluminum	ND	0.040	mg/L							
Antimony	ND	0.00050	mg/L							
Arsenic	ND	0.00050	mg/L							
Barium	ND	0.00050	mg/L							
Beryllium	ND	0.00025	mg/L							
Cadmium	ND	0.00025	mg/L							
Chromium	ND	0.00050	mg/L							
Cobalt	ND	0.00025	mg/L							
Copper	ND	0.00050	mg/L							
Lead	ND	0.00050	mg/L							
Manganese	ND	0.00025	mg/L							
Nickel	ND	0.00050	mg/L							
Selenium	ND	0.0025	mg/L							
Silver	ND	0.00050	mg/L							
Thallium	ND	0.00050	mg/L							
Uranium	ND	0.00050	mg/L							
Zinc	ND	0.040	mg/L							

LCS (2109293-BS1)				Prepared: 09/23/2021 Analyzed: 10/01/2021						
Aluminum	0.10	0.040	mg/L	0.1000		104	85-115			
Antimony	0.045	0.00050	mg/L	0.05000		91	85-115			
Arsenic	0.046	0.00050	mg/L	0.05000		92	85-115			
Barium	0.046	0.00050	mg/L	0.05000		92	85-115			
Beryllium	0.050	0.00025	mg/L	0.05000		100	85-115			
Cadmium	0.046	0.00025	mg/L	0.05000		92	85-115			
Chromium	0.047	0.00050	mg/L	0.05000		93	85-115			
Cobalt	0.045	0.00025	mg/L	0.05000		91	85-115			
Copper	0.046	0.00050	mg/L	0.05000		91	85-115			
Lead	0.046	0.00050	mg/L	0.05000		91	85-115			
Manganese	0.046	0.00025	mg/L	0.05000		92	85-115			
Nickel	0.046	0.00050	mg/L	0.05000		93	85-115			
Selenium	0.048	0.0025	mg/L	0.05000		95	85-115			
Silver	0.045	0.00050	mg/L	0.05000		90	85-115			
Thallium	0.052	0.00050	mg/L	0.05000		105	85-115			
Uranium	0.045	0.00050	mg/L	0.05000		91	85-115			
Zinc	0.096	0.040	mg/L	0.1000		96	85-115			

Client: Arizona Minerals Inc.
Project: AMI-310
Work Order: 2110664
Date Received: 09/24/2021

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2109293 - E 200.8 (5.4)										
LCS Dup (2109293-BSD1)				Prepared: 09/23/2021 Analyzed: 10/01/2021						
Aluminum	0.10	0.040	mg/L	0.1000		104	85-115	0.2	20	
Antimony	0.045	0.00050	mg/L	0.05000		90	85-115	0.7	20	
Arsenic	0.045	0.00050	mg/L	0.05000		91	85-115	1	20	
Barium	0.046	0.00050	mg/L	0.05000		91	85-115	0.6	20	
Beryllium	0.050	0.00025	mg/L	0.05000		101	85-115	0.6	20	
Cadmium	0.046	0.00025	mg/L	0.05000		91	85-115	0.8	20	
Chromium	0.046	0.00050	mg/L	0.05000		93	85-115	0.7	20	
Cobalt	0.045	0.00025	mg/L	0.05000		89	85-115	2	20	
Copper	0.045	0.00050	mg/L	0.05000		90	85-115	2	20	
Lead	0.046	0.00050	mg/L	0.05000		93	85-115	1	20	
Manganese	0.046	0.00025	mg/L	0.05000		91	85-115	0.8	20	
Nickel	0.046	0.00050	mg/L	0.05000		92	85-115	0.8	20	
Selenium	0.046	0.0025	mg/L	0.05000		93	85-115	2	20	
Silver	0.045	0.00050	mg/L	0.05000		90	85-115	0.6	20	
Thallium	0.053	0.00050	mg/L	0.05000		106	85-115	1	20	
Uranium	0.045	0.00050	mg/L	0.05000		90	85-115	0.3	20	
Zinc	0.094	0.040	mg/L	0.1000		94	85-115	2	20	
Matrix Spike (2109293-MS1)		Source: 2110620-01		Prepared: 09/23/2021 Analyzed: 10/01/2021						
Aluminum	0.096	0.040	mg/L	0.1000	ND	96	70-130			
Antimony	0.065	0.00050	mg/L	0.05000	0.00012	131	70-130			M1
Arsenic	0.066	0.00050	mg/L	0.05000	0.00044	131	70-130			M1
Barium	0.11	0.00050	mg/L	0.05000	0.049	127	70-130			
Beryllium	0.048	0.00025	mg/L	0.05000	ND	96	70-130			
Cadmium	0.061	0.00025	mg/L	0.05000	ND	121	70-130			
Chromium	0.059	0.00050	mg/L	0.05000	0.000044	119	70-130			
Cobalt	0.055	0.00025	mg/L	0.05000	0.000030	110	70-130			
Copper	0.055	0.00050	mg/L	0.05000	0.0018	106	70-130			
Lead	0.061	0.00050	mg/L	0.05000	0.000070	122	70-130			
Manganese	0.20	0.00025	mg/L	0.05000	0.14	111	70-130			
Nickel	0.055	0.00050	mg/L	0.05000	0.000029	110	70-130			
Selenium	0.072	0.0025	mg/L	0.05000	0.0047	134	70-130			M1
Silver	0.056	0.00050	mg/L	0.05000	ND	111	70-130			
Thallium	0.060	0.00050	mg/L	0.05000	0.000059	120	70-130			
Uranium	0.072	0.00050	mg/L	0.05000	0.0068	131	70-130			M1
Zinc	0.13	0.040	mg/L	0.1000	0.020	112	70-130			

Client: Arizona Minerals Inc.
 Project: AMI-310
 Work Order: 2110664
 Date Received: 09/24/2021

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2109293 - E 200.8 (5.4)										
Matrix Spike (2109293-MS2)		Source: 2110621-02			Prepared: 09/23/2021		Analyzed: 10/01/2021			
Aluminum	0.099	0.040	mg/L	0.1000	ND	99	70-130			
Antimony	0.063	0.00050	mg/L	0.05000	0.00039	125	70-130			
Arsenic	0.065	0.00050	mg/L	0.05000	0.0045	121	70-130			
Barium	0.072	0.00050	mg/L	0.05000	0.012	121	70-130			
Beryllium	0.050	0.00025	mg/L	0.05000	ND	100	70-130			
Cadmium	0.060	0.00025	mg/L	0.05000	ND	120	70-130			
Chromium	0.058	0.00050	mg/L	0.05000	0.000083	116	70-130			
Cobalt	0.056	0.00025	mg/L	0.05000	0.000086	111	70-130			
Copper	0.055	0.00050	mg/L	0.05000	0.00028	109	70-130			
Lead	0.058	0.00050	mg/L	0.05000	ND	116	70-130			
Manganese	0.18	0.00025	mg/L	0.05000	0.12	115	70-130			
Nickel	0.056	0.00050	mg/L	0.05000	0.00063	111	70-130			
Selenium	0.064	0.0025	mg/L	0.05000	ND	127	70-130			
Silver	0.055	0.00050	mg/L	0.05000	0.000021	110	70-130			
Thallium	0.057	0.00050	mg/L	0.05000	ND	113	70-130			
Uranium	0.060	0.00050	mg/L	0.05000	0.00037	119	70-130			
Zinc	0.12	0.040	mg/L	0.1000	ND	119	70-130			
Batch 2109367 - E 200.7 (4.4)										
Blank (2109367-BLK1)		Prepared & Analyzed: 10/01/2021								
Boron	ND	0.10	mg/L							
Calcium	ND	4.0	mg/L							
Iron	ND	0.30	mg/L							
Magnesium	ND	3.0	mg/L							
Potassium	ND	5.0	mg/L							
Silica	ND	0.20	mg/L							
Sodium	ND	5.0	mg/L							
LCS (2109367-BS1)		Prepared & Analyzed: 10/01/2021								
Boron	0.97	0.10	mg/L	1.000		97	85-115			
Calcium	9.6	4.0	mg/L	10.00		96	85-115			
Iron	0.94	0.30	mg/L	1.000		94	85-115			
Magnesium	9.9	3.0	mg/L	10.00		99	85-115			
Potassium	10	5.0	mg/L	10.00		100	85-115			
Sodium	9.7	5.0	mg/L	10.00		97	85-115			
LCS (2109367-BS2)		Prepared & Analyzed: 10/01/2021								
Silica	2.1	0.20	mg/L	2.143		96	85-115			
LCS Dup (2109367-BSD1)		Prepared & Analyzed: 10/01/2021								
Boron	0.97	0.10	mg/L	1.000		97	85-115	0.3	20	
Calcium	9.5	4.0	mg/L	10.00		95	85-115	0.2	20	
Iron	0.94	0.30	mg/L	1.000		94	85-115	0.2	20	
Magnesium	9.9	3.0	mg/L	10.00		99	85-115	0.3	20	
Potassium	9.9	5.0	mg/L	10.00		99	85-115	1	20	
Sodium	9.6	5.0	mg/L	10.00		96	85-115	0.8	20	
LCS Dup (2109367-BSD2)		Prepared & Analyzed: 10/01/2021								
Silica	2.1	0.20	mg/L	2.143		96	85-115	0.4	20	

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2109367 - E 200.7 (4.4)										
Matrix Spike (2109367-MS1)		Source: 2110639-01		Prepared & Analyzed: 10/01/2021						
Boron	1.3	0.10	mg/L	1.000	0.055	122	70-130			
Calcium	73	4.0	mg/L	10.00	64	87	70-130			
Iron	1.2	0.30	mg/L	1.000	0.20	102	70-130			
Magnesium	31	3.0	mg/L	10.00	21	99	70-130			
Potassium	16	5.0	mg/L	10.00	4.7	108	70-130			
Sodium	50	5.0	mg/L	10.00	41	92	70-130			
Matrix Spike (2109367-MS2)		Source: 2110639-01		Prepared & Analyzed: 10/01/2021						
Silica	19	0.20	mg/L	2.143	17	76	70-130			
Batch 2110010 - E245.1										
Blank (2110010-BLK1)		Prepared & Analyzed: 10/01/2021								
Mercury	ND	0.0010	mg/L							
LCS (2110010-BS1)		Prepared & Analyzed: 10/01/2021								
Mercury	0.0049	0.0010	mg/L	0.005000		99	85-115			
LCS Dup (2110010-BSD1)		Prepared & Analyzed: 10/01/2021								
Mercury	0.0050	0.0010	mg/L	0.005000		99	85-115	0.7	20	
Matrix Spike (2110010-MS1)		Source: 2110620-04		Prepared & Analyzed: 10/01/2021						
Mercury	0.0049	0.0010	mg/L	0.005000	ND	99	70-130			
Matrix Spike (2110010-MS2)		Source: 2110621-01		Prepared & Analyzed: 10/01/2021						
Mercury	0.0049	0.0010	mg/L	0.005000	ND	98	70-130			
Matrix Spike Dup (2110010-MSD1)		Source: 2110620-04		Prepared & Analyzed: 10/01/2021						
Mercury	0.0049	0.0010	mg/L	0.005000	ND	99	70-130	0.1	20	
Matrix Spike Dup (2110010-MSD2)		Source: 2110621-01		Prepared & Analyzed: 10/01/2021						
Mercury	0.0048	0.0010	mg/L	0.005000	ND	96	70-130	2	20	
Batch 2110014 - E200.8 (5.4)										

