

STATE OF
COLORADO

Eschberger - DNR, Amy <amy.eschberger@state.co.us>

February 2022 Schwartzwalder Surface Water Report

Nate Lambert <nlambert@ensero.com>

Wed, Apr 27, 2022 at 7:54 AM

To: "Arnold, Daniel J." <daniel.arnold@denverwater.org>, "Eschberger - DNR, Amy" <amy.eschberger@state.co.us>, Evelyn Rhodes <erhodes@arvada.org>, "eric.mink@state.co.us" <eric.mink@state.co.us>, "bwyant@arvada.org" <bwyant@arvada.org>

Cc: "jim@coloradolegacy.land" <jim@coloradolegacy.land>, Elizabeth Busby <ebusby@ensero.com>, JoAnne Ary <jary@ensero.com>

Ms. Eschberger, Mr. Mink, Mr. Arnold, Mr. Wyant, and Ms. Rhodes,

Please find attached a transmittal letter, report, and electronic deliverable (EDD) for surface water data collected in February 2022 from the Schwartzwalder Mine in Golden, Colorado.

Respectfully-

Nate Lambert, CWP

Chemist



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3 attachments



FEB2022_Schwartz_7day_report.pdf
587K



L71577.csv
9K



L71577.pdf
480K



12150 E. Briarwood Ave. Suite 135, Centennial, CO 80112
T. (303) 862-3928

April 27, 2022

Colorado Department of Public Health and Environment
Water Quality Control Division / WQCD-B2-CAS
Compliance Assurance Section
Attention: Eric Mink
4300 Cherry Creek Drive South
Denver, CO 80246-1530

Subject: February 2022 SW-AWD and SW-BPL Surface Monitoring Data for Sampling Stations, Schwartzwalder Mine, Paragraph 26, WQCD Order Number: IO 100601-1, June 1, 2010, Schwartzwalder Mine, Golden, Colorado

Dear Mr. Mink:

Pursuant to Paragraph 26 of the above referenced Order, please find enclosed data reports from contract laboratories as received by Ensero Solutions, Inc working on behalf of Colorado Legacy Land. This data originates from the analysis of the surface water sample collected in February 2022 at the Schwartzwalder Mine, monitoring station SW-AWD and SW-BPL. Review of the data indicates that the total and dissolved uranium concentrations at SW-AWD and SW-BPL were below 30 µg/L.

If you have any questions, please don't hesitate to contact me.

Sincerely,

Jim Harrington, Managing Director
COLORADO LEGACY LAND
jim@ColoradoLegacy.Land

Distribution List:

Dan Arnold, Denver Water, 1 electronic copy via weblink, Daniel.Arnold@DenverWater.org
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Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



Jim Harrington, Managing Director
COLORADO LEGACY LAND



February 2022 Schwartzwalder Monthly Surface Water Report

Contents:

Sample Location	Sample Date	Analysis	Sample ID	Temp (°C)	Field pH (S.U.)	Conductivity (μS/cm)	DO (mg/L)	ORP (mV)
SW-BPL	02/18/2022	Sample Suite 2	L71577-02	1.3	8.15	217.6	11.06	120.5
SW-AWD	02/18/2022	Sample Suite 2	L71577-01	0.4	7.96	205.6	10.90	141.5

April 20, 2022

Report to:

Christie Brizinski
Ensero Solutions
131 E. Lincoln Ave Ste. 200
Fort Collins, CO 80524

Bill to:

Pauline Wong
Ensero Solutions
131 E. Lincoln Ave Ste. 200
Fort Collins, CO 80524

cc: Ensero/Alexco Importer, Evan Valencia

Project ID: 3100-PO205

ACZ Project ID: L71577

Christie Brizinski:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on February 22, 2022. This project has been assigned to ACZ's project number, L71577. Please reference this number in all future inquiries.

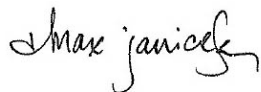
All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L71577. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

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 May 20, 2022. 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.



Max Janicek has reviewed and
approved this report.



Ensero Solutions

Project ID: 3100-PO205

Sample ID: SW-BPL

ACZ Sample ID: **L71577-01**

Date Sampled: 02/18/22 11:00

Date Received: 02/22/22

Sample Matrix: Surface Water

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, WAD	SM4500-CN I- distillation								02/25/22 9:33	bls
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								02/24/22 15:07	mrd/bls
Total Hot Plate Digestion	M200.2 ICP-MS								02/23/22 17:27	kja
Total Hot Plate Digestion	M200.2 ICP				*				03/03/22 12:08	jlw
Total Recoverable Digestion	M200.2 ICP-MS				*				02/25/22 14:15	mfm
Total Recoverable Digestion	M200.2 ICP								02/24/22 21:01	jlw

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Antimony, total recoverable	M200.8 ICP-MS	2	<0.0008	U		mg/L	0.0008	0.004	02/28/22 14:55	mfm
Arsenic, total	M200.8 ICP-MS	1	<0.0002	U		mg/L	0.0002	0.001	02/24/22 14:39	mfm
Boron, total	M200.7 ICP	1	<0.03	U		mg/L	0.03	0.1	03/07/22 14:53	jlw
Chromium, total recoverable	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.05	02/28/22 18:35	jlw
Copper, dissolved	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	03/04/22 12:04	mtc/aeH
Molybdenum, dissolved	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.1	03/04/22 12:04	mtc/aeH
Molybdenum, total	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.1	03/07/22 14:53	jlw
Silver, dissolved	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	03/03/22 14:55	mfm
Thallium, total recoverable	M200.8 ICP-MS	2	<0.0002	U		mg/L	0.0002	0.001	02/28/22 14:55	mfm
Uranium, dissolved	M200.8 ICP-MS	1	0.0110			mg/L	0.0001	0.0005	03/02/22 18:49	kja
Uranium, total	M200.8 ICP-MS	1	0.0112			mg/L	0.0001	0.0005	02/24/22 14:39	mfm
Zinc, dissolved	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.05	03/04/22 12:04	mtc/aeH

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, WAD	SM4500-CN I,E- Colorimetric w/ distillation	0.5	<0.003	U	*	mg/L	0.003	0.01	02/25/22 13:27	bls
Fluoride	SM4500F-C	1	0.29	B		mg/L	0.15	0.35	03/08/22 22:48	emk
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.024	B	*	mg/L	0.02	0.1	03/10/22 0:59	pjb
Phosphate, total	Calculation based on total Phosphorus		<0.03	U		mg/L	0.03	0.2	04/20/22 0:00	calc
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	<0.01	U	*	mg/L	0.01	0.05	02/26/22 1:01	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	212			mg/L	20	40	02/23/22 15:53	scd
Residue, Non-Filterable (TSS) @105C	SM2540D	1	<5	U	*	mg/L	5	20	02/22/22 17:06	anc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	1	33.4		*	mg/L	1	5	03/11/22 15:06	mjj1

Ensero Solutions

Project ID: 3100-PO205

Sample ID: SW-AWD

ACZ Sample ID: **L71577-02**

Date Sampled: 02/18/22 11:30

Date Received: 02/22/22

Sample Matrix: Surface Water

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, WAD	SM4500-CN I- distillation								02/25/22 9:41	bls
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								02/24/22 15:13	mrd/bls
Total Hot Plate Digestion	M200.2 ICP-MS								02/23/22 18:00	kja
Total Hot Plate Digestion	M200.2 ICP								03/03/22 12:22	jlw
Total Recoverable Digestion	M200.2 ICP-MS								02/25/22 14:15	mfm
Total Recoverable Digestion	M200.2 ICP								02/24/22 21:14	jlw

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Antimony, total recoverable	M200.8 ICP-MS	1	<0.0004	U		mg/L	0.0004	0.002	02/28/22 14:57	mfm
Arsenic, total	M200.8 ICP-MS	1	<0.0002	U		mg/L	0.0002	0.001	02/24/22 14:44	mfm
Boron, total	M200.7 ICP	1	0.033	B		mg/L	0.03	0.1	03/07/22 14:56	jlw
Chromium, total recoverable	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.05	02/28/22 18:38	jlw
Copper, dissolved	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	03/04/22 12:07	mtc/aeH
Molybdenum, dissolved	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.1	03/04/22 12:07	mtc/aeH
Molybdenum, total	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.1	03/07/22 14:56	jlw
Silver, dissolved	M200.8 ICP-MS	1	<0.0001	U	*	mg/L	0.0001	0.0005	03/02/22 18:51	kja
Thallium, total recoverable	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	02/28/22 14:57	mfm
Uranium, dissolved	M200.8 ICP-MS	1	0.00279			mg/L	0.0001	0.0005	03/02/22 18:51	kja
Uranium, total	M200.8 ICP-MS	1	0.00282			mg/L	0.0001	0.0005	02/24/22 14:44	mfm
Zinc, dissolved	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.05	03/04/22 12:07	mtc/aeH

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, WAD	SM4500-CN I,E- Colorimetric w/ distillation	0.5	<0.003	U	*	mg/L	0.003	0.01	02/25/22 13:27	bls
Fluoride	SM4500F-C	1	0.31	B		mg/L	0.15	0.35	03/08/22 22:55	emk
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.139		*	mg/L	0.02	0.1	03/10/22 1:02	pjb
Phosphate, total	Calculation based on total Phosphorus		<0.03	U		mg/L	0.03	0.2	04/20/22 0:00	calc
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	<0.01	U	*	mg/L	0.01	0.05	02/26/22 1:02	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	210			mg/L	20	40	02/23/22 15:55	scd
Residue, Non-Filterable (TSS) @105C	SM2540D	1	<5	U	*	mg/L	5	20	02/22/22 17:08	anc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	1	29.2		*	mg/L	1	5	03/11/22 15:07	mjj1


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>

ENSERO

ACZ Project ID: **L71577**

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.

Antimony, total recoverable

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537476													
WG537476ICV	ICV	02/28/22 14:18	MS220125-1	.0201		.02003	mg/L	100	90	110			
WG537476ICB	ICB	02/28/22 14:20				.0006	mg/L		-0.0012	0.0012			
WG537403LRB	LRB	02/28/22 14:21				U	mg/L		-0.00088	0.00088			
WG537403LFB	LFB	02/28/22 14:23	MS220126-3	.01		.01088	mg/L	109	85	115			
WG537476CCV1	CCV	02/28/22 14:40	MS220228-3	.0125		.01247	mg/L	100	90	110			
WG537476CCB1	CCB	02/28/22 14:42				U	mg/L		-0.0012	0.0012			
WG537476CCV2	CCV	02/28/22 15:03	MS220228-3	.0125		.01271	mg/L	102	90	110			
WG537476CCB2	CCB	02/28/22 15:05				U	mg/L		-0.0012	0.0012			
L71640-03LFM	LFM	02/28/22 15:06	MS220126-3	.01	U	.01177	mg/L	118	70	130			
L71640-03LFMD	LFMD	02/28/22 15:08	MS220126-3	.01	U	.01167	mg/L	117	70	130	1	20	
WG537476CCV3	CCV	02/28/22 15:18	MS220228-3	.0125		.01269	mg/L	102	90	110			
WG537476CCB3	CCB	02/28/22 15:20				U	mg/L		-0.0012	0.0012			

Arsenic, total

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537329													
WG537329ICV	ICV	02/24/22 13:46	MS220125-1	.05		.04868	mg/L	97	90	110			
WG537329ICB	ICB	02/24/22 13:48				U	mg/L		-0.0006	0.0006			
WG537240LRB	LRB	02/24/22 13:50				U	mg/L		-0.00044	0.00044			
WG537240LFB	LFB	02/24/22 13:52	MS220126-3	.05005		.04692	mg/L	94	85	115			
WG537329CCV1	CCV	02/24/22 14:09	MS220201-4	.1001		.10367	mg/L	104	90	110			
WG537329CCB1	CCB	02/24/22 14:11				U	mg/L		-0.0006	0.0006			
WG537329CCV2	CCV	02/24/22 14:31	MS220201-4	.1001		.10368	mg/L	104	90	110			
WG537329CCB2	CCB	02/24/22 14:33				U	mg/L		-0.0006	0.0006			
L71577-01LFM	LFM	02/24/22 14:41	MS220126-3	.05005	U	.04808	mg/L	96	70	130			
L71577-01LFMD	LFMD	02/24/22 14:42	MS220126-3	.05005	U	.04932	mg/L	99	70	130	3	20	
WG537329CCV3	CCV	02/24/22 14:46	MS220201-4	.1001		.10116	mg/L	101	90	110			
WG537329CCB3	CCB	02/24/22 14:48				U	mg/L		-0.0006	0.0006			

