August 12, 2022

Report to: Bill to:

Kara Haas Accounts Payable

South32 South32

749 Harshaw Rd 2210 E Fort Lowell Road

Patagonia, AZ 85624 Tucson, AZ 85719

Project ID: 4542257445 ACZ Project ID: L73273

#### Kara Haas:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on May 17, 2022. This project has been assigned to ACZ's project number, L73273. 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 L73273. 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 August 01, 2024. If the samples are determined to be hazardous, additional charges apply for disposal (typically \$11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Mark McNeal has reviewed and approved this report.





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Case <u>Na</u>rrative

South32 August 12, 2022

Project ID: 4542257445 ACZ Project ID: L73273

#### Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 1 groundwater sample from South32 on May 17, 2022. The sample was received in good condition. Upon receipt, the sample custodian removed the sample from the cooler, inspected the contents, and logged the sample into ACZ's computerized Laboratory Information Management System (LIMS). The sample was assigned ACZ LIMS project number L73273. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

#### **Holding Times**

All analyses were performed within EPA recommended holding times.

#### Sample Analysis

This sample was analyzed for inorganic, radiochemistry parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The extended qualifier reports may contain footnotes qualifying specific elements due to QC failures. In addition the following has been noted with this specific project:

Sample being rereported for Ra-228 due to client request.

1. Qualifier: (N1) Applies to: L73273-01/URANIUM 235

LCSW recovery for Uranium-235 above acceptance limits. MS recovery for Uranium-235 within limits and used as positive control.

2. Qualifier: N1 Applies to: L73273-01/RADIUM 228

LCSW out of acceptance limits. MS within acceptance limits and used for positive control.

South32

Project ID: 4542257445 Sample ID: MW3-05162022 ACZ Sample ID: L73273-01

Date Sampled: 05/16/22 11:05

Date Received: 05/17/22 Sample Matrix: Groundwater

Metals Analysis										
Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Antimony, dissolved	M200.8 ICP-MS	2	<0.0008	U		mg/L	0.0008	0.004	06/01/22 20:11	kja
Arsenic, dissolved	M200.8 ICP-MS	2	0.00479			mg/L	0.0004	0.002	06/01/22 20:11	kja
Barium, dissolved	M200.7 ICP	2	0.0214	В		mg/L	0.014	0.07	05/25/22 15:27	keh1
Beryllium, dissolved	M200.8 ICP-MS	2	0.000548			mg/L	0.00016	0.0005	06/01/22 20:11	kja
Cadmium, dissolved	M200.8 ICP-MS	2	0.00472			mg/L	0.0001	0.0005	06/01/22 20:11	kja
Chromium, dissolved	M200.8 ICP-MS	2	<0.001	U		mg/L	0.001	0.004	06/01/22 20:11	kja
Copper, dissolved	M200.8 ICP-MS	2	<0.0016	U		mg/L	0.0016	0.004	06/01/22 20:11	kja
Iron, dissolved	M200.7 ICP	2	1.07			mg/L	0.12	0.3	05/25/22 15:27	keh1
Lead, dissolved	M200.8 ICP-MS	2	0.00262			mg/L	0.0002	0.001	06/01/22 20:11	kja
Manganese, dissolved	M200.7 ICP	2	20.5			mg/L	0.02	0.1	05/25/22 15:27	keh1
Mercury, dissolved	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	05/26/22 13:57	mlh
Nickel, dissolved	M200.7 ICP	2	0.0366	В		mg/L	0.016	0.08	05/25/22 15:27	keh1
Selenium, dissolved	M200.8 ICP-MS	2	<0.0002	U		mg/L	0.0002	0.0005	06/01/22 20:11	kja
Thallium, dissolved	M200.8 ICP-MS	2	<0.0002	U		mg/L	0.0002	0.001	06/01/22 20:11	kja
Zinc, dissolved	M200.7 ICP	2	3.91			mg/L	0.04	0.1	05/25/22 15:27	keh1
Wet Chemistry										
Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	163			mg/L	2	20	05/26/22 0:00	jck
Carbonate as CaCO3		1	<2	U		mg/L	2	20	05/26/22 0:00	jck
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	05/26/22 0:00	jck
Total Alkalinity		1	163			mg/L	2	20	05/26/22 0:00	jck
Conductivity @25C	SM2510B	1	2990		1	umhos/cm	1	10	05/26/22 21:29	jck
Cyanide, Free	D6888-09/OIA-1677-09	1	< 0.003	U	*	mg/L	0.003	0.01	05/20/22 13:25	mjj1
Fluoride	SM4500F-C	1	1.10			mg/L	0.15	0.35	06/06/22 10:40	emk
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		<0.02	U		mg/L	0.02	0.1	08/12/22 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	<0.02	U	*	mg/L	0.02	0.1	05/18/22 1:42	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	<0.01	U	*	mg/L	0.01	0.05	05/18/22 1:42	pjb
pH (lab)	SM4500H+ B									
рН		1	7.7	Н		units	0.1	0.1	05/26/22 0:00	jck
pH measured at		1	21.6			С	0.1	0.1	05/26/22 0:00	jck
Residue, Filterable (TDS) @180C	SM2540C	1	2970			mg/L	20	40	05/19/22 10:33	anc
Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	120	1970		*	mg/L	120	600	05/24/22 15:49	bls