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2110014 - E200.8 (5.4)										
Blank (2110014-BLK1)										
				Prepared: 10/01/2021 Analyzed: 10/05/2021						
Aluminum	ND	0.040	mg/L							
Antimony	ND	0.00050	mg/L							
Arsenic	ND	0.00050	mg/L							
Barium	ND	0.00050	mg/L							
Beryllium	ND	0.00025	mg/L							
Cadmium	ND	0.00025	mg/L							
Chromium	ND	0.00050	mg/L							
Cobalt	ND	0.000250	mg/L							
Copper	ND	0.00050	mg/L							
Lead	ND	0.00050	mg/L							
Manganese	ND	0.00025	mg/L							
Nickel	ND	0.00050	mg/L							
Selenium	ND	0.0025	mg/L							
Silver	0.00021	0.00050	mg/L							
Thallium	ND	0.00050	mg/L							
Uranium	ND	0.00050	mg/L							
Zinc	ND	0.040	mg/L							
LCS (2110014-BS1)										
				Prepared: 10/01/2021 Analyzed: 10/05/2021						
Aluminum	0.11	0.040	mg/L	0.1000		105	85-115			
Antimony	0.050	0.00050	mg/L	0.05000		99	85-115			
Arsenic	0.049	0.00050	mg/L	0.05000		97	85-115			
Barium	0.049	0.00050	mg/L	0.05000		97	85-115			
Beryllium	0.049	0.00025	mg/L	0.05000		98	85-115			
Cadmium	0.049	0.00025	mg/L	0.05000		99	85-115			
Chromium	0.049	0.00050	mg/L	0.05000		99	85-115			
Cobalt	0.0492	0.000250	mg/L	0.05000		98	85-115			
Copper	0.049	0.00050	mg/L	0.05000		99	85-115			
Lead	0.048	0.00050	mg/L	0.05000		95	85-115			
Manganese	0.049	0.00025	mg/L	0.05000		99	85-115			
Nickel	0.049	0.00050	mg/L	0.05000		98	85-115			
Selenium	0.050	0.0025	mg/L	0.05000		100	85-115			
Silver	0.052	0.00050	mg/L	0.05000		104	85-115			
Thallium	0.046	0.00050	mg/L	0.05000		93	85-115			
Uranium	0.047	0.00050	mg/L	0.05000		94	85-115			
Zinc	0.10	0.040	mg/L	0.1000		101	85-115			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2110014 - E200.8 (5.4)										
LCS Dup (2110014-BSD1)										
				Prepared: 10/01/2021 Analyzed: 10/05/2021						
Aluminum	0.10	0.040	mg/L	0.1000		104	85-115	1	20	
Antimony	0.048	0.00050	mg/L	0.05000		96	85-115	4	20	
Arsenic	0.047	0.00050	mg/L	0.05000		94	85-115	3	20	
Barium	0.048	0.00050	mg/L	0.05000		95	85-115	2	20	
Beryllium	0.048	0.00025	mg/L	0.05000		97	85-115	1	20	
Cadmium	0.048	0.00025	mg/L	0.05000		97	85-115	2	20	
Chromium	0.048	0.00050	mg/L	0.05000		95	85-115	4	20	
Cobalt	0.0482	0.000250	mg/L	0.05000		96	85-115	2	20	
Copper	0.048	0.00050	mg/L	0.05000		96	85-115	3	20	
Lead	0.049	0.00050	mg/L	0.05000		98	85-115	3	20	
Manganese	0.048	0.00025	mg/L	0.05000		96	85-115	3	20	
Nickel	0.048	0.00050	mg/L	0.05000		95	85-115	3	20	
Selenium	0.049	0.0025	mg/L	0.05000		98	85-115	3	20	
Silver	0.056	0.00050	mg/L	0.05000		111	85-115	7	20	
Thallium	0.048	0.00050	mg/L	0.05000		96	85-115	3	20	
Uranium	0.049	0.00050	mg/L	0.05000		97	85-115	3	20	
Zinc	0.099	0.040	mg/L	0.1000		99	85-115	2	20	
Matrix Spike (2110014-MS1)										
		Source: 2110580-01			Prepared: 10/01/2021 Analyzed: 10/05/2021					
Aluminum	0.19	0.040	mg/L	0.1000	0.078	110	70-130			
Antimony	0.049	0.00050	mg/L	0.05000	0.000044	98	70-130			
Arsenic	0.050	0.00050	mg/L	0.05000	0.0018	97	70-130			
Barium	0.075	0.00050	mg/L	0.05000	0.028	95	70-130			
Beryllium	0.048	0.00025	mg/L	0.05000	0.000013	96	70-130			
Cadmium	0.047	0.00025	mg/L	0.05000	ND	93	70-130			
Chromium	0.052	0.00050	mg/L	0.05000	0.0069	91	70-130			
Cobalt	0.0442	0.000250	mg/L	0.05000	0.000132	88	70-130			
Copper	0.051	0.00050	mg/L	0.05000	0.0082	86	70-130			
Lead	0.051	0.00050	mg/L	0.05000	0.0024	98	70-130			
Manganese	0.067	0.00025	mg/L	0.05000	0.024	85	70-130			
Nickel	0.048	0.00050	mg/L	0.05000	0.0047	86	70-130			
Selenium	0.044	0.0025	mg/L	0.05000	0.00053	87	70-130			
Silver	0.048	0.00050	mg/L	0.05000	0.0021	91	70-130			
Thallium	0.048	0.00050	mg/L	0.05000	0.00034	94	70-130			
Uranium	0.058	0.00050	mg/L	0.05000	0.0030	111	70-130			
Zinc	0.58	0.040	mg/L	0.1000	0.48	91	70-130			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2110014 - E200.8 (5.4)										
Matrix Spike (2110014-MS2)		Source: 2110592-01			Prepared: 10/01/2021		Analyzed: 10/05/2021			
Aluminum	0.12	0.040	mg/L	0.1000	0.015	100	70-130			
Antimony	0.049	0.00050	mg/L	0.05000	0.00015	98	70-130			
Arsenic	0.049	0.00050	mg/L	0.05000	0.0013	95	70-130			
Barium	0.15	0.00050	mg/L	0.05000	0.10	98	70-130			
Beryllium	0.045	0.00025	mg/L	0.05000	0.000015	90	70-130			
Cadmium	0.045	0.00025	mg/L	0.05000	0.000099	89	70-130			
Chromium	0.047	0.00050	mg/L	0.05000	0.0022	90	70-130			
Cobalt	0.0441	0.000250	mg/L	0.05000	0.000163	88	70-130			
Copper	0.098	0.00050	mg/L	0.05000	0.058	79	70-130			
Lead	0.050	0.00050	mg/L	0.05000	ND	100	70-130			
Manganese	0.047	0.00025	mg/L	0.05000	0.0023	90	70-130			
Nickel	0.042	0.00050	mg/L	0.05000	ND	83	70-130			
Selenium	0.083	0.0025	mg/L	0.05000	0.038	90	70-130			
Silver	0.046	0.00050	mg/L	0.05000	0.0013	90	70-130			
Thallium	0.051	0.00050	mg/L	0.05000	0.00032	101	70-130			
Uranium	0.089	0.00050	mg/L	0.05000	0.032	115	70-130			
Zinc	0.092	0.040	mg/L	0.1000	0.010	81	70-130			
Batch 2110021 - E200.7 (4.4)										
Blank (2110021-BLK1)		Prepared: 10/01/2021 Analyzed: 10/04/2021								
Boron	ND	0.10	mg/L							
Calcium	ND	4.0	mg/L							
Iron	0.0097	0.30	mg/L							
Magnesium	ND	3.0	mg/L							
Potassium	ND	5.0	mg/L							
Silica	ND	0.20	mg/L							
Sodium	ND	5.0	mg/L							
LCS (2110021-BS1)		Prepared: 10/01/2021 Analyzed: 10/04/2021								
Boron	1.0	0.10	mg/L	1.000		103	85-115			
Calcium	11	4.0	mg/L	10.00		105	85-115			
Iron	1.0	0.30	mg/L	1.000		102	85-115			
Magnesium	10	3.0	mg/L	10.00		100	85-115			
Potassium	9.5	5.0	mg/L	10.00		95	85-115			
Sodium	9.9	5.0	mg/L	10.00		99	85-115			
LCS (2110021-BS2)		Prepared: 10/01/2021 Analyzed: 10/04/2021								
Silica	9.5	0.20	mg/L	10.00		95	85-115			
LCS Dup (2110021-BSD1)		Prepared: 10/01/2021 Analyzed: 10/04/2021								
Boron	1.0	0.10	mg/L	1.000		103	85-115	0.02	20	
Calcium	11	4.0	mg/L	10.00		106	85-115	0.7	20	
Iron	1.0	0.30	mg/L	1.000		103	85-115	0.6	20	
Magnesium	9.9	3.0	mg/L	10.00		99	85-115	0.3	20	
Potassium	9.4	5.0	mg/L	10.00		94	85-115	0.4	20	
Sodium	9.9	5.0	mg/L	10.00		99	85-115	0.1	20	
LCS Dup (2110021-BSD2)		Prepared: 10/01/2021 Analyzed: 10/04/2021								
Silica	9.5	0.20	mg/L	10.00		95	85-115	0.04	20	

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2110021 - E200.7 (4.4)										
Matrix Spike (2110021-MS1)		Source: 2110510-01			Prepared: 10/01/2021 Analyzed: 10/04/2021					
Boron	1.1	0.10	mg/L	1.000	0.050	104	70-130			
Calcium	51	4.0	mg/L	10.00	42	90	70-130			
Iron	1.2	0.30	mg/L	1.000	0.23	100	70-130			
Magnesium	13	3.0	mg/L	10.00	4.0	93	70-130			
Potassium	15	5.0	mg/L	10.00	5.3	97	70-130			
Sodium	43	5.0	mg/L	10.00	34	98	70-130			
Matrix Spike (2110021-MS2)		Source: 2110613-01			Prepared: 10/01/2021 Analyzed: 10/04/2021					
Boron	1.6	0.10	mg/L	1.000	0.56	102	70-130			
Calcium	75	4.0	mg/L	10.00	66	94	70-130			
Iron	5.3	0.30	mg/L	1.000	4.3	95	70-130			
Magnesium	12	3.0	mg/L	10.00	2.5	92	70-130			
Potassium	110	5.0	mg/L	10.00	98	69	70-130			M3
Sodium	170	5.0	mg/L	10.00	160	48	70-130			M3
Matrix Spike (2110021-MS3)		Source: 2110520-01			Prepared: 10/01/2021 Analyzed: 10/04/2021					
Silica	43	0.20	mg/L	10.00	34	93	70-130			
Batch 2110029 - E 245.1										
Blank (2110029-BLK1)		Prepared & Analyzed: 10/04/2021								
Mercury	ND	0.0010	mg/L							
LCS (2110029-BS1)		Prepared & Analyzed: 10/04/2021								
Mercury	0.0048	0.0010	mg/L	0.005000		97	85-115			
LCS Dup (2110029-BSD1)		Prepared & Analyzed: 10/04/2021								
Mercury	0.0048	0.0010	mg/L	0.005000		97	85-115	0.1	20	
Matrix Spike (2110029-MS1)		Source: 2110639-02			Prepared & Analyzed: 10/04/2021					
Mercury	0.0048	0.0010	mg/L	0.005000	ND	97	70-130			
Matrix Spike Dup (2110029-MSD1)		Source: 2110639-02			Prepared & Analyzed: 10/04/2021					
Mercury	0.0049	0.0010	mg/L	0.005000	ND	97	70-130	0.5	20	