Boron, total

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537774													
WG537774ICV	ICV	03/07/22 14:29	II220221-1	2		2.008	mg/L	100	95	105			
WG537774ICB	ICB	03/07/22 14:34				U	mg/L		-0.09	0.09			
WG537774PQV	PQV	03/07/22 14:38	II220228-2	.1001		.124	mg/L	124	70	130			
WG537774SIC	SIC	03/07/22 14:41	II220131-5	.1001		.12	mg/L	120	80	120			
WG537643LRB	LRB	03/07/22 14:47				U	mg/L		-0.066	0.066			
WG537643LFB	LFB	03/07/22 14:50	II220215-2	.5005		.533	mg/L	106	85	115			
L71660-02LFM	LFM	03/07/22 15:08	II220215-2	.5005	U	.534	mg/L	107	70	130			
L71660-02LFMD	LFMD	03/07/22 15:11	II220215-2	.5005	U	.532	mg/L	106	70	130	0	20	
WG537774CCV1	CCV	03/07/22 15:17	II220304-1	1		1.043	mg/L	104	90	110			
WG537774CCB1	CCB	03/07/22 15:20				U	mg/L		-0.09	0.09			
WG537774CCV2	CCV	03/07/22 15:54	II220304-1	1		1.043	mg/L	104	90	110			
WG537774CCB2	CCB	03/07/22 15:57				U	mg/L		-0.09	0.09			
WG537774CCV3	CCV	03/07/22 16:15	II220304-1	1		1.048	mg/L	105	90	110			
WG537774CCB3	CCB	03/07/22 16:18				U	mg/L		-0.09	0.09			

ENSERO

ACZ Project ID: **L71577**

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.

Chromium, total recoverable

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537470													
WG537470ICV	ICV	02/28/22 16:46	II220215-3	2		1.962	mg/L	98	95	105			
WG537470ICB	ICB	02/28/22 16:52				U	mg/L		-0.06	0.06			
WG537470PQV	PQV	02/28/22 16:55	II220228-2	.05005		.057	mg/L	114	70	130			
WG537470SIC	SIC	02/28/22 16:58	II220228-3	.1001		.095	mg/L	95	80	120			
WG537345LRB	LRB	02/28/22 17:08				U	mg/L		-0.044	0.044			
WG537345LFB	LFB	02/28/22 17:11	II220215-2	.5005		.498	mg/L	100	85	115			
WG537470CCV1	CCV	02/28/22 17:37	II220228-4	1		1	mg/L	100	90	110			
WG537470CCB1	CCB	02/28/22 17:40				U	mg/L		-0.06	0.06			
L71562-02LFM	LFM	02/28/22 18:12	II220215-2	.5005	U	.511	mg/L	102	70	130			
WG537470CCV2	CCV	02/28/22 18:16	II220228-4	1		1.004	mg/L	100	90	110			
WG537470CCB2	CCB	02/28/22 18:19				U	mg/L		-0.06	0.06			
L71562-02LFMD	LFMD	02/28/22 18:22	II220215-2	.5005	U	.512	mg/L	102	70	130	0	20	
WG537470CCV3	CCV	02/28/22 18:44	II220228-4	1		1	mg/L	100	90	110			
WG537470CCB3	CCB	02/28/22 18:48				U	mg/L		-0.06	0.06			

Copper, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537647													
WG537647ICV	ICV	03/04/22 11:21	II220215-3	2		1.974	mg/L	99	95	105			
WG537647ICB	ICB	03/04/22 11:27				U	mg/L		-0.03	0.03			
WG537647PQV1	PQV	03/04/22 11:30	II220228-2	.05		.054	mg/L	108	70	130			
WG537647SIC	SIC	03/04/22 11:33	II220228-3	.1		.093	mg/L	93	80	120			
WG537647LFB	LFB	03/04/22 11:40	II220215-2	.5		.487	mg/L	97	85	115			
L58827-95AS	AS	03/04/22 11:46	II220215-2	.5	U	.493	mg/L	99	85	115			
L58827-95ASD	ASD	03/04/22 11:49	II220215-2	.5	U	.488	mg/L	98	85	115	1	20	
WG537647CCV1	CCV	03/04/22 12:10	II220228-4	1		1.009	mg/L	101	90	110			
WG537647CCB1	CCB	03/04/22 12:13				U	mg/L		-0.03	0.03			
WG537647CCV2	CCV	03/04/22 12:48	II220228-4	1		1.002	mg/L	100	90	110			
WG537647CCB2	CCB	03/04/22 12:51				U	mg/L		-0.03	0.03			
WG537647CCV3	CCV	03/04/22 13:09	II220228-4	1		.997	mg/L	100	90	110			
WG537647CCB3	CCB	03/04/22 13:12				U	mg/L		-0.03	0.03			

Cyanide, WAD

SM4500-CN I,E-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537399													
WG537399ICV	ICV	02/25/22 13:19	WI220213-6	.3003		.3136	mg/L	104	90	110			
WG537399ICB	ICB	02/25/22 13:20				U	mg/L		-0.003	0.003			
WG537319LRB	LRB	02/25/22 13:21				U	mg/L		-0.003	0.003			
WG537319LFB	LFB	02/25/22 13:21	WI220213-4	.2002		.2059	mg/L	103	90	110			
WG537399CCV1	CCV	02/25/22 13:29	WI220213-7	.25		.2529	mg/L	101	90	110			
WG537399CCB1	CCB	02/25/22 13:30				U	mg/L		-0.003	0.003			
L71627-01DUP	DUP	02/25/22 13:32			U	U	mg/L				0	20	RA
L71627-02LFM	LFM	02/25/22 13:33	WI220213-4	.2002	.0078	.1933	mg/L	93	90	110			
WG537399CCV2	CCV	02/25/22 13:39	WI220213-7	.25		.2525	mg/L	101	90	110			
WG537399CCB2	CCB	02/25/22 13:40				U	mg/L		-0.003	0.003			
WG537399CCV3	CCV	02/25/22 13:48	WI220213-7	.25		.2528	mg/L	101	90	110			
WG537399CCB3	CCB	02/25/22 13:49				U	mg/L		-0.003	0.003			

ENSERO

ACZ Project ID: **L71577**

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.

Fluoride

SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537904													
WG537904ICV	ICV	03/08/22 21:35	WC220308-2	2.008		2.05	mg/L	102	90	110			
WG537904ICB	ICB	03/08/22 21:43				U	mg/L		-0.3	0.3			
WG537904PQV	PQV	03/08/22 21:49	WC220304-2	.3514		.36	mg/L	102	70	130			
WG537904LFB1	LFB	03/08/22 21:56	WC220104-2	5.02		5.26	mg/L	105	90	110			
L49989-160AS	AS	03/08/22 22:12	WC220104-2	5.02	U	5.29	mg/L	105	90	110			
L49989-160ASD	ASD	03/08/22 22:16	WC220104-2	5.02	U	5.12	mg/L	102	90	110	3	20	
WG537904CCV1	CCV	03/08/22 23:08	WC220308-2	2.008		2.07	mg/L	103	90	110			
WG537904CCB1	CCB	03/08/22 23:16				U	mg/L		-0.3	0.3			
WG537904CCV2	CCV	03/09/22 0:39	WC220308-2	2.008		2.11	mg/L	105	90	110			
WG537904CCB2	CCB	03/09/22 0:47				U	mg/L		-0.3	0.3			
WG537904LFB2	LFB	03/09/22 1:24	WC220104-2	5.02		5.19	mg/L	103	90	110			
WG537904CCV3	CCV	03/09/22 2:08	WC220308-2	2.008		2.11	mg/L	105	90	110			
WG537904CCB3	CCB	03/09/22 2:16				U	mg/L		-0.3	0.3			
WG537904CCV4	CCV	03/09/22 3:08	WC220308-2	2.008		2.09	mg/L	104	90	110			
WG537904CCB4	CCB	03/09/22 3:16				U	mg/L		-0.3	0.3			

Molybdenum, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537647													
WG537647ICV	ICV	03/04/22 11:21	II220215-3	2		1.989	mg/L	99	95	105			
WG537647ICB	ICB	03/04/22 11:27				U	mg/L		-0.06	0.06			
WG537647PQV1	PQV	03/04/22 11:30	II220228-2	.1002		.104	mg/L	104	70	130			
WG537647SIC	SIC	03/04/22 11:33	II220228-3	.1002		.089	mg/L	89	80	120			
WG537647LFB	LFB	03/04/22 11:40	II220215-2	.501		.497	mg/L	99	85	115			
L58827-95AS	AS	03/04/22 11:46	II220215-2	.501	U	.502	mg/L	100	85	115			
L58827-95ASD	ASD	03/04/22 11:49	II220215-2	.501	U	.497	mg/L	99	85	115	1	20	
WG537647CCV1	CCV	03/04/22 12:10	II220228-4	1		1.02	mg/L	102	90	110			
WG537647CCB1	CCB	03/04/22 12:13				U	mg/L		-0.06	0.06			
WG537647CCV2	CCV	03/04/22 12:48	II220228-4	1		1.013	mg/L	101	90	110			
WG537647CCB2	CCB	03/04/22 12:51				U	mg/L		-0.06	0.06			
WG537647CCV3	CCV	03/04/22 13:09	II220228-4	1		1.015	mg/L	102	90	110			
WG537647CCB3	CCB	03/04/22 13:12				U	mg/L		-0.06	0.06			

ENSERO

ACZ Project ID: **L71577**

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.

Molybdenum, total

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537774													
WG537774ICV	ICV	03/07/22 14:29	II220221-1	2		1.996	mg/L	100	95	105			
WG537774ICB	ICB	03/07/22 14:34				U	mg/L		-0.06	0.06			
WG537774PQV	PQV	03/07/22 14:38	II220228-2	.1002		.102	mg/L	102	70	130			
WG537774SIC	SIC	03/07/22 14:41	II220131-5	.1002		.085	mg/L	85	80	120			
WG537643LRB	LRB	03/07/22 14:47				U	mg/L		-0.044	0.044			
WG537643LFB	LFB	03/07/22 14:50	II220215-2	.501		.504	mg/L	101	85	115			
L71660-02LFM	LFM	03/07/22 15:08	II220215-2	.501	U	.502	mg/L	100	70	130			
L71660-02LFMD	LFMD	03/07/22 15:11	II220215-2	.501	U	.506	mg/L	101	70	130	1	20	
WG537774CCV1	CCV	03/07/22 15:17	II220304-1	1		1.009	mg/L	101	90	110			
WG537774CCB1	CCB	03/07/22 15:20				U	mg/L		-0.06	0.06			
WG537774CCV2	CCV	03/07/22 15:54	II220304-1	1		1.002	mg/L	100	90	110			
WG537774CCB2	CCB	03/07/22 15:57				U	mg/L		-0.06	0.06			
WG537774CCV3	CCV	03/07/22 16:15	II220304-1	1		1.009	mg/L	101	90	110			
WG537774CCB3	CCB	03/07/22 16:18				U	mg/L		-0.06	0.06			