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2109334 - SM2540 D										
Duplicate (2109334-DUP1) Source: 2110529-01 Prepared: 09/28/2021 Analyzed: 09/29/2021										
Total Suspended Solids	22	10	mg/L		24			9	5	Q9, R12
Duplicate (2109334-DUP2) Source: 2110525-01 Prepared: 09/28/2021 Analyzed: 09/29/2021										
Total Suspended Solids	39	10	mg/L		43			10	5	R12
Batch 2109336 - SM2540 C										
Duplicate (2109336-DUP1) Source: 2110621-02RE1 Prepared: 09/28/2021 Analyzed: 09/30/2021										
Total Dissolved Solids (Residue, Filterable)	240	20	mg/L		220			7	5	N1
Batch 2109353 - SM2320B										
Blank (2109353-BLK1) Prepared & Analyzed: 09/29/2021										
Alkalinity, Bicarbonate (As CaCO3)	ND	2.0	mg/L							
Alkalinity, Carbonate (As CaCO3)	ND	2.0	mg/L							
Alkalinity, Hydroxide (As CaCO3)	ND	2.0	mg/L							
Alkalinity, Phenolphthalein (As CaCO3)	ND	2.0	mg/L							
Alkalinity, Total (As CaCO3)	ND	2.0	mg/L							
LCS (2109353-BS1) Prepared & Analyzed: 09/29/2021										
Alkalinity, Total (As CaCO3)	250	2.0	mg/L	250.0		100	90-110			
LCS Dup (2109353-BSD1) Prepared & Analyzed: 09/29/2021										
Alkalinity, Total (As CaCO3)	250	2.0	mg/L	250.0		100	90-110	0	10	
Matrix Spike (2109353-MS1) Source: 2110704-02 Prepared & Analyzed: 09/29/2021										
Alkalinity, Total (As CaCO3)	340	2.0	mg/L	250.0	92	98	70-130			
Matrix Spike Dup (2109353-MSD1) Source: 2110704-02 Prepared & Analyzed: 09/29/2021										
Alkalinity, Total (As CaCO3)	340	2.0	mg/L	250.0	92	100	70-130	2	10	
Batch 2110027 - SM4500-SiO2 C										
Blank (2110027-BLK1) Prepared & Analyzed: 10/04/2021										
Silica	ND	2.0	mg/L							
LCS (2110027-BS1) Prepared & Analyzed: 10/04/2021										
Silica	8.2	2.0	mg/L	8.000		102	90-110			
LCS Dup (2110027-BSD1) Prepared & Analyzed: 10/04/2021										
Silica	8.2	2.0	mg/L	8.000		102	90-110	0	20	
Matrix Spike (2110027-MS1) Source: 2110664-01 Prepared & Analyzed: 10/04/2021										
Silica	65	10	mg/L	40.00	19	115	85-115			M1
Matrix Spike Dup (2110027-MSD1) Source: 2110664-01 Prepared & Analyzed: 10/04/2021										
Silica	64	10	mg/L	40.00	19	113	85-115	1	20	
Batch 2110028 - SM4500-CN BE										
Blank (2110028-BLK1) Prepared: 09/30/2021 Analyzed: 10/01/2021										
Cyanide	ND	0.10	mg/L							

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2110028 - SM4500-CN BE										
LCS (2110028-BS1)				Prepared: 09/30/2021 Analyzed: 10/01/2021						
Cyanide	2.0	0.10	mg/L	2.000		100	85-115			
LCS Dup (2110028-BSD1)				Prepared: 09/30/2021 Analyzed: 10/01/2021						
Cyanide	2.0	0.10	mg/L	2.000		102	85-115	2	15	
Matrix Spike (2110028-MS1)		Source: 2110621-02		Prepared: 09/30/2021 Analyzed: 10/01/2021						
Cyanide	1.9	0.10	mg/L	2.000	ND	96	80-120			
Matrix Spike Dup (2110028-MSD1)		Source: 2110621-02		Prepared: 09/30/2021 Analyzed: 10/01/2021						
Cyanide	1.9	0.10	mg/L	2.000	ND	96	80-120	0	15	
Batch 2110083 - SM4500-NH3 B,C										
Blank (2110083-BLK1)				Prepared & Analyzed: 10/06/2021						
Nitrogen, Ammonia (As N)	ND	0.50	mg/L							
LCS (2110083-BS1)				Prepared & Analyzed: 10/06/2021						
Nitrogen, Ammonia (As N)	5.2	0.50	mg/L	5.000		104	90-110			
LCS Dup (2110083-BSD1)				Prepared & Analyzed: 10/06/2021						
Nitrogen, Ammonia (As N)	5.1	0.50	mg/L	5.000		103	90-110	1	10	
Matrix Spike (2110083-MS1)		Source: 2110639-01		Prepared & Analyzed: 10/06/2021						
Nitrogen, Ammonia (As N)	4.8	0.50	mg/L	5.000	ND	96	75-120			
Matrix Spike Dup (2110083-MSD1)		Source: 2110639-01		Prepared & Analyzed: 10/06/2021						
Nitrogen, Ammonia (As N)	4.9	0.50	mg/L	5.000	ND	98	75-120	2	20	

Client: Arizona Minerals Inc.
Project: AMI-310
Work Order: 2110664
Date Received: 09/24/2021

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Qual
Batch 2109306 - E300.0 (2.1)										
Blank (2109306-BLK1)				Prepared & Analyzed: 09/24/2021						
Chloride	ND	1.0	mg/L							
Fluoride	ND	0.50	mg/L							
Nitrogen, Nitrate (As N)	ND	0.50	mg/L							
Nitrogen, Nitrite (As N)	ND	0.10	mg/L							
Sulfate	ND	5.0	mg/L							
LCS (2109306-BS1)				Prepared & Analyzed: 09/24/2021						
Chloride	12	1.0	mg/L	12.50		94	90-110			
Fluoride	2.0	0.50	mg/L	2.000		98	90-110			
Nitrogen, Nitrate (As N)	4.9	0.50	mg/L	5.000		97	90-110			
Nitrogen, Nitrite (As N)	2.3	0.10	mg/L	2.500		91	90-110			
Sulfate	13	5.0	mg/L	12.50		106	90-110			
LCS Dup (2109306-BSD1)				Prepared & Analyzed: 09/24/2021						
Chloride	12	1.0	mg/L	12.50		95	90-110	0.9	10	
Fluoride	2.0	0.50	mg/L	2.000		98	90-110	0.3	10	
Nitrogen, Nitrate (As N)	4.9	0.50	mg/L	5.000		98	90-110	0.8	10	
Nitrogen, Nitrite (As N)	2.3	0.10	mg/L	2.500		91	90-110	0.8	10	
Sulfate	13	5.0	mg/L	12.50		105	90-110	0.7	10	
Matrix Spike (2109306-MS1)				Source: 2110664-02		Prepared & Analyzed: 09/24/2021				
Chloride	16	1.0	mg/L	12.50	4.4	93	80-120			
Fluoride	1.7	0.50	mg/L	2.000	ND	87	80-120			
Nitrogen, Nitrate (As N)	5.1	0.50	mg/L	5.000	0.36	94	80-120			
Sulfate	26	5.0	mg/L	12.50	16	76	80-120			M2
Matrix Spike (2109306-MS2)				Source: 2110657-01		Prepared: 09/24/2021 Analyzed: 09/28/2021				
Chloride	12	1.0	mg/L	12.50		96	80-120			
Fluoride	2.8	0.50	mg/L	2.000		139	80-120			
Nitrogen, Nitrate (As N)	4.8	0.50	mg/L	5.000		95	80-120			
Nitrogen, Nitrite (As N)	2.2	0.10	mg/L	2.500		90	80-120			
Sulfate	61	5.0	mg/L	12.50	200000	NR	80-120			
Matrix Spike (2109306-MS3)				Source: 2110657-02		Prepared: 09/24/2021 Analyzed: 09/28/2021				
Chloride	12	1.0	mg/L	12.50		96	80-120			
Fluoride	2.8	0.50	mg/L	2.000		142	80-120			
Nitrogen, Nitrate (As N)	4.8	0.50	mg/L	5.000		96	80-120			
Nitrogen, Nitrite (As N)	2.2	0.10	mg/L	2.500		88	80-120			
Sulfate	65	5.0	mg/L	12.50	260000	NR	80-120			
Matrix Spike Dup (2109306-MSD1)				Source: 2110664-02		Prepared & Analyzed: 09/24/2021				
Chloride	16	1.0	mg/L	12.50	4.4	93	80-120	0.7	10	
Fluoride	1.7	0.50	mg/L	2.000	ND	87	80-120	0.9	10	
Nitrogen, Nitrate (As N)	5.1	0.50	mg/L	5.000	0.36	95	80-120	0.7	10	
Sulfate	26	5.0	mg/L	12.50	16	75	80-120	0.4	10	M2

Client: Arizona Minerals Inc.
Project: AMI-310
Work Order: 2110664
Date Received: 09/24/2021

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2109306 - E300.0 (2.1)										
Matrix Spike Dup (2109306-MSD2)		Source: 2110657-01			Prepared: 09/24/2021		Analyzed: 09/28/2021			
Chloride	12	1.0	mg/L	12.50		96	80-120	0.09	10	
Fluoride	2.8	0.50	mg/L	2.000		139	80-120	0.2	10	
Nitrogen, Nitrate (As N)	4.8	0.50	mg/L	5.000		95	80-120	0.09	10	
Nitrogen, Nitrite (As N)	2.3	0.10	mg/L	2.500		91	80-120	1	10	
Sulfate	58	5.0	mg/L	12.50	200000	NR	80-120		10	
Matrix Spike Dup (2109306-MSD3)		Source: 2110657-02			Prepared: 09/24/2021		Analyzed: 09/28/2021			
Chloride	12	1.0	mg/L	12.50		96	80-120	0.2	10	
Fluoride	2.8	0.50	mg/L	2.000		142	80-120	0.1	10	
Nitrogen, Nitrate (As N)	4.8	0.50	mg/L	5.000		96	80-120	0.3	10	
Nitrogen, Nitrite (As N)	2.2	0.10	mg/L	2.500		88	80-120	0.07	10	
Sulfate	64	5.0	mg/L	12.50	260000	NR	80-120		10	

January 24, 2022

Report to:

Kara Haas
South32
2210 E Ft. Lowell Rd.
Tucson, AZ 85719

Bill to:

Accounts Payable
South32
2210 E Fort Lowell Road
Tucson, AZ 85719

cc: Matthew Tooke

Project ID: 4542257445

ACZ Project ID: L70437

Kara Haas:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on December 11, 2021. This project has been assigned to ACZ's project number, L70437. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L70437. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after January 14, 2024. If the samples are determined to be hazardous, additional charges apply for disposal (typically \$11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.