Nitrate/Nitrite as N

M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG538009													
WG538009ICV	ICV	03/09/22 23:21	WI220301-7	2.4161		2.378	mg/L	98	90	110			
WG538009ICB	ICB	03/09/22 23:22				U	mg/L		-0.02	0.02			
WG538012													
WG538012CCV1	CCV	03/10/22 0:54	WI220304-1	2		2.051	mg/L	103	90	110			
WG538012CCB1	CCB	03/10/22 0:57				U	mg/L		-0.02	0.02			
WG538012LFB	LFB	03/10/22 0:58	WI211001-5	2		2.028	mg/L	101	90	110			
L71577-01AS	AS	03/10/22 1:01	WI211001-5	2	.024	1.899	mg/L	94	90	110			
L71577-02DUP	DUP	03/10/22 1:03			.139	.155	mg/L				11	20	RA
WG538012CCV2	CCV	03/10/22 1:11	WI220304-1	2		2.034	mg/L	102	90	110			
WG538012CCB2	CCB	03/10/22 1:14				U	mg/L		-0.02	0.02			
WG538012CCV3	CCV	03/10/22 1:27	WI220304-1	2		2.008	mg/L	100	90	110			
WG538012CCB3	CCB	03/10/22 1:30				U	mg/L		-0.02	0.02			
WG538012CCV4	CCV	03/10/22 1:40	WI220304-1	2		2.002	mg/L	100	90	110			
WG538012CCB4	CCB	03/10/22 1:43				U	mg/L		-0.02	0.02			

Phosphorus, total

M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537423													
WG537423ICV	ICV	02/26/22 0:39	WI220204-1	.65228		.661	mg/L	101	90	110			
WG537423ICB	ICB	02/26/22 0:42				U	mg/L		-0.01	0.01			
WG537350LRB	LRB	02/26/22 0:43				U	mg/L		-0.01	0.01			
WG537350LFB	LFB	02/26/22 0:44	WI220222-9	.5		.491	mg/L	98	90	110			
L71524-01LFM	LFM	02/26/22 0:47	WI220222-9	.5	U	.492	mg/L	98	90	110			
L71544-02DUP	DUP	02/26/22 0:49			.018	.02	mg/L				11	20	RA
WG537423CCV1	CCV	02/26/22 0:54	WI220204-3	.5		.502	mg/L	100	90	110			
WG537423CCB1	CCB	02/26/22 0:56				U	mg/L		-0.01	0.01			
WG537423CCV2	CCV	02/26/22 1:08	WI220204-3	.5		.5	mg/L	100	90	110			
WG537423CCB2	CCB	02/26/22 1:09				U	mg/L		-0.01	0.01			
WG537423CCV3	CCV	02/26/22 1:13	WI220204-3	.5		.501	mg/L	100	90	110			
WG537423CCB3	CCB	02/26/22 1:14				U	mg/L		-0.01	0.01			

ENSERO

ACZ Project ID: **L71577**

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.

Residue, Filterable (TDS) @180C

SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537270													
WG537270PBW	PBW	02/23/22 15:20				U	mg/L		-20	20			
WG537270LCSW	LCSW	02/23/22 15:22	PCN64728	1000		980	mg/L	98	80	120			
L71633-05DUP	DUP	02/23/22 16:14			334	328	mg/L				2	10	

Residue, Non-Filterable (TSS) @105C

SM2540D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537195													
WG537195PBW	PBW	02/22/22 17:00				U	mg/L		-5	5			
WG537195LCSW	LCSW	02/22/22 17:01	PCN64728	100		98	mg/L	98	80	120			
L71577-02DUP	DUP	02/22/22 17:10			U	U	mg/L				0	10	RA

Silver, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537570													
WG537570ICV	ICV	03/02/22 18:10	MS220125-1	.02		.02061	mg/L	103	90	110			
WG537570ICB	ICB	03/02/22 18:12				U	mg/L		-0.00022	0.00022			
WG537570LFB	LFB	03/02/22 18:15	MS220228-9	.01		.0099	mg/L	99	85	115			
WG537570CCV1	CCV	03/02/22 18:37	MS220228-3	.025		.02597	mg/L	104	90	110			
WG537570CCB1	CCB	03/02/22 18:40				U	mg/L		-0.0003	0.0003			
WG537570CCV2	CCV	03/02/22 19:04	MS220228-3	.025		.02545	mg/L	102	90	110			
WG537570CCB2	CCB	03/02/22 19:07				U	mg/L		-0.0003	0.0003			
L71645-01AS	AS	03/02/22 19:09	MS220228-9	.01	U	.01286	mg/L	129	70	130			
L71645-01ASD	ASD	03/02/22 19:11	MS220228-9	.01	U	.00952	mg/L	95	70	130	30	20	RF
WG537570CCV3	CCV	03/02/22 19:20	MS220228-3	.025		.02544	mg/L	102	90	110			
WG537570CCB3	CCB	03/02/22 19:22				U	mg/L		-0.0003	0.0003			
WG537669													
WG537669ICV	ICV	03/03/22 14:14	MS220125-1	.02		.0213	mg/L	107	90	110			
WG537669ICB	ICB	03/03/22 14:15				U	mg/L		-0.00022	0.00022			
WG537669LFB	LFB	03/03/22 14:17	MS220228-9	.01		.01006	mg/L	101	85	115			
WG537669CCV1	CCV	03/03/22 14:36	MS220228-3	.025		.02382	mg/L	95	90	110			
WG537669CCB1	CCB	03/03/22 14:38				U	mg/L		-0.0003	0.0003			
WG537669CCV2	CCV	03/03/22 14:59	MS220228-3	.025		.02324	mg/L	93	90	110			
WG537669CCB2	CCB	03/03/22 15:01				U	mg/L		-0.0003	0.0003			
L71666-01AS	AS	03/03/22 15:04	MS220228-9	.01	U	.00854	mg/L	85	70	130			
L71666-01ASD	ASD	03/03/22 15:06	MS220228-9	.01	U	.00886	mg/L	89	70	130	4	20	
WG537669CCV3	CCV	03/03/22 15:12	MS220228-3	.025		.02369	mg/L	95	90	110			
WG537669CCB3	CCB	03/03/22 15:14				U	mg/L		-0.0003	0.0003			

ENSERO

ACZ Project ID: **L71577**

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
WG538118													
WG538118ICB	ICB	03/11/22 11:58				1.1	mg/L		-3	3			
WG538118ICV	ICV	03/11/22 11:58	WI220302-3	20.46		20.9	mg/L	102	90	110			
WG538118CCV1	CCV	03/11/22 15:06	WI220302-4	24.875		24.9	mg/L	100	90	110			
WG538118CCB1	CCB	03/11/22 15:06				U	mg/L		-3	3			
L71577-01DUP	DUP	03/11/22 15:06			33.4	30.3	mg/L				10	20	
L71577-02AS	AS	03/11/22 15:07	WI211230-5	9.95	29.2	36.1	mg/L	69	90	110			M2
WG538118CCV2	CCV	03/11/22 15:09	WI220302-4	24.875		24.4	mg/L	98	90	110			
WG538118CCB2	CCB	03/11/22 15:09				U	mg/L		-3	3			
WG538118CCV3	CCV	03/11/22 15:10	WI220302-4	24.875		25.5	mg/L	103	90	110			
WG538118CCB3	CCB	03/11/22 15:10				U	mg/L		-3	3			
WG538118CCV4	CCV	03/11/22 16:29	WI220302-4	24.875		24.4	mg/L	98	90	110			
WG538118CCB4	CCB	03/11/22 16:29				U	mg/L		-3	3			
WG538118LFB	LFB	03/11/22 16:29	WI211230-5	9.95		10.1	mg/L	102	90	110			
WG538118CCV5	CCV	03/11/22 16:33	WI220302-4	24.875		24.6	mg/L	99	90	110			
WG538118CCB5	CCB	03/11/22 16:33				U	mg/L		-3	3			
WG538118CCV6	CCV	03/11/22 16:37	WI220302-4	24.875		24.9	mg/L	100	90	110			
WG538118CCB6	CCB	03/11/22 16:37				U	mg/L		-3	3			
WG538118CCV7	CCV	03/11/22 16:38	WI220302-4	24.875		24.4	mg/L	98	90	110			
WG538118CCB7	CCB	03/11/22 16:39				U	mg/L		-3	3			
WG538118CCV8	CCV	03/11/22 16:41	WI220302-4	24.875		24.6	mg/L	99	90	110			
WG538118CCB8	CCB	03/11/22 16:41				U	mg/L		-3	3			
WG538118CCV9	CCV	03/11/22 16:45	WI220302-4	24.875		24.7	mg/L	99	90	110			
WG538118CCB9	CCB	03/11/22 16:45				U	mg/L		-3	3			
WG538118CCV10	CCV	03/11/22 16:50	WI220302-4	24.875		24.9	mg/L	100	90	110			
WG538118CCB10	CCB	03/11/22 16:51				U	mg/L		-3	3			

Thallium, total recoverable

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537476													
WG537476ICV	ICV	02/28/22 14:18	MS220125-1	.05		.05459	mg/L	109	90	110			
WG537476ICB	ICB	02/28/22 14:20				U	mg/L		-0.0003	0.0003			
WG537403LRB	LRB	02/28/22 14:21				U	mg/L		-0.00022	0.00022			
WG537403LFB	LFB	02/28/22 14:23	MS220126-3	.05		.04704	mg/L	94	85	115			
WG537476CCV1	CCV	02/28/22 14:40	MS220228-3	.1		.10081	mg/L	101	90	110			
WG537476CCB1	CCB	02/28/22 14:42				U	mg/L		-0.0003	0.0003			
WG537476CCV2	CCV	02/28/22 15:03	MS220228-3	.1		.10129	mg/L	101	90	110			
WG537476CCB2	CCB	02/28/22 15:05				U	mg/L		-0.0003	0.0003			
L71640-03LFM	LFM	02/28/22 15:06	MS220126-3	.05	U	.04901	mg/L	98	70	130			
L71640-03LFMD	LFMD	02/28/22 15:08	MS220126-3	.05	U	.04902	mg/L	98	70	130	0	20	
WG537476CCV3	CCV	02/28/22 15:18	MS220228-3	.1		.10203	mg/L	102	90	110			
WG537476CCB3	CCB	02/28/22 15:20				U	mg/L		-0.0003	0.0003			

ENSERO

ACZ Project ID: **L71577**

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.

Uranium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537570													
WG537570ICV	ICV	03/02/22 18:10	MS220125-1	.05		.05092	mg/L	102	90	110			
WG537570ICB	ICB	03/02/22 18:12				U	mg/L		-0.00022	0.00022			
WG537570LFB	LFB	03/02/22 18:15	MS220228-9	.05		.04882	mg/L	98	85	115			
WG537570CCV1	CCV	03/02/22 18:37	MS220228-3	.1		.10277	mg/L	103	90	110			
WG537570CCB1	CCB	03/02/22 18:40				U	mg/L		-0.0003	0.0003			
WG537570CCV2	CCV	03/02/22 19:04	MS220228-3	.1		.10258	mg/L	103	90	110			
WG537570CCB2	CCB	03/02/22 19:07				U	mg/L		-0.0003	0.0003			
L71645-01AS	AS	03/02/22 19:09	MS220228-9	.05	.00062	.05587	mg/L	111	70	130			
L71645-01ASD	ASD	03/02/22 19:11	MS220228-9	.05	.00062	.05461	mg/L	108	70	130	2	20	
WG537570CCV3	CCV	03/02/22 19:20	MS220228-3	.1		.10038	mg/L	100	90	110			
WG537570CCB3	CCB	03/02/22 19:22				U	mg/L		-0.0003	0.0003			