Scott Habermehl has reviewed
and approved this report.



Arizona Minerals Inc.Project ID: 4542257445
Sample ID: MW-9-20211209ACZ Sample ID: **L70437-01**
Date Sampled: 12/09/21 15:40
Date Received: 12/11/21
Sample Matrix: *Groundwater*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation								12/21/21 10:36	wtc
Total Hot Plate Digestion	M200.2 ICP-MS								12/22/21 11:21	mfm/sc p
Total Hot Plate Digestion	M200.2 ICP								12/22/21 19:01	kja

Arizona Minerals Inc.

Project ID: 4542257445
 Sample ID: MW-9-20211209

ACZ Sample ID: **L70437-01**
 Date Sampled: 12/09/21 15:40
 Date Received: 12/11/21
 Sample Matrix: Groundwater

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	<0.05	U		mg/L	0.05	0.25	12/29/21 17:24	kja
Aluminum, total	M200.7 ICP	1	4.24		*	mg/L	0.05	0.25	12/29/21 7:03	jlw
Antimony, dissolved	M200.8 ICP-MS	1	<0.0004	U		mg/L	0.0004	0.002	01/20/22 19:19	mfm
Antimony, total	M200.8 ICP-MS	1	0.00079	B		mg/L	0.0004	0.002	12/29/21 13:07	mfm
Arsenic, dissolved	M200.8 ICP-MS	1	0.00998			mg/L	0.0002	0.001	01/11/22 14:59	cja/mfm
Arsenic, total	M200.8 ICP-MS	1	0.0122			mg/L	0.0002	0.001	12/29/21 13:07	mfm
Barium, dissolved	M200.7 ICP	1	0.0269	B		mg/L	0.007	0.035	12/29/21 17:24	kja
Barium, total	M200.7 ICP	1	0.0715			mg/L	0.007	0.035	12/29/21 7:03	jlw
Beryllium, dissolved	M200.8 ICP-MS	1	<0.00008	U	*	mg/L	0.00008	0.00025	01/11/22 14:59	cja/mfm
Beryllium, total	M200.8 ICP-MS	1	0.000131	B		mg/L	0.00008	0.00025	12/29/21 13:07	mfm
Boron, dissolved	M200.7 ICP	1	0.135			mg/L	0.03	0.1	12/29/21 17:24	kja
Boron, total	M200.7 ICP	1	0.133			mg/L	0.03	0.1	12/29/21 7:03	jlw
Cadmium, dissolved	M200.8 ICP-MS	1	<0.00005	U	*	mg/L	0.00005	0.00025	01/14/22 16:28	cja/mfm
Cadmium, total	M200.8 ICP-MS	1	0.00149			mg/L	0.00005	0.00025	12/29/21 13:07	mfm
Calcium, dissolved	M200.7 ICP	1	32.4			mg/L	0.1	0.5	12/29/21 17:24	kja
Calcium, total	M200.7 ICP	1	35.6			mg/L	0.1	0.5	12/29/21 7:03	jlw
Chromium, dissolved	M200.8 ICP-MS	1	<0.0005	U		mg/L	0.0005	0.002	01/11/22 14:59	cja/mfm
Chromium, total	M200.8 ICP-MS	1	0.00287			mg/L	0.0005	0.002	12/29/21 13:07	mfm
Cobalt, dissolved	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.05	12/29/21 17:24	kja
Cobalt, total	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.05	12/29/21 7:03	jlw
Copper, dissolved	M200.8 ICP-MS	1	<0.0008	U		mg/L	0.0008	0.002	01/11/22 14:59	cja/mfm
Copper, total	M200.8 ICP-MS	1	0.00785			mg/L	0.0008	0.002	12/29/21 13:07	mfm
Iron, dissolved	M200.7 ICP	1	0.136	B		mg/L	0.06	0.15	12/29/21 17:24	kja
Iron, total	M200.7 ICP	1	3.65			mg/L	0.06	0.15	12/29/21 7:03	jlw
Lead, dissolved	M200.8 ICP-MS	1	<0.0001	U	*	mg/L	0.0001	0.0005	01/18/22 11:51	kja
Lead, total	M200.8 ICP-MS	1	0.0293			mg/L	0.0001	0.0005	12/29/21 13:07	mfm
Magnesium, dissolved	M200.7 ICP	1	1.07			mg/L	0.2	1	12/29/21 17:24	kja
Magnesium, total	M200.7 ICP	1	2.32			mg/L	0.2	1	12/29/21 7:03	jlw
Manganese, dissolved	M200.7 ICP	1	0.503			mg/L	0.01	0.05	12/29/21 17:24	kja
Manganese, total	M200.7 ICP	1	0.585		*	mg/L	0.01	0.05	12/29/21 7:03	jlw
Mercury, dissolved	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	12/17/21 9:34	mlh
Mercury, total	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	12/20/21 16:17	mlh
Nickel, dissolved	M200.7 ICP	1	<0.008	U		mg/L	0.008	0.04	12/29/21 17:24	kja
Nickel, total	M200.7 ICP	1	<0.008	U		mg/L	0.008	0.04	12/29/21 7:03	jlw
Potassium, dissolved	M200.7 ICP	1	0.96	B		mg/L	0.2	1	12/29/21 17:24	kja
Potassium, total	M200.7 ICP	1	1.95			mg/L	0.2	1	12/29/21 7:03	jlw
Selenium, dissolved	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.00025	01/20/22 19:19	mfm
Selenium, total	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.00025	12/29/21 13:07	mfm
Silica, dissolved	M200.7 ICP	1	19.7			mg/L	0.2	1	12/29/21 17:24	kja
Silica, total	M200.7 ICP	1	36.1		*	mg/L	0.2	1	12/29/21 7:03	jlw
Silver, dissolved	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	01/14/22 16:28	cja/mfm
Silver, total	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	12/29/21 13:07	mfm
Sodium, dissolved	M200.7 ICP	1	77.3			mg/L	0.2	1	12/29/21 17:24	kja

Arizona Minerals Inc.

Project ID: 4542257445
 Sample ID: MW-9-20211209

ACZ Sample ID: **L70437-01**
 Date Sampled: 12/09/21 15:40
 Date Received: 12/11/21
 Sample Matrix: Groundwater

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sodium, total	M200.7 ICP	1	79.9			mg/L	0.2	1	12/29/21 7:03	jlw
Thallium, dissolved	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	01/11/22 14:59	rja/mfm
Thallium, total	M200.8 ICP-MS	1	0.00015	B		mg/L	0.0001	0.0005	12/29/21 13:07	mfm
Uranium, dissolved	M200.8 ICP-MS	1	0.00052			mg/L	0.0001	0.0005	01/11/22 14:59	rja/mfm
Uranium, total	M200.8 ICP-MS	1	0.00182			mg/L	0.0001	0.0005	12/29/21 13:07	mfm
Zinc, dissolved	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.05	12/29/21 17:24	kja
Zinc, total	M200.7 ICP	1	0.049	B		mg/L	0.02	0.05	12/29/21 7:03	jlw

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	72.2			mg/L	2	20	12/20/21 0:00	jck
Carbonate as CaCO3		1	<2	U		mg/L	2	20	12/20/21 0:00	jck
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	12/20/21 0:00	jck
Total Alkalinity		1	72.2			mg/L	2	20	12/20/21 0:00	jck
Cation-Anion Balance	Calculation									
Cation-Anion Balance			1.0			%			01/21/22 0:00	calc
Sum of Anions			5.1			meq/L			01/21/22 0:00	calc
Sum of Cations			5.2			meq/L			01/21/22 0:00	calc
Chloride	SM4500Cl-E	1	4.15			mg/L	0.5	2	01/04/22 14:04	md
Conductivity @25C	SM2510B	1	536			umhos/cm	1	10	12/20/21 22:10	jck
Cyanide, total	M335.4 - Colorimetric w/ distillation	0.5	<0.003	U	*	mg/L	0.003	0.01	12/22/21 16:01	bls/md
Fluoride	SM4500F-C	1	0.31	B		mg/L	0.15	0.35	01/05/22 15:51	eep
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		85			mg/L	0.2	5	01/21/22 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	<0.02	U	*	mg/L	0.02	0.1	12/30/21 1:02	pjb
Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	1	0.138	B	*	mg/L	0.05	0.2	12/21/21 16:50	syw
pH (lab)	SM4500H+ B									
pH		1	8.0	H		units	0.1	0.1	12/20/21 0:00	jck
pH measured at		1	22.4			C	0.1	0.1	12/20/21 0:00	jck
Residue, Filterable (TDS) @180C	SM2540C	1	352			mg/L	20	40	12/15/21 18:32	eep
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	5	169		*	mg/L	5	25	01/05/22 11:46	wtc
TDS (calculated)	Calculation		355			mg/L			01/21/22 0:00	calc
TDS (ratio - measured/calculated)	Calculation		0.99						01/21/22 0:00	calc

Arizona license number: AZ0102

Report Header Explanations

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>Lower</i>	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
<i>MDL</i>	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>Upper</i>	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

QC Sample Types

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
- (3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
- (4) EPA SW-846. Test Methods for Evaluating Solid Waste.
- (5) Standard Methods for the Examination of Water and Wastewater.

Comments

- (1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
- (3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
- (4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
- (5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click:

<https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf>

AZMINING

ACZ Project ID: **L70437**

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG533951													
WG533951PBW1	PBW	12/20/21 19:13				4	mg/L		-20	20			
WG533951LCSW3	LCSW	12/20/21 19:33	WC211215-1	820.0001		766	mg/L	93	90	110			
L70436-06DUP	DUP	12/20/21 22:01			158	158.5	mg/L				0	20	
WG533951LCSW6	LCSW	12/20/21 23:02	WC211215-1	820.0001		794.9	mg/L	97	90	110			
WG533951PBW2	PBW	12/20/21 23:10				4.5	mg/L		-20	20			
WG533951LCSW9	LCSW	12/21/21 2:37	WC211215-1	820.0001		772.4	mg/L	94	90	110			
WG533951PBW3	PBW	12/21/21 2:44				3.2	mg/L		-20	20			
WG533951LCSW12	LCSW	12/21/21 6:37	WC211215-1	820.0001		791.2	mg/L	96	90	110			
WG533951PBW4	PBW	12/21/21 6:44				3.5	mg/L		-20	20			
WG533951LCSW15	LCSW	12/21/21 10:28	WC211215-1	820.0001		783.5	mg/L	96	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534226													
WG534226ICV	ICV	12/29/21 16:48	II211214-2	2		1.977	mg/L	99	95	105			
WG534226ICB	ICB	12/29/21 16:55				U	mg/L		-0.15	0.15			
WG534226LFB	LFB	12/29/21 17:08	II211228-2	1.0008		1.023	mg/L	102	85	115			
L70563-02AS	AS	12/29/21 17:33	II211228-2	1.0008	.158	1.183	mg/L	102	85	115			
L70563-02ASD	ASD	12/29/21 17:37	II211228-2	1.0008	.158	1.176	mg/L	102	85	115	1	20	

Aluminum, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534166													
WG534166ICV	ICV	12/29/21 5:24	II211215-1	2		1.957	mg/L	98	95	105			
WG534166ICB	ICB	12/29/21 5:30				U	mg/L		-0.15	0.15			
WG534081LRB	LRB	12/29/21 5:43				U	mg/L		-0.11	0.11			
WG534081LFB	LFB	12/29/21 5:46	II211217-2	1.0008		1.043	mg/L	104	85	115			
L70436-06LFM	LFM	12/29/21 6:51	II2XWATER	2.0038	1.5	4.702	mg/L	160	70	130			M1
L70436-06LFMD	LFMD	12/29/21 7:00	II2XWATER	2.0038	1.5	4.68	mg/L	159	70	130	0	20	M1

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG535368													
WG535368ICV	ICV	01/20/22 19:06	MS220105-1	.0201		.01892	mg/L	94	90	110			
WG535368ICB	ICB	01/20/22 19:08				U	mg/L		-0.00088	0.00088			
WG535368LFB	LFB	01/20/22 19:10	MS211216-3	.01		.00906	mg/L	91	85	115			
L70383-01AS	AS	01/20/22 19:15	MS211216-3	.05	U	.047	mg/L	94	70	130			
L70383-01ASD	ASD	01/20/22 19:17	MS211216-3	.05	U	.04847	mg/L	97	70	130	3	20	

Antimony, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534224													
WG534224ICV	ICV	12/29/21 12:35	MS211013-2	.0201		.01867	mg/L	93	90	110			
WG534224ICB	ICB	12/29/21 12:37				U	mg/L		-0.0012	0.0012			
WG534043LRB	LRB	12/29/21 12:39				U	mg/L		-0.00088	0.00088			
WG534043LFB	LFB	12/29/21 12:41	MS211216-3	.01		.01034	mg/L	103	85	115			
L70593-06LFM	LFM	12/29/21 13:24	MS211216-3	.01	U	.01043	mg/L	104	70	130			
L70593-06LFMD	LFMD	12/29/21 13:25	MS211216-3	.01	U	.0106	mg/L	106	70	130	2	20	

AZMINING

ACZ Project ID: **L70437**

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Arsenic, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534783													
WG534783ICV	ICV	01/11/22 14:53	MS220105-1	.05		.05054	mg/L	101	90	110			
WG534783ICB	ICB	01/11/22 14:55				.00022	mg/L		-0.00044	0.00044			
WG534783LFB	LFB	01/11/22 14:57	MS211216-3	.05005		.04863	mg/L	97	85	115			
L70482-02AS	AS	01/11/22 15:08	MS211216-3	.05005	.00174	.05059	mg/L	98	70	130			
L70482-02ASD	ASD	01/11/22 15:10	MS211216-3	.05005	.00174	.05195	mg/L	100	70	130	3	20	

Arsenic, total

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534224													
WG534224ICV	ICV	12/29/21 12:35	MS211013-2	.05		.04877	mg/L	98	90	110			
WG534224ICB	ICB	12/29/21 12:37				U	mg/L		-0.0006	0.0006			
WG534043LRB	LRB	12/29/21 12:39				U	mg/L		-0.00044	0.00044			
WG534043LFB	LFB	12/29/21 12:41	MS211216-3	.05005		.04843	mg/L	97	85	115			
L70593-06LFM	LFM	12/29/21 13:24	MS211216-3	.05005	.00076	.04694	mg/L	92	70	130			
L70593-06LFMD	LFMD	12/29/21 13:25	MS211216-3	.05005	.00076	.04855	mg/L	95	70	130	3	20	

Barium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534226													
WG534226ICV	ICV	12/29/21 16:48	II211214-2	2		2.014	mg/L	101	95	105			
WG534226ICB	ICB	12/29/21 16:55				U	mg/L		-0.021	0.021			
WG534226LFB	LFB	12/29/21 17:08	II211228-2	.5		.497	mg/L	99	85	115			
L70563-02AS	AS	12/29/21 17:33	II211228-2	.5	.0405	.5387	mg/L	100	85	115			
L70563-02ASD	ASD	12/29/21 17:37	II211228-2	.5	.0405	.5333	mg/L	99	85	115	1	20	

Barium, total

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534166													
WG534166ICV	ICV	12/29/21 5:24	II211215-1	2		1.9775	mg/L	99	95	105			
WG534166ICB	ICB	12/29/21 5:30				U	mg/L		-0.021	0.021			
WG534081LRB	LRB	12/29/21 5:43				U	mg/L		-0.0154	0.0154			
WG534081LFB	LFB	12/29/21 5:46	II211217-2	.5		.4953	mg/L	99	85	115			
L70436-06LFM	LFM	12/29/21 6:51	II2XWATER	1.003	.0304	1.0486	mg/L	102	70	130			
L70436-06LFMD	LFMD	12/29/21 7:00	II2XWATER	1.003	.0304	1.0404	mg/L	101	70	130	1	20	

Beryllium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534783													
WG534783ICV	ICV	01/11/22 14:53	MS220105-1	.05		.051911	mg/L	104	90	110			
WG534783ICB	ICB	01/11/22 14:55				.00014	mg/L		-0.000176	0.000176			
WG534783LFB	LFB	01/11/22 14:57	MS211216-3	.05005		.048917	mg/L	98	85	115			
L70482-02AS	AS	01/11/22 15:08	MS211216-3	.05005	U	.047011	mg/L	94	70	130			
L70482-02ASD	ASD	01/11/22 15:10	MS211216-3	.05005	U	.048545	mg/L	97	70	130	3	20	

AZMINING

ACZ Project ID: **L70437**

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Beryllium, total

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534224													
WG534224ICV	ICV	12/29/21 12:35	MS211013-2	.05		.049908	mg/L	100	90	110			
WG534224ICB	ICB	12/29/21 12:37				U	mg/L		-0.00024	0.00024			
WG534043LRB	LRB	12/29/21 12:39				.000084	mg/L		-0.000176	0.000176			
WG534043LFB	LFB	12/29/21 12:41	MS211216-3	.05005		.048291	mg/L	96	85	115			
L70593-06LFM	LFM	12/29/21 13:24	MS211216-3	.05005	.00077	.039839	mg/L	78	70	130			
L70593-06LFMD	LFMD	12/29/21 13:25	MS211216-3	.05005	.00077	.040339	mg/L	79	70	130	1	20	

Boron, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534226													
WG534226ICV	ICV	12/29/21 16:48	II211214-2	2		1.999	mg/L	100	95	105			
WG534226ICB	ICB	12/29/21 16:55				U	mg/L		-0.09	0.09			
WG534226LFB	LFB	12/29/21 17:08	II211228-2	.5005		.51	mg/L	102	85	115			
L70563-02AS	AS	12/29/21 17:33	II211228-2	.5005	U	.531	mg/L	106	85	115			
L70563-02ASD	ASD	12/29/21 17:37	II211228-2	.5005	U	.528	mg/L	105	85	115	1	20	

Boron, total

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534166													
WG534166ICV	ICV	12/29/21 5:24	II211215-1	2		2.01	mg/L	101	95	105			
WG534166ICB	ICB	12/29/21 5:30				U	mg/L		-0.09	0.09			
WG534081LRB	LRB	12/29/21 5:43				U	mg/L		-0.066	0.066			
WG534081LFB	LFB	12/29/21 5:46	II211217-2	.5005		.513	mg/L	102	85	115			
L70436-06LFM	LFM	12/29/21 6:51	II2XWATER	1.001	U	1.099	mg/L	110	70	130			
L70436-06LFMD	LFMD	12/29/21 7:00	II2XWATER	1.001	U	1.086	mg/L	108	70	130	1	20	

Cadmium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534897													
WG534897ICV	ICV	01/14/22 16:21	MS220105-1	.05		.045316	mg/L	91	90	110			
WG534897ICB	ICB	01/14/22 16:24				U	mg/L		-0.00011	0.00011			
WG534897LFB	LFB	01/14/22 16:26	MS211216-3	.05005		.059301	mg/L	118	85	115			LA
L70482-02AS	AS	01/14/22 16:36	MS211216-3	.05005	.000089	.068746	mg/L	137	70	130			M1
L70482-02ASD	ASD	01/14/22 16:38	MS211216-3	.05005	.000089	.07012	mg/L	140	70	130	2	20	M1

Cadmium, total

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534224													
WG534224ICV	ICV	12/29/21 12:35	MS211013-2	.05		.050062	mg/L	100	90	110			
WG534224ICB	ICB	12/29/21 12:37				.000055	mg/L		-0.00015	0.00015			
WG534043LRB	LRB	12/29/21 12:39				.000071	mg/L		-0.00011	0.00011			
WG534043LFB	LFB	12/29/21 12:41	MS211216-3	.05005		.048017	mg/L	96	85	115			
L70593-06LFM	LFM	12/29/21 13:24	MS211216-3	.05005	.00338	.05112	mg/L	95	70	130			
L70593-06LFMD	LFMD	12/29/21 13:25	MS211216-3	.05005	.00338	.051214	mg/L	96	70	130	0	20	

AZMINING

ACZ Project ID: **L70437**

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534226													
WG534226ICV	ICV	12/29/21 16:48	II211214-2	100		99.47	mg/L	99	95	105			
WG534226ICB	ICB	12/29/21 16:55				U	mg/L		-0.3	0.3			
WG534226LFB	LFB	12/29/21 17:08	II211228-2	67.98808		69.33	mg/L	102	85	115			
L70563-02AS	AS	12/29/21 17:33	II211228-2	67.98808	7.18	77.27	mg/L	103	85	115			
L70563-02ASD	ASD	12/29/21 17:37	II211228-2	67.98808	7.18	76.91	mg/L	103	85	115	0	20	

Calcium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534166													
WG534166ICV	ICV	12/29/21 5:24	II211215-1	100		98.98	mg/L	99	95	105			
WG534166ICB	ICB	12/29/21 5:30				U	mg/L		-0.3	0.3			
WG534081LRB	LRB	12/29/21 5:43				U	mg/L		-0.22	0.22			
WG534081LFB	LFB	12/29/21 5:46	II211217-2	67.98808		71.39	mg/L	105	85	115			
L70436-06LFM	LFM	12/29/21 6:51	II2XWATER	136.0667	514	659.8	mg/L	107	70	130			
L70436-06LFMD	LFMD	12/29/21 7:00	II2XWATER	136.0667	514	676.6	mg/L	120	70	130	3	20	

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534429													
WG534429ICV	ICV	01/04/22 13:52	WI210503-1	54.89		55.18	mg/L	101	90	110			
WG534429ICB	ICB	01/04/22 13:52				1.29	mg/L		-1.5	1.5			
WG534429LFB1	LFB	01/04/22 13:53	WI210908-11	29.97		28.95	mg/L	97	90	110			
L70436-03AS	AS	01/04/22 14:01	WI210908-11	29.97	6.64	36.97	mg/L	101	90	110			
L70436-06DUP	DUP	01/04/22 14:03			11.1	11.3	mg/L				2	20	
WG534429LFB2	LFB	01/04/22 14:08	WI210908-11	29.97		28.69	mg/L	96	90	110			