Uranium, total

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537329													
WG537329ICV	ICV	02/24/22 13:46	MS220125-1	.05		.05031	mg/L	101	90	110			
WG537329ICB	ICB	02/24/22 13:48				U	mg/L		-0.0003	0.0003			
WG537240LRB	LRB	02/24/22 13:50				U	mg/L		-0.00022	0.00022			
WG537240LFB	LFB	02/24/22 13:52	MS220126-3	.05		.04702	mg/L	94	85	115			
WG537329CCV1	CCV	02/24/22 14:09	MS220201-4	.1		.09986	mg/L	100	90	110			
WG537329CCB1	CCB	02/24/22 14:11				U	mg/L		-0.0003	0.0003			
WG537329CCV2	CCV	02/24/22 14:31	MS220201-4	.1		.10197	mg/L	102	90	110			
WG537329CCB2	CCB	02/24/22 14:33				U	mg/L		-0.0003	0.0003			
L71577-01LFM	LFM	02/24/22 14:41	MS220126-3	.05	.0112	.06215	mg/L	102	70	130			
L71577-01LFMD	LFMD	02/24/22 14:42	MS220126-3	.05	.0112	.06299	mg/L	104	70	130	1	20	
WG537329CCV3	CCV	02/24/22 14:46	MS220201-4	.1		.10095	mg/L	101	90	110			
WG537329CCB3	CCB	02/24/22 14:48				U	mg/L		-0.0003	0.0003			

Zinc, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537647													
WG537647ICV	ICV	03/04/22 11:21	II220215-3	2		1.929	mg/L	96	95	105			
WG537647ICB	ICB	03/04/22 11:27				U	mg/L		-0.06	0.06			
WG537647PQV1	PQV	03/04/22 11:30	II220228-2	.05015		.056	mg/L	112	70	130			
WG537647SIC	SIC	03/04/22 11:33	II220228-3	.1003		.109	mg/L	109	80	120			
WG537647LFB	LFB	03/04/22 11:40	II220215-2	.50045		.507	mg/L	101	85	115			
L58827-95AS	AS	03/04/22 11:46	II220215-2	.50045	U	.521	mg/L	104	85	115			
L58827-95ASD	ASD	03/04/22 11:49	II220215-2	.50045	U	.512	mg/L	102	85	115	2	20	
WG537647CCV1	CCV	03/04/22 12:10	II220228-4	1		1.016	mg/L	102	90	110			
WG537647CCB1	CCB	03/04/22 12:13				U	mg/L		-0.06	0.06			
WG537647CCV2	CCV	03/04/22 12:48	II220228-4	1		1.012	mg/L	101	90	110			
WG537647CCB2	CCB	03/04/22 12:51				U	mg/L		-0.06	0.06			
WG537647CCV3	CCV	03/04/22 13:09	II220228-4	1		.993	mg/L	99	90	110			
WG537647CCB3	CCB	03/04/22 13:12				U	mg/L		-0.06	0.06			

Ensero Solutions

ACZ Project ID: **L71577**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L71577-01	WG537399	Cyanide, WAD	SM4500-CN I,E-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).
	WG538012	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).
	WG537423	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	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).
	WG537195	Residue, Non-Filterable (TSS) @105C	SM2540D	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).
			SM2540D	Z3	Sample volume yielded a residue less than 2.5 mg
	WG538118	Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG537643	Total Hot Plate Digestion	M200.2 ICP	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG537403	Total Recoverable Digestion	M200.2 ICP-MS	DJ	Sample dilution required due to insufficient sample.
L71577-02	WG537399	Cyanide, WAD	SM4500-CN I,E-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).
	WG538012	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).
	WG537423	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	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).
	WG537195	Residue, Non-Filterable (TSS) @105C	SM2540D	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).
			SM2540D	Z3	Sample volume yielded a residue less than 2.5 mg
	WG537570	Silver, dissolved	M200.8 ICP-MS	RF	Relative Percent Difference (RPD) for Ag in spiked samples exceeded limit. In the absence of HCl, precipitation of Ag may occur at different rates.
	WG538118	Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.

Ensero Solutions

Project ID: 3100-PO205

Sample ID: SW-BPL

Locator:

ACZ Sample ID: **L71577-01**

Date Sampled: 02/18/22 11:00

Date Received: 02/22/22

Sample Matrix: Surface Water

Combined Radium (total)

Prep Method:

Calculation (RA226 + RA228)

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Combined Radium (total)	04/20/22 13:49		0			pCi/L		calc

Gross Alpha & Beta, total

Prep Method:

M900.0

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	03/04/22 0:34		6	2.8	6.6	pCi/L	*	fdw
Gross Beta	03/04/22 0:34		4.1	3.2	9.5	pCi/L		fdw

Radium 226, total

Prep Method:

M903.1

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Radium 226, total	04/19/22 0:18		0.18	0.09	0.4	pCi/L	*	fdw

Radium 228, total

Prep Method:

M904.0

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Radium 228, total	04/05/22 11:46		-1.1	1.1	2.7	pCi/L		ttg

Ensero Solutions

Project ID: 3100-PO205

Sample ID: SW-AWD

Locator:

ACZ Sample ID: **L71577-02**

Date Sampled: 02/18/22 11:30

Date Received: 02/22/22

Sample Matrix: Surface Water

Combined Radium (total)

Prep Method:

Calculation (RA226 + RA228)

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Combined Radium (total)	04/20/22 13:49		0			pCi/L		calc

Gross Alpha & Beta, total

Prep Method:

M900.0

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	03/04/22 0:36		2.1	1.9	16	pCi/L	*	fdw
Gross Beta	03/04/22 0:36		4.9	3.2	21	pCi/L		fdw

Radium 226, total

Prep Method:

M903.1

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Radium 226, total	04/19/22 0:20		0.16	0.08	0.43	pCi/L	*	fdw

Radium 228, total

Prep Method:

M904.0

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Radium 228, total	04/05/22 11:46		-0.22	1.1	2.6	pCi/L		ttg

Report Header Explanations

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Error(+/-)</i>	Calculated sample specific uncertainty
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>LCL</i>	Lower Control Limit, in % (except for LCSS, mg/Kg)
<i>LLD</i>	Calculated sample specific Lower Limit of Detection
<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
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
<i>RER</i>	Relative Error Ratio, calculation used for Dup. QC taking into account the error factor.
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>UCL</i>	Upper Control Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

QC Sample Types

<i>DUP</i>	Sample Duplicate	<i>MS/MSD</i>	Matrix Spike/Matrix Spike Duplicate
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBS</i>	Prep Blank - Soil
<i>LCSW</i>	Laboratory Control Sample - Water	<i>PBW</i>	Prep Blank - Water

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Matrix Spikes	Determines sample matrix interferences, if any.

ACZ Qualifiers (Qual)

H	Analysis exceeded method hold time.
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Method Prefix Reference

M	EPA methodology, including those under SDWA, CWA, and RCRA
SM	Standard Methods for the Examination of Water and Wastewater.
D	ASTM
RP	DOE
ESM	DOE/ESM

Comments

- (1) Solid matrices are reported on a dry weight basis.
- (2) Preparation method: "Method" indicates preparation defined in analytical method.
- (3) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.

For a complete list of ACZ's Extended Qualifiers, please click:

<https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf>

ENSERO

ACZ Project ID: **L71577**

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.

Alpha		M900.0										Units: pCi/L				
ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec%	Lower	Upper	RPD/RER	Limit	Qual
WG537471																
WG537471PBW	PBW	03/04/22						0	0.91	12			24			
WG537471LCSWA	LCSW	03/04/22	PCN64375	100				72	7.2	4.6	72	67	144			
L70053-01DUP	DUP-RPD	03/04/22			2400	330	710	2600	330	230				8	20	
L71076-01MSA	MS	03/04/22	PCN64375	909.09	900	130	190	1600	160	82	77	67	144			
L71577-02DUP	DUP-RPD	03/04/22			2.1	1.9	16	5	2.6	17				82	20	RG
L71577-02DUP	DUP-RER	03/04/22			2.1	1.9	16	5	2.6	17				0.9	2	

Beta		M900.0										Units: pCi/L				
ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec%	Lower	Upper	RPD/RER	Limit	Qual
WG537471																
WG537471PBW	PBW	03/04/22						2.5	3	20			40			
WG537471LCSWB	LCSW	03/04/22	PCN63438	1000				1100	21	7.6	110	82	122			
L70053-01DUP	DUP-RPD	03/04/22			2400	180	590	2300	170	280				4	20	
L71385-01MSB	MS	03/04/22	PCN63438	5882.35	310	33	50	6500	130	60	105	82	122			
L71577-02DUP	DUP-RPD	03/04/22			4.9	3.2	21	4.8	2.8	22				2	20	

Radium 226, total		M903.1										Units: pCi/L				
ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec%	Lower	Upper	RPD/RER	Limit	Qual
WG539738																
WG539738LCSW	LCSW	04/19/22	PCN64374	20				16	0.45	0.08	80	43	148			
WG539738PBW	PBW	04/19/22						.03	0.11	0.11			0.22			
L71480-01DUP	DUP-RER	04/19/22			0.32	0.07	0.49	.23	0.09	0.46				0.79	2	
L71480-01DUP	DUP-RPD	04/19/22			0.32	0.07	0.49	.23	0.09	0.46				33	20	RG
L71480-02MS	MS	04/19/22	PCN64374	20	0.54	0.11	0.37	17	0.55	0.52	82	43	148			
L71979-01DUP	DUP-RPD	04/19/22			0.11	0.22	0.76	.19	0.17	1.3				53	20	RG
L71979-01DUP	DUP-RER	04/19/22			0.11	0.22	0.76	.19	0.17	1.3				0.29	2	

ENSERO

ACZ Project ID: **L71577**

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.

Radium 228, total

M904.0

Units: pCi/L

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec%	Lower	Upper	RPD/RER	Limit	Qual
WG539202																
WG539202LCSW	LCSW	04/05/22	PCN64684	9.44				9.2	1.3	0.92	97	47	123			
WG539202PBW	PBW	04/05/22						.13	0.68	0.71			1.42			
L71577-01DUP	DUP-RPD	04/05/22			-1.1	1.1	2.7	-1	0.96	2.3				10	20	
L71746-01DUP	DUP-RPD	04/05/22			0.71	0.99	2.4	-.41	1.2	2.8				747	20	RG
L71722-01MS	MS	04/05/22	PCN64684	9.44	-0.52	0.92	2.5	7.6	1.2	2.3	86	47	123			
L71746-01DUP	DUP-RER	04/05/22			0.71	0.99	2.4	-.41	1.2	2.8				0.72	2	

Ensero Solutions

ACZ Project ID: **L71577**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L71577-01	WG537471	Gross Alpha	M900.0	RG	Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control.
	WG539738	Radium 226, total	M903.1	RG	Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control.
L71577-02	WG537471	Gross Alpha	M900.0	RG	Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control.
	WG539738	Radium 226, total	M903.1	RG	Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control.

Ensero Solutions

ACZ Project ID: **L71577**

No certification qualifiers associated with this analysis

Ensero Solutions
3100-PO205

ACZ Project ID: L71577
Date Received: 02/22/2022 11:46
Received By:
Date Printed: 2/23/2022

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?	☐	☐	☒
2) Is the Chain of Custody form or other directive shipping papers present?	☒	☐	☐
3) Does this project require special handling procedures such as CLP protocol?	☐	☒	☐
4) Are any samples NRC licensable material?	☐	☐	☒
5) If samples are received past hold time, proceed with requested short hold time analyses?	☒	☐	☐
6) Is the Chain of Custody form complete and accurate?	☒	☐	☐
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?	☐	☒	☐

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	☒	☐	☐
9) Are all labels on containers and are they intact and legible?	☒	☐	☐
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	☒	☐	☐
11) For preserved bottle types, was the pH checked and within limits? ¹	☒	☐	☐
12) Is there sufficient sample volume to perform all requested work?	☒	☐	☐
13) Is the custody seal intact on all containers?	☐	☐	☒
14) Are samples that require zero headspace acceptable?	☐	☐	☒
15) Are all sample containers appropriate for analytical requirements?	☒	☐	☐
16) Is there an Hg-1631 trip blank present?	☐	☐	☒
17) Is there a VOA trip blank present?	☐	☐	☒
18) Were all samples received within hold time?	☒	☐	☐

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?
-----	-----	-----	-----	-----
6078	1.9	<=6.0	15	N/A

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.

Ensero Solutions
3100-PO205

ACZ Project ID: L71577

Date Received: 02/22/2022 11:46

Received By:

Date Printed: 2/23/2022

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).



Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Christie Brizinski

Company: Ensero Solutions

E-mail: cbrizinski@ensero.com

Address: 131 E. Lincoln Ave Ste. 200

Fort Collins, CO 80524

Telephone: 867-668-6463, ext 229

Copy of Report to:

Name: Evan Valencia

Company: Ensero Solutions

E-mail: evalencia@ensero.com

Telephone: 818-688-1839

Invoice to:

Name: Pauline Wong

Company: Ensero Solutions

E-mail: ap@ensero.com

Address: 131 E. Lincoln Ave Ste. 200

Fort Collins, CO 80524

Telephone: 778-404-1182

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: EV, TF

Sampler's Site Information

State CO

Zip code 80401

Time Zone MTN

*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 #: Ensero-2020

PO#: 3100-PO205

Reporting state for compliance testing: CO

Check box if samples include NRC licensed material? ☐

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	TSS	Sample suite #1	Sample suite #2	COD	LLHG trip blank	Sample suite #3	TDS	
SW-BPL	2-18-2022: 11:00	SW	8	☐	☐	☒	☐	☐	☐	☐	☐
SW-AWD	2-18-2022: 11:30	SW	8	☐	☐	☒	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐
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				☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐

Matrix SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

This COC accounts for 16 containers. Shipped 2/21/2022
Please also send reports to importer@alexco.ehsdata.com

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
E. Valencia	2/21/22: 9:00	<i>[Signature]</i>	2/22/22
			11:46

FRMAD050.06.14.14

White - Return with sample. Yellow - Retain for your records.



71577-2204201449

April 20, 2022

Report to:

Christie Brizinski
Ensero Solutions
131 E. Lincoln Ave Ste. 200
Fort Collins, CO 80524

Bill to:

Pauline Wong
Ensero Solutions
131 E. Lincoln Ave Ste. 200
Fort Collins, CO 80524

cc: Ensero/Alexco Importer, Evan Valencia

Project ID: 3100-PO205

ACZ Project ID: L71577

Christie Brizinski:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on February 22, 2022. This project has been assigned to ACZ's project number, L71577. Please reference this number in all future inquiries.

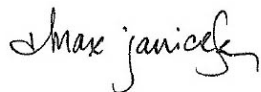
All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L71577. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

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 May 20, 2022. 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.



Max Janicek has reviewed and
approved this report.



Ensero Solutions

Project ID: 3100-PO205

Sample ID: SW-BPL

ACZ Sample ID: **L71577-01**

Date Sampled: 02/18/22 11:00

Date Received: 02/22/22

Sample Matrix: Surface Water

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, WAD	SM4500-CN I- distillation								02/25/22 9:33	bls
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								02/24/22 15:07	mrd/bls
Total Hot Plate Digestion	M200.2 ICP-MS								02/23/22 17:27	kja
Total Hot Plate Digestion	M200.2 ICP				*				03/03/22 12:08	jlw
Total Recoverable Digestion	M200.2 ICP-MS				*				02/25/22 14:15	mfm
Total Recoverable Digestion	M200.2 ICP								02/24/22 21:01	jlw

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Antimony, total recoverable	M200.8 ICP-MS	2	<0.0008	U		mg/L	0.0008	0.004	02/28/22 14:55	mfm
Arsenic, total	M200.8 ICP-MS	1	<0.0002	U		mg/L	0.0002	0.001	02/24/22 14:39	mfm
Boron, total	M200.7 ICP	1	<0.03	U		mg/L	0.03	0.1	03/07/22 14:53	jlw
Chromium, total recoverable	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.05	02/28/22 18:35	jlw
Copper, dissolved	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	03/04/22 12:04	mtc/aeH
Molybdenum, dissolved	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.1	03/04/22 12:04	mtc/aeH
Molybdenum, total	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.1	03/07/22 14:53	jlw
Silver, dissolved	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	03/03/22 14:55	mfm
Thallium, total recoverable	M200.8 ICP-MS	2	<0.0002	U		mg/L	0.0002	0.001	02/28/22 14:55	mfm
Uranium, dissolved	M200.8 ICP-MS	1	0.0110			mg/L	0.0001	0.0005	03/02/22 18:49	kja
Uranium, total	M200.8 ICP-MS	1	0.0112			mg/L	0.0001	0.0005	02/24/22 14:39	mfm
Zinc, dissolved	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.05	03/04/22 12:04	mtc/aeH

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, WAD	SM4500-CN I,E- Colorimetric w/ distillation	0.5	<0.003	U	*	mg/L	0.003	0.01	02/25/22 13:27	bls
Fluoride	SM4500F-C	1	0.29	B		mg/L	0.15	0.35	03/08/22 22:48	emk
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.024	B	*	mg/L	0.02	0.1	03/10/22 0:59	pjb
Phosphate, total	Calculation based on total Phosphorus		<0.03	U		mg/L	0.03	0.2	04/20/22 0:00	calc
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	<0.01	U	*	mg/L	0.01	0.05	02/26/22 1:01	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	212			mg/L	20	40	02/23/22 15:53	scd
Residue, Non-Filterable (TSS) @105C	SM2540D	1	<5	U	*	mg/L	5	20	02/22/22 17:06	anc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	1	33.4		*	mg/L	1	5	03/11/22 15:06	mjj1

Ensero Solutions

Project ID: 3100-PO205

Sample ID: SW-AWD

ACZ Sample ID: **L71577-02**

Date Sampled: 02/18/22 11:30

Date Received: 02/22/22

Sample Matrix: Surface Water

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, WAD	SM4500-CN I- distillation								02/25/22 9:41	bls
Phosphorus, total	M365.1 - Auto Ascorbic Acid Digestion								02/24/22 15:13	mrd/bls
Total Hot Plate Digestion	M200.2 ICP-MS								02/23/22 18:00	kja
Total Hot Plate Digestion	M200.2 ICP								03/03/22 12:22	jlw
Total Recoverable Digestion	M200.2 ICP-MS								02/25/22 14:15	mfm
Total Recoverable Digestion	M200.2 ICP								02/24/22 21:14	jlw

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Antimony, total recoverable	M200.8 ICP-MS	1	<0.0004	U		mg/L	0.0004	0.002	02/28/22 14:57	mfm
Arsenic, total	M200.8 ICP-MS	1	<0.0002	U		mg/L	0.0002	0.001	02/24/22 14:44	mfm
Boron, total	M200.7 ICP	1	0.033	B		mg/L	0.03	0.1	03/07/22 14:56	jlw
Chromium, total recoverable	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.05	02/28/22 18:38	jlw
Copper, dissolved	M200.7 ICP	1	<0.01	U		mg/L	0.01	0.05	03/04/22 12:07	mtc/aeH
Molybdenum, dissolved	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.1	03/04/22 12:07	mtc/aeH
Molybdenum, total	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.1	03/07/22 14:56	jlw
Silver, dissolved	M200.8 ICP-MS	1	<0.0001	U	*	mg/L	0.0001	0.0005	03/02/22 18:51	kja
Thallium, total recoverable	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	02/28/22 14:57	mfm
Uranium, dissolved	M200.8 ICP-MS	1	0.00279			mg/L	0.0001	0.0005	03/02/22 18:51	kja
Uranium, total	M200.8 ICP-MS	1	0.00282			mg/L	0.0001	0.0005	02/24/22 14:44	mfm
Zinc, dissolved	M200.7 ICP	1	<0.02	U		mg/L	0.02	0.05	03/04/22 12:07	mtc/aeH

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, WAD	SM4500-CN I,E- Colorimetric w/ distillation	0.5	<0.003	U	*	mg/L	0.003	0.01	02/25/22 13:27	bls
Fluoride	SM4500F-C	1	0.31	B		mg/L	0.15	0.35	03/08/22 22:55	emk
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	0.139		*	mg/L	0.02	0.1	03/10/22 1:02	pjb
Phosphate, total	Calculation based on total Phosphorus		<0.03	U		mg/L	0.03	0.2	04/20/22 0:00	calc
Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	1	<0.01	U	*	mg/L	0.01	0.05	02/26/22 1:02	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	210			mg/L	20	40	02/23/22 15:55	scd
Residue, Non-Filterable (TSS) @105C	SM2540D	1	<5	U	*	mg/L	5	20	02/22/22 17:08	anc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	1	29.2		*	mg/L	1	5	03/11/22 15:07	mjj1



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>

ENSERO

ACZ Project ID: **L71577**

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.

Antimony, total recoverable

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537476													
WG537476ICV	ICV	02/28/22 14:18	MS220125-1	.0201		.02003	mg/L	100	90	110			
WG537476ICB	ICB	02/28/22 14:20				.0006	mg/L		-0.0012	0.0012			
WG537403LRB	LRB	02/28/22 14:21				U	mg/L		-0.00088	0.00088			
WG537403LFB	LFB	02/28/22 14:23	MS220126-3	.01		.01088	mg/L	109	85	115			
WG537476CCV1	CCV	02/28/22 14:40	MS220228-3	.0125		.01247	mg/L	100	90	110			
WG537476CCB1	CCB	02/28/22 14:42				U	mg/L		-0.0012	0.0012			
WG537476CCV2	CCV	02/28/22 15:03	MS220228-3	.0125		.01271	mg/L	102	90	110			
WG537476CCB2	CCB	02/28/22 15:05				U	mg/L		-0.0012	0.0012			
L71640-03LFM	LFM	02/28/22 15:06	MS220126-3	.01	U	.01177	mg/L	118	70	130			
L71640-03LFMD	LFMD	02/28/22 15:08	MS220126-3	.01	U	.01167	mg/L	117	70	130	1	20	
WG537476CCV3	CCV	02/28/22 15:18	MS220228-3	.0125		.01269	mg/L	102	90	110			
WG537476CCB3	CCB	02/28/22 15:20				U	mg/L		-0.0012	0.0012			

Arsenic, total

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537329													
WG537329ICV	ICV	02/24/22 13:46	MS220125-1	.05		.04868	mg/L	97	90	110			
WG537329ICB	ICB	02/24/22 13:48				U	mg/L		-0.0006	0.0006			
WG537240LRB	LRB	02/24/22 13:50				U	mg/L		-0.00044	0.00044			
WG537240LFB	LFB	02/24/22 13:52	MS220126-3	.05005		.04692	mg/L	94	85	115			
WG537329CCV1	CCV	02/24/22 14:09	MS220201-4	.1001		.10367	mg/L	104	90	110			
WG537329CCB1	CCB	02/24/22 14:11				U	mg/L		-0.0006	0.0006			
WG537329CCV2	CCV	02/24/22 14:31	MS220201-4	.1001		.10368	mg/L	104	90	110			
WG537329CCB2	CCB	02/24/22 14:33				U	mg/L		-0.0006	0.0006			
L71577-01LFM	LFM	02/24/22 14:41	MS220126-3	.05005	U	.04808	mg/L	96	70	130			
L71577-01LFMD	LFMD	02/24/22 14:42	MS220126-3	.05005	U	.04932	mg/L	99	70	130	3	20	
WG537329CCV3	CCV	02/24/22 14:46	MS220201-4	.1001		.10116	mg/L	101	90	110			
WG537329CCB3	CCB	02/24/22 14:48				U	mg/L		-0.0006	0.0006			

Boron, total

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537774													
WG537774ICV	ICV	03/07/22 14:29	II220221-1	2		2.008	mg/L	100	95	105			
WG537774ICB	ICB	03/07/22 14:34				U	mg/L		-0.09	0.09			
WG537774PQV	PQV	03/07/22 14:38	II220228-2	.1001		.124	mg/L	124	70	130			
WG537774SIC	SIC	03/07/22 14:41	II220131-5	.1001		.12	mg/L	120	80	120			
WG537643LRB	LRB	03/07/22 14:47				U	mg/L		-0.066	0.066			
WG537643LFB	LFB	03/07/22 14:50	II220215-2	.5005		.533	mg/L	106	85	115			
L71660-02LFM	LFM	03/07/22 15:08	II220215-2	.5005	U	.534	mg/L	107	70	130			
L71660-02LFMD	LFMD	03/07/22 15:11	II220215-2	.5005	U	.532	mg/L	106	70	130	0	20	
WG537774CCV1	CCV	03/07/22 15:17	II220304-1	1		1.043	mg/L	104	90	110			
WG537774CCB1	CCB	03/07/22 15:20				U	mg/L		-0.09	0.09			
WG537774CCV2	CCV	03/07/22 15:54	II220304-1	1		1.043	mg/L	104	90	110			
WG537774CCB2	CCB	03/07/22 15:57				U	mg/L		-0.09	0.09			
WG537774CCV3	CCV	03/07/22 16:15	II220304-1	1		1.048	mg/L	105	90	110			
WG537774CCB3	CCB	03/07/22 16:18				U	mg/L		-0.09	0.09			

ENSERO

ACZ Project ID: **L71577**

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.