Chromium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534783													
WG534783ICV	ICV	01/11/22 14:53	MS220105-1	.05		.05153	mg/L	103	90	110			
WG534783ICB	ICB	01/11/22 14:55				U	mg/L		-0.0011	0.0011			
WG534783LFB	LFB	01/11/22 14:57	MS211216-3	.05		.04806	mg/L	96	85	115			
L70482-02AS	AS	01/11/22 15:08	MS211216-3	.05	U	.04575	mg/L	92	70	130			
L70482-02ASD	ASD	01/11/22 15:10	MS211216-3	.05	U	.04661	mg/L	93	70	130	2	20	

Chromium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534224													
WG534224ICV	ICV	12/29/21 12:35	MS211013-2	.05		.0497	mg/L	99	90	110			
WG534224ICB	ICB	12/29/21 12:37				U	mg/L		-0.0015	0.0015			
WG534043LRB	LRB	12/29/21 12:39				U	mg/L		-0.0011	0.0011			
WG534043LFB	LFB	12/29/21 12:41	MS211216-3	.05		.04772	mg/L	95	85	115			
L70593-06LFM	LFM	12/29/21 13:24	MS211216-3	.05	.0005	.04612	mg/L	91	70	130			
L70593-06LFMD	LFMD	12/29/21 13:25	MS211216-3	.05	.0005	.04752	mg/L	94	70	130	3	20	

AZMINING

ACZ Project ID: **L70437**

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534226													
WG534226ICV	ICV	12/29/21 16:48	II211214-2	2.01		1.942	mg/L	97	95	105			
WG534226ICB	ICB	12/29/21 16:55				U	mg/L		-0.06	0.06			
WG534226LFB	LFB	12/29/21 17:08	II211228-2	.5005		.489	mg/L	98	85	115			
L70563-02AS	AS	12/29/21 17:33	II211228-2	.5005	U	.496	mg/L	99	85	115			
L70563-02ASD	ASD	12/29/21 17:37	II211228-2	.5005	U	.492	mg/L	98	85	115	1	20	

Cobalt, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534166													
WG534166ICV	ICV	12/29/21 5:24	II211215-1	2.01		1.964	mg/L	98	95	105			
WG534166ICB	ICB	12/29/21 5:30				U	mg/L		-0.06	0.06			
WG534081LRB	LRB	12/29/21 5:43				U	mg/L		-0.044	0.044			
WG534081LFB	LFB	12/29/21 5:46	II211217-2	.5005		.489	mg/L	98	85	115			
L70436-06LFM	LFM	12/29/21 6:51	II2XWATER	1.005	U	.998	mg/L	99	70	130			
L70436-06LFMD	LFMD	12/29/21 7:00	II2XWATER	1.005	U	1.003	mg/L	100	70	130	0	20	

Conductivity @25C SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG533951													
WG533951LCSW2	LCSW	12/20/21 19:21	PCN64229	1409		1440	umhos/cm	102	90	110			
L70436-06DUP	DUP	12/20/21 22:01			2970	2970	umhos/cm				0	20	
WG533951LCSW5	LCSW	12/20/21 22:48	PCN64229	1409		1431	umhos/cm	102	90	110			
WG533951LCSW8	LCSW	12/21/21 2:24	PCN64229	1409		1426	umhos/cm	101	90	110			
WG533951LCSW11	LCSW	12/21/21 6:23	PCN64229	1409		1418	umhos/cm	101	90	110			
WG533951LCSW14	LCSW	12/21/21 10:16	PCN64229	1409		1412	umhos/cm	100	90	110			

Copper, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534783													
WG534783ICV	ICV	01/11/22 14:53	MS220105-1	.05		.05097	mg/L	102	90	110			
WG534783ICB	ICB	01/11/22 14:55				U	mg/L		-0.00176	0.00176			
WG534783LFB	LFB	01/11/22 14:57	MS211216-3	.05		.04683	mg/L	94	85	115			
L70482-02AS	AS	01/11/22 15:08	MS211216-3	.05	U	.0444	mg/L	89	70	130			
L70482-02ASD	ASD	01/11/22 15:10	MS211216-3	.05	U	.04477	mg/L	90	70	130	1	20	

Copper, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534224													
WG534224ICV	ICV	12/29/21 12:35	MS211013-2	.05		.04992	mg/L	100	90	110			
WG534224ICB	ICB	12/29/21 12:37				U	mg/L		-0.0024	0.0024			
WG534043LRB	LRB	12/29/21 12:39				U	mg/L		-0.00176	0.00176			
WG534043LFB	LFB	12/29/21 12:41	MS211216-3	.05		.04848	mg/L	97	85	115			
L70593-06LFM	LFM	12/29/21 13:24	MS211216-3	.05	.0594	.10273	mg/L	87	70	130			
L70593-06LFMD	LFMD	12/29/21 13:25	MS211216-3	.05	.0594	.10493	mg/L	91	70	130	2	20	

AZMINING

ACZ Project ID: **L70437**

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Cyanide, total

M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534089													
WG534089ICV	ICV	12/22/21 15:54	WI211209-3	.3003		.3062	mg/L	102	90	110			
WG534089ICB	ICB	12/22/21 15:55				U	mg/L		-0.003	0.003			
WG533966LRB	LRB	12/22/21 15:56				U	mg/L		-0.003	0.003			
WG533966LFB	LFB	12/22/21 15:57	WI211208-2	.2		.2113	mg/L	106	90	110			
L70436-05DUP	DUP	12/22/21 15:58			U	U	mg/L				0	20	RA
L70436-06LFM	LFM	12/22/21 16:00	WI211208-2	.2	.0041	.1529	mg/L	74	90	110			M2

Fluoride

SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534489													
WG534489ICV	ICV	01/05/22 14:26	WC220104-1	2.008		2.15	mg/L	107	90	110			
WG534489ICB	ICB	01/05/22 14:30				U	mg/L		-0.3	0.3			
WG534489LFB1	LFB	01/05/22 14:39	WC220104-2	5.02		5.33	mg/L	106	90	110			
L70436-06AS	AS	01/05/22 15:35	WC220104-2	5.02	1.13	6.31	mg/L	103	90	110			
L70436-06ASD	ASD	01/05/22 15:43	WC220104-2	5.02	1.13	6.22	mg/L	101	90	110	1	20	
WG534489LFB3	LFB	01/05/22 21:15	WC220104-2	5.02		5.16	mg/L	103	90	110			

Iron, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534226													
WG534226ICV	ICV	12/29/21 16:48	II211214-2	2		1.95	mg/L	98	95	105			
WG534226ICB	ICB	12/29/21 16:55				U	mg/L		-0.18	0.18			
WG534226LFB	LFB	12/29/21 17:08	II211228-2	1.0001		.995	mg/L	99	85	115			
L70563-02AS	AS	12/29/21 17:33	II211228-2	1.0001	.133	1.119	mg/L	99	85	115			
L70563-02ASD	ASD	12/29/21 17:37	II211228-2	1.0001	.133	1.109	mg/L	98	85	115	1	20	

Iron, total

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534166													
WG534166ICV	ICV	12/29/21 5:24	II211215-1	2		1.945	mg/L	97	95	105			
WG534166ICB	ICB	12/29/21 5:30				U	mg/L		-0.18	0.18			
WG534081LRB	LRB	12/29/21 5:43				U	mg/L		-0.132	0.132			
WG534081LFB	LFB	12/29/21 5:46	II211217-2	1.0001		1.049	mg/L	105	85	115			
L70436-06LFM	LFM	12/29/21 6:51	II2XWATER	2.0022	3.79	6.15	mg/L	118	70	130			
L70436-06LFMD	LFMD	12/29/21 7:00	II2XWATER	2.0022	3.79	6.154	mg/L	118	70	130	0	20	

Lead, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG535154													
WG535154ICV	ICV	01/18/22 11:41	MS220105-1	.05		.05283	mg/L	106	90	110			
WG535154ICB	ICB	01/18/22 11:43				U	mg/L		-0.00022	0.00022			
WG535154LFB	LFB	01/18/22 11:45	MS211216-3	.05005		.05935	mg/L	119	85	115			LA
L70521-03AS	AS	01/18/22 11:59	MS211216-3	.05005	.00017	.06164	mg/L	123	70	130			
L70521-03ASD	ASD	01/18/22 12:02	MS211216-3	.05005	.00017	.06192	mg/L	123	70	130	0	20	

AZMINING

ACZ Project ID: **L70437**

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Lead, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534224													
WG534224ICV	ICV	12/29/21 12:35	MS211013-2	.05		.05161	mg/L	103	90	110			
WG534224ICB	ICB	12/29/21 12:37				.00014	mg/L		-0.0003	0.0003			
WG534043LRB	LRB	12/29/21 12:39				.00017	mg/L		-0.00022	0.00022			
WG534043LFB	LFB	12/29/21 12:41	MS211216-3	.05005		.04977	mg/L	99	85	115			
L70593-06LFM	LFM	12/29/21 13:24	MS211216-3	.05005	.00024	.05178	mg/L	103	70	130			
L70593-06LFMD	LFMD	12/29/21 13:25	MS211216-3	.05005	.00024	.05173	mg/L	103	70	130	0	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534226													
WG534226ICV	ICV	12/29/21 16:48	II211214-2	100		96.79	mg/L	97	95	105			
WG534226ICB	ICB	12/29/21 16:55				U	mg/L		-0.6	0.6			
WG534226LFB	LFB	12/29/21 17:08	II211228-2	49.99847		49.11	mg/L	98	85	115			
L70563-02AS	AS	12/29/21 17:33	II211228-2	49.99847	2.28	52.03	mg/L	100	85	115			
L70563-02ASD	ASD	12/29/21 17:37	II211228-2	49.99847	2.28	51.88	mg/L	99	85	115	0	20	

Magnesium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534166													
WG534166ICV	ICV	12/29/21 5:24	II211215-1	100		95.33	mg/L	95	95	105			
WG534166ICB	ICB	12/29/21 5:30				U	mg/L		-0.6	0.6			
WG534081LRB	LRB	12/29/21 5:43				U	mg/L		-0.44	0.44			
WG534081LFB	LFB	12/29/21 5:46	II211217-2	49.99847		50.26	mg/L	101	85	115			
L70436-06LFM	LFM	12/29/21 6:51	II2XWATER	100.1149	200	304.8	mg/L	105	70	130			
L70436-06LFMD	LFMD	12/29/21 7:00	II2XWATER	100.1149	200	310.8	mg/L	111	70	130	2	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534226													
WG534226ICV	ICV	12/29/21 16:48	II211214-2	2		1.943	mg/L	97	95	105			
WG534226ICB	ICB	12/29/21 16:55				U	mg/L		-0.03	0.03			
WG534226LFB	LFB	12/29/21 17:08	II211228-2	.499		.493	mg/L	99	85	115			
L70563-02AS	AS	12/29/21 17:33	II211228-2	.499	U	.496	mg/L	99	85	115			
L70563-02ASD	ASD	12/29/21 17:37	II211228-2	.499	U	.492	mg/L	99	85	115	1	20	

Manganese, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534166													
WG534166ICV	ICV	12/29/21 5:24	II211215-1	2		1.934	mg/L	97	95	105			
WG534166ICB	ICB	12/29/21 5:30				U	mg/L		-0.03	0.03			
WG534081LRB	LRB	12/29/21 5:43				U	mg/L		-0.022	0.022			
WG534081LFB	LFB	12/29/21 5:46	II211217-2	.499		.497	mg/L	100	85	115			
L70436-06LFM	LFM	12/29/21 6:51	II2XWATER	1	20.6	21.56	mg/L	96	70	130			
L70436-06LFMD	LFMD	12/29/21 7:00	II2XWATER	1	20.6	22.16	mg/L	156	70	130	3	20	M3