Chromium, total recoverable

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537470													
WG537470ICV	ICV	02/28/22 16:46	II220215-3	2		1.962	mg/L	98	95	105			
WG537470ICB	ICB	02/28/22 16:52				U	mg/L		-0.06	0.06			
WG537470PQV	PQV	02/28/22 16:55	II220228-2	.05005		.057	mg/L	114	70	130			
WG537470SIC	SIC	02/28/22 16:58	II220228-3	.1001		.095	mg/L	95	80	120			
WG537345LRB	LRB	02/28/22 17:08				U	mg/L		-0.044	0.044			
WG537345LFB	LFB	02/28/22 17:11	II220215-2	.5005		.498	mg/L	100	85	115			
WG537470CCV1	CCV	02/28/22 17:37	II220228-4	1		1	mg/L	100	90	110			
WG537470CCB1	CCB	02/28/22 17:40				U	mg/L		-0.06	0.06			
L71562-02LFM	LFM	02/28/22 18:12	II220215-2	.5005	U	.511	mg/L	102	70	130			
WG537470CCV2	CCV	02/28/22 18:16	II220228-4	1		1.004	mg/L	100	90	110			
WG537470CCB2	CCB	02/28/22 18:19				U	mg/L		-0.06	0.06			
L71562-02LFMD	LFMD	02/28/22 18:22	II220215-2	.5005	U	.512	mg/L	102	70	130	0	20	
WG537470CCV3	CCV	02/28/22 18:44	II220228-4	1		1	mg/L	100	90	110			
WG537470CCB3	CCB	02/28/22 18:48				U	mg/L		-0.06	0.06			

Copper, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537647													
WG537647ICV	ICV	03/04/22 11:21	II220215-3	2		1.974	mg/L	99	95	105			
WG537647ICB	ICB	03/04/22 11:27				U	mg/L		-0.03	0.03			
WG537647PQV1	PQV	03/04/22 11:30	II220228-2	.05		.054	mg/L	108	70	130			
WG537647SIC	SIC	03/04/22 11:33	II220228-3	.1		.093	mg/L	93	80	120			
WG537647LFB	LFB	03/04/22 11:40	II220215-2	.5		.487	mg/L	97	85	115			
L58827-95AS	AS	03/04/22 11:46	II220215-2	.5	U	.493	mg/L	99	85	115			
L58827-95ASD	ASD	03/04/22 11:49	II220215-2	.5	U	.488	mg/L	98	85	115	1	20	
WG537647CCV1	CCV	03/04/22 12:10	II220228-4	1		1.009	mg/L	101	90	110			
WG537647CCB1	CCB	03/04/22 12:13				U	mg/L		-0.03	0.03			
WG537647CCV2	CCV	03/04/22 12:48	II220228-4	1		1.002	mg/L	100	90	110			
WG537647CCB2	CCB	03/04/22 12:51				U	mg/L		-0.03	0.03			
WG537647CCV3	CCV	03/04/22 13:09	II220228-4	1		.997	mg/L	100	90	110			
WG537647CCB3	CCB	03/04/22 13:12				U	mg/L		-0.03	0.03			

Cyanide, WAD

SM4500-CN I,E-Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537399													
WG537399ICV	ICV	02/25/22 13:19	WI220213-6	.3003		.3136	mg/L	104	90	110			
WG537399ICB	ICB	02/25/22 13:20				U	mg/L		-0.003	0.003			
WG537319LRB	LRB	02/25/22 13:21				U	mg/L		-0.003	0.003			
WG537319LFB	LFB	02/25/22 13:21	WI220213-4	.2002		.2059	mg/L	103	90	110			
WG537399CCV1	CCV	02/25/22 13:29	WI220213-7	.25		.2529	mg/L	101	90	110			
WG537399CCB1	CCB	02/25/22 13:30				U	mg/L		-0.003	0.003			
L71627-01DUP	DUP	02/25/22 13:32			U	U	mg/L				0	20	RA
L71627-02LFM	LFM	02/25/22 13:33	WI220213-4	.2002	.0078	.1933	mg/L	93	90	110			
WG537399CCV2	CCV	02/25/22 13:39	WI220213-7	.25		.2525	mg/L	101	90	110			
WG537399CCB2	CCB	02/25/22 13:40				U	mg/L		-0.003	0.003			
WG537399CCV3	CCV	02/25/22 13:48	WI220213-7	.25		.2528	mg/L	101	90	110			
WG537399CCB3	CCB	02/25/22 13:49				U	mg/L		-0.003	0.003			

ENSERO

ACZ Project ID: **L71577**

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.

Fluoride

SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537904													
WG537904ICV	ICV	03/08/22 21:35	WC220308-2	2.008		2.05	mg/L	102	90	110			
WG537904ICB	ICB	03/08/22 21:43				U	mg/L		-0.3	0.3			
WG537904PQV	PQV	03/08/22 21:49	WC220304-2	.3514		.36	mg/L	102	70	130			
WG537904LFB1	LFB	03/08/22 21:56	WC220104-2	5.02		5.26	mg/L	105	90	110			
L49989-160AS	AS	03/08/22 22:12	WC220104-2	5.02	U	5.29	mg/L	105	90	110			
L49989-160ASD	ASD	03/08/22 22:16	WC220104-2	5.02	U	5.12	mg/L	102	90	110	3	20	
WG537904CCV1	CCV	03/08/22 23:08	WC220308-2	2.008		2.07	mg/L	103	90	110			
WG537904CCB1	CCB	03/08/22 23:16				U	mg/L		-0.3	0.3			
WG537904CCV2	CCV	03/09/22 0:39	WC220308-2	2.008		2.11	mg/L	105	90	110			
WG537904CCB2	CCB	03/09/22 0:47				U	mg/L		-0.3	0.3			
WG537904LFB2	LFB	03/09/22 1:24	WC220104-2	5.02		5.19	mg/L	103	90	110			
WG537904CCV3	CCV	03/09/22 2:08	WC220308-2	2.008		2.11	mg/L	105	90	110			
WG537904CCB3	CCB	03/09/22 2:16				U	mg/L		-0.3	0.3			
WG537904CCV4	CCV	03/09/22 3:08	WC220308-2	2.008		2.09	mg/L	104	90	110			
WG537904CCB4	CCB	03/09/22 3:16				U	mg/L		-0.3	0.3			

Molybdenum, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537647													
WG537647ICV	ICV	03/04/22 11:21	II220215-3	2		1.989	mg/L	99	95	105			
WG537647ICB	ICB	03/04/22 11:27				U	mg/L		-0.06	0.06			
WG537647PQV1	PQV	03/04/22 11:30	II220228-2	.1002		.104	mg/L	104	70	130			
WG537647SIC	SIC	03/04/22 11:33	II220228-3	.1002		.089	mg/L	89	80	120			
WG537647LFB	LFB	03/04/22 11:40	II220215-2	.501		.497	mg/L	99	85	115			
L58827-95AS	AS	03/04/22 11:46	II220215-2	.501	U	.502	mg/L	100	85	115			
L58827-95ASD	ASD	03/04/22 11:49	II220215-2	.501	U	.497	mg/L	99	85	115	1	20	
WG537647CCV1	CCV	03/04/22 12:10	II220228-4	1		1.02	mg/L	102	90	110			
WG537647CCB1	CCB	03/04/22 12:13				U	mg/L		-0.06	0.06			
WG537647CCV2	CCV	03/04/22 12:48	II220228-4	1		1.013	mg/L	101	90	110			
WG537647CCB2	CCB	03/04/22 12:51				U	mg/L		-0.06	0.06			
WG537647CCV3	CCV	03/04/22 13:09	II220228-4	1		1.015	mg/L	102	90	110			
WG537647CCB3	CCB	03/04/22 13:12				U	mg/L		-0.06	0.06			

ENSERO

ACZ Project ID: **L71577**

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.

Molybdenum, total

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537774													
WG537774ICV	ICV	03/07/22 14:29	II220221-1	2		1.996	mg/L	100	95	105			
WG537774ICB	ICB	03/07/22 14:34				U	mg/L		-0.06	0.06			
WG537774PQV	PQV	03/07/22 14:38	II220228-2	.1002		.102	mg/L	102	70	130			
WG537774SIC	SIC	03/07/22 14:41	II220131-5	.1002		.085	mg/L	85	80	120			
WG537643LRB	LRB	03/07/22 14:47				U	mg/L		-0.044	0.044			
WG537643LFB	LFB	03/07/22 14:50	II220215-2	.501		.504	mg/L	101	85	115			
L71660-02LFM	LFM	03/07/22 15:08	II220215-2	.501	U	.502	mg/L	100	70	130			
L71660-02LFMD	LFMD	03/07/22 15:11	II220215-2	.501	U	.506	mg/L	101	70	130	1	20	
WG537774CCV1	CCV	03/07/22 15:17	II220304-1	1		1.009	mg/L	101	90	110			
WG537774CCB1	CCB	03/07/22 15:20				U	mg/L		-0.06	0.06			
WG537774CCV2	CCV	03/07/22 15:54	II220304-1	1		1.002	mg/L	100	90	110			
WG537774CCB2	CCB	03/07/22 15:57				U	mg/L		-0.06	0.06			
WG537774CCV3	CCV	03/07/22 16:15	II220304-1	1		1.009	mg/L	101	90	110			
WG537774CCB3	CCB	03/07/22 16:18				U	mg/L		-0.06	0.06			

Nitrate/Nitrite as N

M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG538009													
WG538009ICV	ICV	03/09/22 23:21	WI220301-7	2.4161		2.378	mg/L	98	90	110			
WG538009ICB	ICB	03/09/22 23:22				U	mg/L		-0.02	0.02			
WG538012													
WG538012CCV1	CCV	03/10/22 0:54	WI220304-1	2		2.051	mg/L	103	90	110			
WG538012CCB1	CCB	03/10/22 0:57				U	mg/L		-0.02	0.02			
WG538012LFB	LFB	03/10/22 0:58	WI211001-5	2		2.028	mg/L	101	90	110			
L71577-01AS	AS	03/10/22 1:01	WI211001-5	2	.024	1.899	mg/L	94	90	110			
L71577-02DUP	DUP	03/10/22 1:03			.139	.155	mg/L				11	20	RA
WG538012CCV2	CCV	03/10/22 1:11	WI220304-1	2		2.034	mg/L	102	90	110			
WG538012CCB2	CCB	03/10/22 1:14				U	mg/L		-0.02	0.02			
WG538012CCV3	CCV	03/10/22 1:27	WI220304-1	2		2.008	mg/L	100	90	110			
WG538012CCB3	CCB	03/10/22 1:30				U	mg/L		-0.02	0.02			
WG538012CCV4	CCV	03/10/22 1:40	WI220304-1	2		2.002	mg/L	100	90	110			
WG538012CCB4	CCB	03/10/22 1:43				U	mg/L		-0.02	0.02			

Phosphorus, total

M365.1 - Auto Ascorbic Acid (digest)

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537423													
WG537423ICV	ICV	02/26/22 0:39	WI220204-1	.65228		.661	mg/L	101	90	110			
WG537423ICB	ICB	02/26/22 0:42				U	mg/L		-0.01	0.01			
WG537350LRB	LRB	02/26/22 0:43				U	mg/L		-0.01	0.01			
WG537350LFB	LFB	02/26/22 0:44	WI220222-9	.5		.491	mg/L	98	90	110			
L71524-01LFM	LFM	02/26/22 0:47	WI220222-9	.5	U	.492	mg/L	98	90	110			
L71544-02DUP	DUP	02/26/22 0:49			.018	.02	mg/L				11	20	RA
WG537423CCV1	CCV	02/26/22 0:54	WI220204-3	.5		.502	mg/L	100	90	110			
WG537423CCB1	CCB	02/26/22 0:56				U	mg/L		-0.01	0.01			
WG537423CCV2	CCV	02/26/22 1:08	WI220204-3	.5		.5	mg/L	100	90	110			
WG537423CCB2	CCB	02/26/22 1:09				U	mg/L		-0.01	0.01			
WG537423CCV3	CCV	02/26/22 1:13	WI220204-3	.5		.501	mg/L	100	90	110			
WG537423CCB3	CCB	02/26/22 1:14				U	mg/L		-0.01	0.01			

ENSERO

ACZ Project ID: **L71577**

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.

Residue, Filterable (TDS) @180C

SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537270													
WG537270PBW	PBW	02/23/22 15:20				U	mg/L		-20	20			
WG537270LCSW	LCSW	02/23/22 15:22	PCN64728	1000		980	mg/L	98	80	120			
L71633-05DUP	DUP	02/23/22 16:14			334	328	mg/L				2	10	

Residue, Non-Filterable (TSS) @105C

SM2540D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537195													
WG537195PBW	PBW	02/22/22 17:00				U	mg/L		-5	5			
WG537195LCSW	LCSW	02/22/22 17:01	PCN64728	100		98	mg/L	98	80	120			
L71577-02DUP	DUP	02/22/22 17:10			U	U	mg/L				0	10	RA

Silver, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537570													
WG537570ICV	ICV	03/02/22 18:10	MS220125-1	.02		.02061	mg/L	103	90	110			
WG537570ICB	ICB	03/02/22 18:12				U	mg/L		-0.00022	0.00022			
WG537570LFB	LFB	03/02/22 18:15	MS220228-9	.01		.0099	mg/L	99	85	115			
WG537570CCV1	CCV	03/02/22 18:37	MS220228-3	.025		.02597	mg/L	104	90	110			
WG537570CCB1	CCB	03/02/22 18:40				U	mg/L		-0.0003	0.0003			
WG537570CCV2	CCV	03/02/22 19:04	MS220228-3	.025		.02545	mg/L	102	90	110			
WG537570CCB2	CCB	03/02/22 19:07				U	mg/L		-0.0003	0.0003			
L71645-01AS	AS	03/02/22 19:09	MS220228-9	.01	U	.01286	mg/L	129	70	130			
L71645-01ASD	ASD	03/02/22 19:11	MS220228-9	.01	U	.00952	mg/L	95	70	130	30	20	RF
WG537570CCV3	CCV	03/02/22 19:20	MS220228-3	.025		.02544	mg/L	102	90	110			
WG537570CCB3	CCB	03/02/22 19:22				U	mg/L		-0.0003	0.0003			
WG537669													
WG537669ICV	ICV	03/03/22 14:14	MS220125-1	.02		.0213	mg/L	107	90	110			
WG537669ICB	ICB	03/03/22 14:15				U	mg/L		-0.00022	0.00022			
WG537669LFB	LFB	03/03/22 14:17	MS220228-9	.01		.01006	mg/L	101	85	115			
WG537669CCV1	CCV	03/03/22 14:36	MS220228-3	.025		.02382	mg/L	95	90	110			
WG537669CCB1	CCB	03/03/22 14:38				U	mg/L		-0.0003	0.0003			
WG537669CCV2	CCV	03/03/22 14:59	MS220228-3	.025		.02324	mg/L	93	90	110			
WG537669CCB2	CCB	03/03/22 15:01				U	mg/L		-0.0003	0.0003			
L71666-01AS	AS	03/03/22 15:04	MS220228-9	.01	U	.00854	mg/L	85	70	130			
L71666-01ASD	ASD	03/03/22 15:06	MS220228-9	.01	U	.00886	mg/L	89	70	130	4	20	
WG537669CCV3	CCV	03/03/22 15:12	MS220228-3	.025		.02369	mg/L	95	90	110			
WG537669CCB3	CCB	03/03/22 15:14				U	mg/L		-0.0003	0.0003			

ENSERO

ACZ Project ID: **L71577**

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
WG538118													
WG538118ICB	ICB	03/11/22 11:58				1.1	mg/L		-3	3			
WG538118ICV	ICV	03/11/22 11:58	WI220302-3	20.46		20.9	mg/L	102	90	110			
WG538118CCV1	CCV	03/11/22 15:06	WI220302-4	24.875		24.9	mg/L	100	90	110			
WG538118CCB1	CCB	03/11/22 15:06				U	mg/L		-3	3			
L71577-01DUP	DUP	03/11/22 15:06			33.4	30.3	mg/L				10	20	
L71577-02AS	AS	03/11/22 15:07	WI211230-5	9.95	29.2	36.1	mg/L	69	90	110			M2
WG538118CCV2	CCV	03/11/22 15:09	WI220302-4	24.875		24.4	mg/L	98	90	110			
WG538118CCB2	CCB	03/11/22 15:09				U	mg/L		-3	3			
WG538118CCV3	CCV	03/11/22 15:10	WI220302-4	24.875		25.5	mg/L	103	90	110			
WG538118CCB3	CCB	03/11/22 15:10				U	mg/L		-3	3			
WG538118CCV4	CCV	03/11/22 16:29	WI220302-4	24.875		24.4	mg/L	98	90	110			
WG538118CCB4	CCB	03/11/22 16:29				U	mg/L		-3	3			
WG538118LFB	LFB	03/11/22 16:29	WI211230-5	9.95		10.1	mg/L	102	90	110			
WG538118CCV5	CCV	03/11/22 16:33	WI220302-4	24.875		24.6	mg/L	99	90	110			
WG538118CCB5	CCB	03/11/22 16:33				U	mg/L		-3	3			
WG538118CCV6	CCV	03/11/22 16:37	WI220302-4	24.875		24.9	mg/L	100	90	110			
WG538118CCB6	CCB	03/11/22 16:37				U	mg/L		-3	3			
WG538118CCV7	CCV	03/11/22 16:38	WI220302-4	24.875		24.4	mg/L	98	90	110			
WG538118CCB7	CCB	03/11/22 16:39				U	mg/L		-3	3			
WG538118CCV8	CCV	03/11/22 16:41	WI220302-4	24.875		24.6	mg/L	99	90	110			
WG538118CCB8	CCB	03/11/22 16:41				U	mg/L		-3	3			
WG538118CCV9	CCV	03/11/22 16:45	WI220302-4	24.875		24.7	mg/L	99	90	110			
WG538118CCB9	CCB	03/11/22 16:45				U	mg/L		-3	3			
WG538118CCV10	CCV	03/11/22 16:50	WI220302-4	24.875		24.9	mg/L	100	90	110			
WG538118CCB10	CCB	03/11/22 16:51				U	mg/L		-3	3			

Thallium, total recoverable

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537476													
WG537476ICV	ICV	02/28/22 14:18	MS220125-1	.05		.05459	mg/L	109	90	110			
WG537476ICB	ICB	02/28/22 14:20				U	mg/L		-0.0003	0.0003			
WG537403LRB	LRB	02/28/22 14:21				U	mg/L		-0.00022	0.00022			
WG537403LFB	LFB	02/28/22 14:23	MS220126-3	.05		.04704	mg/L	94	85	115			
WG537476CCV1	CCV	02/28/22 14:40	MS220228-3	.1		.10081	mg/L	101	90	110			
WG537476CCB1	CCB	02/28/22 14:42				U	mg/L		-0.0003	0.0003			
WG537476CCV2	CCV	02/28/22 15:03	MS220228-3	.1		.10129	mg/L	101	90	110			
WG537476CCB2	CCB	02/28/22 15:05				U	mg/L		-0.0003	0.0003			
L71640-03LFM	LFM	02/28/22 15:06	MS220126-3	.05	U	.04901	mg/L	98	70	130			
L71640-03LFMD	LFMD	02/28/22 15:08	MS220126-3	.05	U	.04902	mg/L	98	70	130	0	20	
WG537476CCV3	CCV	02/28/22 15:18	MS220228-3	.1		.10203	mg/L	102	90	110			
WG537476CCB3	CCB	02/28/22 15:20				U	mg/L		-0.0003	0.0003			

ENSERO

ACZ Project ID: **L71577**

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.

Uranium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537570													
WG537570ICV	ICV	03/02/22 18:10	MS220125-1	.05		.05092	mg/L	102	90	110			
WG537570ICB	ICB	03/02/22 18:12				U	mg/L		-0.00022	0.00022			
WG537570LFB	LFB	03/02/22 18:15	MS220228-9	.05		.04882	mg/L	98	85	115			
WG537570CCV1	CCV	03/02/22 18:37	MS220228-3	.1		.10277	mg/L	103	90	110			
WG537570CCB1	CCB	03/02/22 18:40				U	mg/L		-0.0003	0.0003			
WG537570CCV2	CCV	03/02/22 19:04	MS220228-3	.1		.10258	mg/L	103	90	110			
WG537570CCB2	CCB	03/02/22 19:07				U	mg/L		-0.0003	0.0003			
L71645-01AS	AS	03/02/22 19:09	MS220228-9	.05	.00062	.05587	mg/L	111	70	130			
L71645-01ASD	ASD	03/02/22 19:11	MS220228-9	.05	.00062	.05461	mg/L	108	70	130	2	20	
WG537570CCV3	CCV	03/02/22 19:20	MS220228-3	.1		.10038	mg/L	100	90	110			
WG537570CCB3	CCB	03/02/22 19:22				U	mg/L		-0.0003	0.0003			

Uranium, total

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537329													
WG537329ICV	ICV	02/24/22 13:46	MS220125-1	.05		.05031	mg/L	101	90	110			
WG537329ICB	ICB	02/24/22 13:48				U	mg/L		-0.0003	0.0003			
WG537240LRB	LRB	02/24/22 13:50				U	mg/L		-0.00022	0.00022			
WG537240LFB	LFB	02/24/22 13:52	MS220126-3	.05		.04702	mg/L	94	85	115			
WG537329CCV1	CCV	02/24/22 14:09	MS220201-4	.1		.09986	mg/L	100	90	110			
WG537329CCB1	CCB	02/24/22 14:11				U	mg/L		-0.0003	0.0003			
WG537329CCV2	CCV	02/24/22 14:31	MS220201-4	.1		.10197	mg/L	102	90	110			
WG537329CCB2	CCB	02/24/22 14:33				U	mg/L		-0.0003	0.0003			
L71577-01LFM	LFM	02/24/22 14:41	MS220126-3	.05	.0112	.06215	mg/L	102	70	130			
L71577-01LFMD	LFMD	02/24/22 14:42	MS220126-3	.05	.0112	.06299	mg/L	104	70	130	1	20	
WG537329CCV3	CCV	02/24/22 14:46	MS220201-4	.1		.10095	mg/L	101	90	110			
WG537329CCB3	CCB	02/24/22 14:48				U	mg/L		-0.0003	0.0003			