AZMINING

ACZ Project ID: **L70437**

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Mercury, dissolved

M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG533707													
WG533707ICV	ICV	12/17/21 8:20	HG211213-3	.00501		.00524	mg/L	105	95	105			
WG533707ICB	ICB	12/17/21 8:21				U	mg/L		-0.0002	0.0002			
WG533708													
WG533708LRB	LRB	12/17/21 9:32				U	mg/L		-0.00044	0.00044			
WG533708LFB	LFB	12/17/21 9:33	HG211213-6	.002002		.002	mg/L	100	85	115			
L70437-01LFM	LFM	12/17/21 9:35	HG211213-6	.002002	U	.00209	mg/L	104	85	115			
L70437-01LFMD	LFMD	12/17/21 9:36	HG211213-6	.002002	U	.00217	mg/L	108	85	115	4	20	

Mercury, total

M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG533892													
WG533892ICV	ICV	12/20/21 13:49	HG211213-3	.00501		.00521	mg/L	104	95	105			
WG533892ICB	ICB	12/20/21 13:49				U	mg/L		-0.0002	0.0002			
WG533916													
WG533916LRB	LRB	12/20/21 16:10				U	mg/L		-0.00044	0.00044			
WG533916LFB	LFB	12/20/21 16:11	HG211213-6	.002002		.00199	mg/L	99	85	115			
L70436-06LFM	LFM	12/20/21 16:15	HG211213-6	.002002	U	.00198	mg/L	99	85	115			
L70436-06LFMD	LFMD	12/20/21 16:16	HG211213-6	.002002	U	.00203	mg/L	101	85	115	2	20	

Nickel, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534226													
WG534226ICV	ICV	12/29/21 16:48	II211214-2	2		2.0008	mg/L	100	95	105			
WG534226ICB	ICB	12/29/21 16:55				U	mg/L		-0.024	0.024			
WG534226LFB	LFB	12/29/21 17:08	II211228-2	.5		.5065	mg/L	101	85	115			
L70563-02AS	AS	12/29/21 17:33	II211228-2	.5	U	.5151	mg/L	103	85	115			
L70563-02ASD	ASD	12/29/21 17:37	II211228-2	.5	U	.5083	mg/L	102	85	115	1	20	

Nickel, total

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534166													
WG534166ICV	ICV	12/29/21 5:24	II211215-1	2		1.99	mg/L	100	95	105			
WG534166ICB	ICB	12/29/21 5:30				U	mg/L		-0.024	0.024			
WG534081LRB	LRB	12/29/21 5:43				U	mg/L		-0.0176	0.0176			
WG534081LFB	LFB	12/29/21 5:46	II211217-2	.5		.5129	mg/L	103	85	115			
L70436-06LFM	LFM	12/29/21 6:51	II2XWATER	.999	.0536	1.0548	mg/L	100	70	130			
L70436-06LFMD	LFMD	12/29/21 7:00	II2XWATER	.999	.0536	1.059	mg/L	101	70	130	0	20	

AZMINING

ACZ Project ID: **L70437**

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534256													
WG534256ICV	ICV	12/29/21 23:20	WI211205-1	2.4161		2.339	mg/L	97	90	110			
WG534256ICB	ICB	12/29/21 23:22				U	mg/L		-0.02	0.02			
WG534257													
WG534257LFB1	LFB	12/30/21 0:50	WI211001-5	2		1.977	mg/L	99	90	110			
L70436-06DUP	DUP	12/30/21 0:59			U	U	mg/L				0	20	RA
L70436-06AS	AS	12/30/21 1:00	WI211001-5	2	U	2.139	mg/L	107	90	110			
WG534257LFB2	LFB	12/30/21 1:31	WI211001-5	2		1.922	mg/L	96	90	110			

Nitrogen, ammonia M350.1 Auto Salicylate w/gas diffusion

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG533932													
WG533932ICV	ICV	12/20/21 19:55	WI211206-3	12.024		12.109	mg/L	101	90	110			
WG533932ICB	ICB	12/20/21 19:57				U	mg/L		-0.05	0.05			
WG533932LFB1	LFB	12/20/21 19:58	WI210901-5	10		9.658	mg/L	97	90	110			
WG533932ICV1	ICV	12/21/21 16:28	WI211206-3	12.024		11.545	mg/L	96	90	110			
WG533932ICB1	ICB	12/21/21 16:29				U	mg/L		-0.05	0.05			
WG533932LFB2	LFB	12/21/21 16:39	WI210901-5	10		10.009	mg/L	100	90	110			
L70489-01AS	AS	12/21/21 16:57	WI210901-5	10	U	9.979	mg/L	100	90	110			
L70490-01DUP	DUP	12/21/21 17:00			U	U	mg/L				0	20	RA

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG533951													
WG533951LCSW1	LCSW	12/20/21 19:19	PCN62948	6		6.1	units	102	5.9	6.1			
L70436-06DUP	DUP	12/20/21 22:01			7.8	7.8	units				0	20	
WG533951LCSW4	LCSW	12/20/21 22:46	PCN62948	6		6.1	units	102	5.9	6.1			
WG533951LCSW7	LCSW	12/21/21 2:22	PCN62948	6		6.1	units	102	5.9	6.1			
WG533951LCSW10	LCSW	12/21/21 6:21	PCN62948	6		6.1	units	102	5.9	6.1			
WG533951LCSW13	LCSW	12/21/21 10:14	PCN62948	6		6.1	units	102	5.9	6.1			

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534226													
WG534226ICV	ICV	12/29/21 16:48	II211214-2	20		19.94	mg/L	100	95	105			
WG534226ICB	ICB	12/29/21 16:55				U	mg/L		-0.6	0.6			
WG534226LFB	LFB	12/29/21 17:08	II211228-2	99.96008		100.2	mg/L	100	85	115			
L70563-02AS	AS	12/29/21 17:33	II211228-2	99.96008	2.15	103.9	mg/L	102	85	115			
L70563-02ASD	ASD	12/29/21 17:37	II211228-2	99.96008	2.15	103.4	mg/L	101	85	115	0	20	

AZMINING

ACZ Project ID: **L70437**

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Potassium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534166													
WG534166ICV	ICV	12/29/21 5:24	II211215-1	20		19.63	mg/L	98	95	105			
WG534166ICB	ICB	12/29/21 5:30				U	mg/L		-0.6	0.6			
WG534081LRB	LRB	12/29/21 5:43				U	mg/L		-0.44	0.44			
WG534081LFB	LFB	12/29/21 5:46	II211217-2	99.96008		102.2	mg/L	102	85	115			
L70436-06LFM	LFM	12/29/21 6:51	II2XWATER	200.0188	6.55	218.8	mg/L	106	70	130			
L70436-06LFMD	LFMD	12/29/21 7:00	II2XWATER	200.0188	6.55	219	mg/L	106	70	130	0	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG533641													
WG533641PBW	PBW	12/15/21 18:00				U	mg/L		-20	20			
WG533641LCSW	LCSW	12/15/21 18:02	PCN64712	1000		986	mg/L	99	80	120			
L70436-06DUP	DUP	12/15/21 18:30			2980	2954	mg/L				1	10	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG535368													
WG535368ICV	ICV	01/20/22 19:06	MS220105-1	.05		.05218	mg/L	104	90	110			
WG535368ICB	ICB	01/20/22 19:08				U	mg/L		-0.00022	0.00022			
WG535368LFB	LFB	01/20/22 19:10	MS211216-3	.05		.04387	mg/L	88	85	115			
L70383-01AS	AS	01/20/22 19:15	MS211216-3	.25	.0278	.28985	mg/L	105	70	130			
L70383-01ASD	ASD	01/20/22 19:17	MS211216-3	.25	.0278	.28877	mg/L	104	70	130	0	20	

Selenium, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534224													
WG534224ICV	ICV	12/29/21 12:35	MS211013-2	.05		.04912	mg/L	98	90	110			
WG534224ICB	ICB	12/29/21 12:37				U	mg/L		-0.0003	0.0003			
WG534043LRB	LRB	12/29/21 12:39				U	mg/L		-0.00022	0.00022			
WG534043LFB	LFB	12/29/21 12:41	MS211216-3	.05		.04842	mg/L	97	85	115			
L70593-06LFM	LFM	12/29/21 13:24	MS211216-3	.05	.00014	.04862	mg/L	97	70	130			
L70593-06LFMD	LFMD	12/29/21 13:25	MS211216-3	.05	.00014	.04966	mg/L	99	70	130	2	20	

Silica, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534226													
WG534226ICV	ICV	12/29/21 16:48	II211214-2	42.8		43.35	mg/L	101	95	105			
WG534226ICB	ICB	12/29/21 16:55				U	mg/L		-0.6	0.6			
WG534226LFB	LFB	12/29/21 17:08	II211228-2	21.404		21.73	mg/L	102	85	115			
L70563-02AS	AS	12/29/21 17:33	II211228-2	21.404	9.3	31.51	mg/L	104	85	115			
L70563-02ASD	ASD	12/29/21 17:37	II211228-2	21.404	9.3	31.24	mg/L	103	85	115	1	20	

AZMINING

ACZ Project ID: **L70437**

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Silica, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534166													
WG534166ICV	ICV	12/29/21 5:24	II211215-1	42.8		42.79	mg/L	100	95	105			
WG534166ICB	ICB	12/29/21 5:30				U	mg/L		-0.6	0.6			
WG534081LRB	LRB	12/29/21 5:43				U	mg/L		-0.44	0.44			
WG534081LFB	LFB	12/29/21 5:46	II211217-2	21.404		21.86	mg/L	102	85	115			
L70436-06LFM	LFM	12/29/21 6:51	II2XWATER	42.83	32.6	61.36	mg/L	67	70	130			M2
L70436-06LFMD	LFMD	12/29/21 7:00	II2XWATER	42.83	32.6	60.74	mg/L	66	70	130	1	20	M2

Silver, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534897													
WG534897ICV	ICV	01/14/22 16:21	MS220105-1	.02		.01841	mg/L	92	90	110			
WG534897ICB	ICB	01/14/22 16:24				U	mg/L		-0.00022	0.00022			
WG534897LFB	LFB	01/14/22 16:26	MS211216-3	.01		.0096	mg/L	96	85	115			
L70482-02AS	AS	01/14/22 16:36	MS211216-3	.01	U	.00903	mg/L	90	70	130			
L70482-02ASD	ASD	01/14/22 16:38	MS211216-3	.01	U	.00907	mg/L	91	70	130	0	20	