Zinc, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG537647													
WG537647ICV	ICV	03/04/22 11:21	II220215-3	2		1.929	mg/L	96	95	105			
WG537647ICB	ICB	03/04/22 11:27				U	mg/L		-0.06	0.06			
WG537647PQV1	PQV	03/04/22 11:30	II220228-2	.05015		.056	mg/L	112	70	130			
WG537647SIC	SIC	03/04/22 11:33	II220228-3	.1003		.109	mg/L	109	80	120			
WG537647LFB	LFB	03/04/22 11:40	II220215-2	.50045		.507	mg/L	101	85	115			
L58827-95AS	AS	03/04/22 11:46	II220215-2	.50045	U	.521	mg/L	104	85	115			
L58827-95ASD	ASD	03/04/22 11:49	II220215-2	.50045	U	.512	mg/L	102	85	115	2	20	
WG537647CCV1	CCV	03/04/22 12:10	II220228-4	1		1.016	mg/L	102	90	110			
WG537647CCB1	CCB	03/04/22 12:13				U	mg/L		-0.06	0.06			
WG537647CCV2	CCV	03/04/22 12:48	II220228-4	1		1.012	mg/L	101	90	110			
WG537647CCB2	CCB	03/04/22 12:51				U	mg/L		-0.06	0.06			
WG537647CCV3	CCV	03/04/22 13:09	II220228-4	1		.993	mg/L	99	90	110			
WG537647CCB3	CCB	03/04/22 13:12				U	mg/L		-0.06	0.06			

Ensero Solutions

ACZ Project ID: **L71577**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L71577-01	WG537399	Cyanide, WAD	SM4500-CN I,E-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).
	WG538012	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).
	WG537423	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	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).
	WG537195	Residue, Non-Filterable (TSS) @105C	SM2540D	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).
			SM2540D	Z3	Sample volume yielded a residue less than 2.5 mg
	WG538118	Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG537643	Total Hot Plate Digestion	M200.2 ICP	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG537403	Total Recoverable Digestion	M200.2 ICP-MS	DJ	Sample dilution required due to insufficient sample.
L71577-02	WG537399	Cyanide, WAD	SM4500-CN I,E-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).
	WG538012	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).
	WG537423	Phosphorus, total	M365.1 - Auto Ascorbic Acid (digest)	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).
	WG537195	Residue, Non-Filterable (TSS) @105C	SM2540D	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).
			SM2540D	Z3	Sample volume yielded a residue less than 2.5 mg
	WG537570	Silver, dissolved	M200.8 ICP-MS	RF	Relative Percent Difference (RPD) for Ag in spiked samples exceeded limit. In the absence of HCl, precipitation of Ag may occur at different rates.
	WG538118	Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.

Ensero Solutions

Project ID: 3100-PO205

Sample ID: SW-BPL

Locator:

ACZ Sample ID: **L71577-01**

Date Sampled: 02/18/22 11:00

Date Received: 02/22/22

Sample Matrix: Surface Water

Combined Radium (total)

Prep Method:

Calculation (RA226 + RA228)

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Combined Radium (total)	04/20/22 13:49		0			pCi/L		calc

Gross Alpha & Beta, total

Prep Method:

M900.0

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	03/04/22 0:34		6	2.8	6.6	pCi/L	*	fdw
Gross Beta	03/04/22 0:34		4.1	3.2	9.5	pCi/L		fdw

Radium 226, total

Prep Method:

M903.1

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Radium 226, total	04/19/22 0:18		0.18	0.09	0.4	pCi/L	*	fdw

Radium 228, total

Prep Method:

M904.0

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Radium 228, total	04/05/22 11:46		-1.1	1.1	2.7	pCi/L		ttg

Ensero Solutions

Project ID: 3100-PO205

Sample ID: SW-AWD

Locator:

ACZ Sample ID: **L71577-02**

Date Sampled: 02/18/22 11:30

Date Received: 02/22/22

Sample Matrix: Surface Water

Combined Radium (total)

Prep Method:

Calculation (RA226 + RA228)

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Combined Radium (total)	04/20/22 13:49		0			pCi/L		calc

Gross Alpha & Beta, total

Prep Method:

M900.0

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	03/04/22 0:36		2.1	1.9	16	pCi/L	*	fdw
Gross Beta	03/04/22 0:36		4.9	3.2	21	pCi/L		fdw

Radium 226, total

Prep Method:

M903.1

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Radium 226, total	04/19/22 0:20		0.16	0.08	0.43	pCi/L	*	fdw

Radium 228, total

Prep Method:

M904.0

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Radium 228, total	04/05/22 11:46		-0.22	1.1	2.6	pCi/L		ttg

Report Header Explanations

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Error(+/-)</i>	Calculated sample specific uncertainty
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>LCL</i>	Lower Control Limit, in % (except for LCSS, mg/Kg)
<i>LLD</i>	Calculated sample specific Lower Limit of Detection
<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
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
<i>RER</i>	Relative Error Ratio, calculation used for Dup. QC taking into account the error factor.
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>UCL</i>	Upper Control Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

QC Sample Types

<i>DUP</i>	Sample Duplicate	<i>MS/MSD</i>	Matrix Spike/Matrix Spike Duplicate
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBS</i>	Prep Blank - Soil
<i>LCSW</i>	Laboratory Control Sample - Water	<i>PBW</i>	Prep Blank - Water

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Matrix Spikes	Determines sample matrix interferences, if any.

ACZ Qualifiers (Qual)

H	Analysis exceeded method hold time.
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Method Prefix Reference

M	EPA methodology, including those under SDWA, CWA, and RCRA
SM	Standard Methods for the Examination of Water and Wastewater.
D	ASTM
RP	DOE
ESM	DOE/ESM

Comments

- (1) Solid matrices are reported on a dry weight basis.
- (2) Preparation method: "Method" indicates preparation defined in analytical method.
- (3) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.

For a complete list of ACZ's Extended Qualifiers, please click:

<https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf>

ENSERO

ACZ Project ID: **L71577**

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.

Alpha		M900.0										Units: pCi/L				
ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec%	Lower	Upper	RPD/RER	Limit	Qual
WG537471																
WG537471PBW	PBW	03/04/22						0	0.91	12			24			
WG537471LCSWA	LCSW	03/04/22	PCN64375	100				72	7.2	4.6	72	67	144			
L70053-01DUP	DUP-RPD	03/04/22			2400	330	710	2600	330	230				8	20	
L71076-01MSA	MS	03/04/22	PCN64375	909.09	900	130	190	1600	160	82	77	67	144			
L71577-02DUP	DUP-RPD	03/04/22			2.1	1.9	16	5	2.6	17				82	20	RG
L71577-02DUP	DUP-RER	03/04/22			2.1	1.9	16	5	2.6	17				0.9	2	

Beta		M900.0										Units: pCi/L				
ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec%	Lower	Upper	RPD/RER	Limit	Qual
WG537471																
WG537471PBW	PBW	03/04/22						2.5	3	20			40			
WG537471LCSWB	LCSW	03/04/22	PCN63438	1000				1100	21	7.6	110	82	122			
L70053-01DUP	DUP-RPD	03/04/22			2400	180	590	2300	170	280				4	20	
L71385-01MSB	MS	03/04/22	PCN63438	5882.35	310	33	50	6500	130	60	105	82	122			
L71577-02DUP	DUP-RPD	03/04/22			4.9	3.2	21	4.8	2.8	22				2	20	

Radium 226, total		M903.1										Units: pCi/L				
ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec%	Lower	Upper	RPD/RER	Limit	Qual
WG539738																
WG539738LCSW	LCSW	04/19/22	PCN64374	20				16	0.45	0.08	80	43	148			
WG539738PBW	PBW	04/19/22						.03	0.11	0.11			0.22			
L71480-01DUP	DUP-RER	04/19/22			0.32	0.07	0.49	.23	0.09	0.46				0.79	2	
L71480-01DUP	DUP-RPD	04/19/22			0.32	0.07	0.49	.23	0.09	0.46				33	20	RG
L71480-02MS	MS	04/19/22	PCN64374	20	0.54	0.11	0.37	17	0.55	0.52	82	43	148			
L71979-01DUP	DUP-RPD	04/19/22			0.11	0.22	0.76	.19	0.17	1.3				53	20	RG
L71979-01DUP	DUP-RER	04/19/22			0.11	0.22	0.76	.19	0.17	1.3				0.29	2	

ENSERO

ACZ Project ID: **L71577**

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.

Radium 228, total

M904.0

Units: pCi/L

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec%	Lower	Upper	RPD/RER	Limit	Qual
WG539202																
WG539202LCSW	LCSW	04/05/22	PCN64684	9.44				9.2	1.3	0.92	97	47	123			
WG539202PBW	PBW	04/05/22						.13	0.68	0.71			1.42			
L71577-01DUP	DUP-RPD	04/05/22			-1.1	1.1	2.7	-1	0.96	2.3				10	20	
L71746-01DUP	DUP-RPD	04/05/22			0.71	0.99	2.4	-.41	1.2	2.8				747	20	RG
L71722-01MS	MS	04/05/22	PCN64684	9.44	-0.52	0.92	2.5	7.6	1.2	2.3	86	47	123			
L71746-01DUP	DUP-RER	04/05/22			0.71	0.99	2.4	-.41	1.2	2.8				0.72	2	

Ensero Solutions

ACZ Project ID: **L71577**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L71577-01	WG537471	Gross Alpha	M900.0	RG	Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control.
	WG539738	Radium 226, total	M903.1	RG	Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control.
L71577-02	WG537471	Gross Alpha	M900.0	RG	Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control.
	WG539738	Radium 226, total	M903.1	RG	Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control.

Ensero Solutions

ACZ Project ID: **L71577**

No certification qualifiers associated with this analysis

Ensero Solutions
3100-PO205

ACZ Project ID: L71577
Date Received: 02/22/2022 11:46
Received By:
Date Printed: 2/23/2022

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?	☐	☐	☒
2) Is the Chain of Custody form or other directive shipping papers present?	☒	☐	☐
3) Does this project require special handling procedures such as CLP protocol?	☐	☒	☐
4) Are any samples NRC licensable material?	☐	☐	☒
5) If samples are received past hold time, proceed with requested short hold time analyses?	☒	☐	☐
6) Is the Chain of Custody form complete and accurate?	☒	☐	☐
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?	☐	☒	☐

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	☒	☐	☐
9) Are all labels on containers and are they intact and legible?	☒	☐	☐
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	☒	☐	☐
11) For preserved bottle types, was the pH checked and within limits? ¹	☒	☐	☐
12) Is there sufficient sample volume to perform all requested work?	☒	☐	☐
13) Is the custody seal intact on all containers?	☐	☐	☒
14) Are samples that require zero headspace acceptable?	☐	☐	☒
15) Are all sample containers appropriate for analytical requirements?	☒	☐	☐
16) Is there an Hg-1631 trip blank present?	☐	☐	☒
17) Is there a VOA trip blank present?	☐	☐	☒
18) Were all samples received within hold time?	☒	☐	☐

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?
-----	-----	-----	-----	-----
6078	1.9	<=6.0	15	N/A

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.

Ensero Solutions
3100-PO205

ACZ Project ID: L71577

Date Received: 02/22/2022 11:46

Received By:

Date Printed: 2/23/2022

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).

**Laboratories, Inc.**

L71577

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Christie Brizinski

Company: Ensero Solutions

E-mail: cbrizinski@ensero.com

Address: 131 E. Lincoln Ave Ste. 200

Fort Collins, CO 80524

Telephone: 867-668-6463, ext 229

Copy of Report to:

Name: Evan Valencia

Company: Ensero Solutions

E-mail: evalencia@ensero.com

Telephone: 818-688-1839

Invoice to:

Name: Pauline Wong

Company: Ensero Solutions

E-mail: ap@ensero.com

Address: 131 E. Lincoln Ave Ste. 200

Fort Collins, CO 80524

Telephone: 778-404-1182

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: EV, TF

Sampler's Site Information

State CO

Zip code 80401

Time Zone MTN

*Sampler's 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 #: Ensero-2020

PO#: 3100-PO205

Reporting state for compliance testing: CO

Check box if samples include NRC licensed material? ☐

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# c	TSS	San	San	CO	LLH	Sam	TDS	
SW-BPL	2-18-2022: 11:00	SW	8	☐	☐	☒	☐	☐	☐	☐	☐
SW-AWD	2-18-2022: 11:30	SW	8	☐	☐	☒	☐	☐	☐	☐	☐
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