Silver, total M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534224													
WG534224ICV	ICV	12/29/21 12:35	MS211013-2	.02		.0208	mg/L	104	90	110			
WG534224ICB	ICB	12/29/21 12:37				U	mg/L		-0.0003	0.0003			
WG534043LRB	LRB	12/29/21 12:39				U	mg/L		-0.00022	0.00022			
WG534043LFB	LFB	12/29/21 12:41	MS211216-3	.01		.00988	mg/L	99	85	115			
L70593-06LFM	LFM	12/29/21 13:24	MS211216-3	.01	U	.00889	mg/L	89	70	130			
L70593-06LFMD	LFMD	12/29/21 13:25	MS211216-3	.01	U	.00902	mg/L	90	70	130	1	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534226													
WG534226ICV	ICV	12/29/21 16:48	II211214-2	100		100.38	mg/L	100	95	105			
WG534226ICB	ICB	12/29/21 16:55				U	mg/L		-0.6	0.6			
WG534226LFB	LFB	12/29/21 17:08	II211228-2	100.0086		100.9	mg/L	101	85	115			
L70563-02AS	AS	12/29/21 17:33	II211228-2	100.0086	16.1	117.7	mg/L	102	85	115			
L70563-02ASD	ASD	12/29/21 17:37	II211228-2	100.0086	16.1	117.2	mg/L	101	85	115	0	20	

Sodium, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534166													
WG534166ICV	ICV	12/29/21 5:24	II211215-1	100		98.92	mg/L	99	95	105			
WG534166ICB	ICB	12/29/21 5:30				U	mg/L		-0.6	0.6			
WG534081LRB	LRB	12/29/21 5:43				U	mg/L		-0.44	0.44			
WG534081LFB	LFB	12/29/21 5:46	II211217-2	100.0086		101.6	mg/L	102	85	115			
L70436-06LFM	LFM	12/29/21 6:51	II2XWATER	200.0124	34.2	246.2	mg/L	106	70	130			
L70436-06LFMD	LFMD	12/29/21 7:00	II2XWATER	200.0124	34.2	246.6	mg/L	106	70	130	0	20	

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ACZ Project ID: **L70437**

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Sulfate

D516-02/-07/-11 - TURBIDIMETRIC

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534438													
WG534438ICB	ICB	01/05/22 10:42				U	mg/L		-3	3			
WG534438ICV	ICV	01/05/22 10:42	WI211230-3	19.9		20.6	mg/L	104	90	110			
L70405-02AS	AS	01/05/22 11:46	SO4TURB25X	50	4370	4453.6	mg/L	167	90	110			M3
WG534438LFB	LFB	01/05/22 11:47	WI211230-5	9.95		9.2	mg/L	92	90	110			
L70436-06DUP	DUP	01/05/22 13:04			1940	1918.4	mg/L				1	20	

Thallium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534783													
WG534783ICV	ICV	01/11/22 14:53	MS220105-1	.05		.05403	mg/L	108	90	110			
WG534783ICB	ICB	01/11/22 14:55				.00014	mg/L		-0.00022	0.00022			
WG534783LFB	LFB	01/11/22 14:57	MS211216-3	.05		.04888	mg/L	98	85	115			
L70482-02AS	AS	01/11/22 15:08	MS211216-3	.05	U	.05161	mg/L	103	70	130			
L70482-02ASD	ASD	01/11/22 15:10	MS211216-3	.05	U	.05123	mg/L	102	70	130	1	20	

Thallium, total

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534224													
WG534224ICV	ICV	12/29/21 12:35	MS211013-2	.05		.05216	mg/L	104	90	110			
WG534224ICB	ICB	12/29/21 12:37				U	mg/L		-0.0003	0.0003			
WG534043LRB	LRB	12/29/21 12:39				U	mg/L		-0.00022	0.00022			
WG534043LFB	LFB	12/29/21 12:41	MS211216-3	.05		.04766	mg/L	95	85	115			
L70593-06LFM	LFM	12/29/21 13:24	MS211216-3	.05	.00014	.05107	mg/L	102	70	130			
L70593-06LFMD	LFMD	12/29/21 13:25	MS211216-3	.05	.00014	.05091	mg/L	102	70	130	0	20	

Uranium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534783													
WG534783ICV	ICV	01/11/22 14:53	MS220105-1	.05		.05264	mg/L	105	90	110			
WG534783ICB	ICB	01/11/22 14:55				.00013	mg/L		-0.00022	0.00022			
WG534783LFB	LFB	01/11/22 14:57	MS211216-3	.05		.04859	mg/L	97	85	115			
L70482-02AS	AS	01/11/22 15:08	MS211216-3	.05	.00874	.06193	mg/L	106	70	130			
L70482-02ASD	ASD	01/11/22 15:10	MS211216-3	.05	.00874	.06166	mg/L	106	70	130	0	20	

Uranium, total

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534224													
WG534224ICV	ICV	12/29/21 12:35	MS211013-2	.05		.0515	mg/L	103	90	110			
WG534224ICB	ICB	12/29/21 12:37				U	mg/L		-0.0003	0.0003			
WG534043LRB	LRB	12/29/21 12:39				U	mg/L		-0.00022	0.00022			
WG534043LFB	LFB	12/29/21 12:41	MS211216-3	.05		.04902	mg/L	98	85	115			
L70593-06LFM	LFM	12/29/21 13:24	MS211216-3	.05	.00012	.056	mg/L	112	70	130			
L70593-06LFMD	LFMD	12/29/21 13:25	MS211216-3	.05	.00012	.05593	mg/L	112	70	130	0	20	

AZMINING

ACZ Project ID: **L70437**

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Zinc, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534226													
WG534226ICV	ICV	12/29/21 16:48	II211214-2	2		1.981	mg/L	99	95	105			
WG534226ICB	ICB	12/29/21 16:55				U	mg/L		-0.06	0.06			
WG534226LFB	LFB	12/29/21 17:08	II211228-2	.50045		.513	mg/L	103	85	115			
L70563-02AS	AS	12/29/21 17:33	II211228-2	.50045	U	.529	mg/L	106	85	115			
L70563-02ASD	ASD	12/29/21 17:37	II211228-2	.50045	U	.525	mg/L	105	85	115	1	20	

Zinc, total

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG534166													
WG534166ICV	ICV	12/29/21 5:24	II211215-1	2		1.958	mg/L	98	95	105			
WG534166ICB	ICB	12/29/21 5:30				U	mg/L		-0.06	0.06			
WG534081LRB	LRB	12/29/21 5:43				U	mg/L		-0.044	0.044			
WG534081LFB	LFB	12/29/21 5:46	II211217-2	.50045		.531	mg/L	106	85	115			
L70436-06LFM	LFM	12/29/21 6:51	II2XWATER	.9884	4.36	5.412	mg/L	106	70	130			
L70436-06LFMD	LFMD	12/29/21 7:00	II2XWATER	.9884	4.36	5.558	mg/L	121	70	130	3	20	

Arizona Minerals Inc.

ACZ Project ID: **L70437**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L70437-01	WG534166	Aluminum, total	M200.7 ICP	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG534783	Beryllium, dissolved	M200.8 ICP-MS	VC	CCV recovery was above the acceptance limits. Target analyte was not detected in the sample [$<$ MDL].
	WG534897	Cadmium, dissolved	M200.8 ICP-MS	LA	Recovery for target analyte in the control sample (LCS or LFB) exceeded the acceptance criteria. Target analyte was not detected in the sample [$<$ MDL].
			M200.8 ICP-MS	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG534089	Cyanide, total	M335.4 - Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation ($<$ 10x MDL).
	WG535154	Lead, dissolved	M200.8 ICP-MS	LA	Recovery for target analyte in the control sample (LCS or LFB) exceeded the acceptance criteria. Target analyte was not detected in the sample [$<$ MDL].
	WG534166	Manganese, total	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG534257	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation ($<$ 10x MDL).
	WG533932	Nitrogen, ammonia	M350.1 Auto Salicylate w/gas diffusion	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation ($<$ 10x MDL).
	WG534166	Silica, total	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZS	Digestion procedures have the potential to trigger silica polymerization and precipitation, leading to low biased results. Silica chemistry is complex and polymerization kinetics are unpredictable. Dissolved and/or acid soluble silica analyses may provide more accurate measurements.
	WG534438	Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.

Arizona Minerals Inc.

ACZ Project ID: **L70437**

No certification qualifiers associated with this analysis

Arizona Minerals Inc.
 4542257445

ACZ Project ID: L70437
 Date Received: 12/11/2021 10:19
 Received By:
 Date Printed: 1/21/2022

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2) Is the Chain of Custody form or other directive shipping papers present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3) Does this project require special handling procedures such as CLP protocol?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4) Are any samples NRC licensable material?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5) If samples are received past hold time, proceed with requested short hold time analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6) Is the Chain of Custody form complete and accurate?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9) Are all labels on containers and are they intact and legible?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11) For preserved bottle types, was the pH checked and within limits? ¹	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12) Is there sufficient sample volume to perform all requested work?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13) Is the custody seal intact on all containers?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
14) Are samples that require zero headspace acceptable?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
15) Are all sample containers appropriate for analytical requirements?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16) Is there an Hg-1631 trip blank present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
17) Is there a VOA trip blank present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
18) Were all samples received within hold time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

NA indicates Not Applicable

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Temp Criteria (°C)	Rad (µR/Hr)	Custody Seal Intact?
-----	-----	-----	-----	-----
6549	3.8	<=6.0	15	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

Arizona Minerals Inc.
4542257445

ACZ Project ID: L70437
Date Received: 12/11/2021 10:19
Received By:
Date Printed: 1/21/2022

¹ The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na₂S₂O₃ preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).



Accredited Environmental Testing

2773 Downhill Drive
Steamboat Springs, CO 80487
(970) 879-6590

L70437

CHAIN of CUSTODY

Report to:

Name: Kara Haas	Address: 749 Harshaw Road
Company: AMI/South32	Patagonia, AZ 85624
E-mail: Kara.Haas@south32.net	Telephone: 505.947.1738

Copy of Report to:

Name: Matthew Tooke	E-mail: mtooke@newfields.com
Company: NewFields	Telephone: 406.210.7824

Invoice to:

Name: Kara Haas	Address: 749 Harshaw Road
Company: AMI/South32	Patagonia, AZ 85624
E-mail: kara.haas@south32.net	Telephone: 505.947.1738

Copy of Invoice to:

Name: South32	Address: NA
Company: AMI/South32	Telephone: NA
E-mail: sscinvoices@south32.net	

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES NO

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes No

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Marc Taylor Sampler's Site Information State AZ Zip code 85624 Time Zone MST

*Sampler's Signature: *[Signature]* I attest to the authenticity and validity of this sample. I understand that intentionally mislabeling the time/date/location or tampering with the sample in anyway, is considered fraud and punishable by State Law.

PROJECT INFORMATION

ANALYSES REQUESTED (attach list or use quote number)

Quote #: GW BASELINE	PO#:	Reporting state for compliance testing: AZ	Check box if samples include NRC licensed material? <input type="checkbox"/>	SAMPLE IDENTIFICATION	DATE: TIME	Matrix	# of Containers	GW BASELINE									
MW-9-20211209					12-10-11 1540		6	✓									
							6	✓									
							6	✓									
							6	✓									
							6	✓									
							6	✓									
							6	✓									
							6	✓									
							6	✓									
							6	✓									
							6	✓									
							6	✓									

Matrix SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE: TIME	RECEIVED BY:	DATE: TIME
<i>Marc Taylor</i>	12-10-11 0940	<i>[Signature]</i>	12/11/21 10:19

Qualtrax ID: 1984 Revision #: 2 White - Return with sample. Yellow - Retain for your records.

L70437 Chain of Custody