Arizona license number: AZ0102

REPIN.02.06.05.01 \* Please refer to Qualifier Reports for details.

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Report Header Explana	ations
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Batch A distinct set of samples analyzed at a specific time

Found Value of the QC Type of interest Limit Upper limit for RPD, in %.

Lower Lower Recovery Limit, in % (except for LCSS, mg/Kg)

MDL Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5).

Allows for instrument and annual fluctuations.

PCN/SCN A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis

PQL Practical Quantitation Limit. Synonymous with the EPA term "minimum level".

QC True Value of the Control Sample or the amount added to the Spike

Rec Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)

RPD Relative Percent Difference, calculation used for Duplicate QC Types

Upper Upper Recovery Limit, in % (except for LCSS, mg/Kg)

Sample Value of the Sample of interest

QC	Sampl	e Types

	<b>,</b> ,		
AS	Analytical Spike (Post Digestion)	LCSWD	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	LFB	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	LFM	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	LFMD	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	LRB	Laboratory Reagent Blank
ICB	Initial Calibration Blank	MS	Matrix Spike
ICV	Initial Calibration Verification standard	MSD	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	PBS	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	PBW	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	PQV	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	SDL	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

REP001.03.15.02

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NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Alkalinity as CaC	O3		SM2320E	B - Titration									
ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543101													
WG543101PBW1	PBW	05/26/22 19:05				14.2	mg/L		-20	20			
WG543101LCSW3	LCSW	05/26/22 19:24	WC220513-7	820.0001		784.6	mg/L	96	90	110			
L73278-02DUP	DUP	05/26/22 22:14			200	180.7	mg/L				10	20	
WG543101LCSW6	LCSW	05/26/22 22:31	WC220513-7	820.0001		779.2	mg/L	95	90	110			
WG543101PBW2	PBW	05/26/22 22:37				4.8	mg/L		-20	20			
WG543101LCSW9	LCSW	05/27/22 1:21	WC220513-7	820.0001		779.9	mg/L	95	90	110			
WG543101PBW3	PBW	05/27/22 1:27				7.2	mg/L		-20	20			
WG543101LCSW12	LCSW	05/27/22 4:44	WC220513-7	820.0001		783.2	mg/L	96	90	110			
WG543101PBW4	PBW	05/27/22 4:51				5.3	mg/L		-20	20			
WG543101LCSW15	LCSW	05/27/22 7:39	WC220513-7	820.0001		788.2	mg/L	96	90	110			
Antimony, dissol	ved		M200.8 I	CP-MS									
ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543358													
WG543358ICV	ICV	06/01/22 19:49	MS220502-1	.0201		.01917	mg/L	95	90	110			
WG543358ICB	ICB	06/01/22 19:51				U	mg/L		-0.00088	0.00088			
WG543358LFB	LFB	06/01/22 19:52	MS220506-2	.01		.01038	mg/L	104	85	115			
L73319-02AS	AS	06/01/22 20:14	MS220506-2	.01	U	.0097	mg/L	97	70	130			
L73319-02ASD	ASD	06/01/22 20:16	MS220506-2	.01	U	.0101	mg/L	101	70	130	4	20	
Arsenic, dissolve	ed		M200.8 I	CP-MS									
ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543358													
WG543358ICV	ICV	06/01/22 19:49	MS220502-1	.05		.05175	mg/L	104	90	110			
WG543358ICB	ICB	06/01/22 19:51				U	mg/L		-0.00044	0.00044			
WG543358LFB	LFB	06/01/22 19:52	MS220506-2	.05005		.05166	mg/L	103	85	115			
L73319-02AS	AS	06/01/22 20:14	MS220506-2	.05005	.00036	.05181	mg/L	103	70	130			
L73319-02ASD	ASD	06/01/22 20:16	MS220506-2	.05005	.00036	.05406	mg/L	107	70	130	4	20	
Barium, dissolve	d		M200.7 I	СР									
ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG542886													
WG542886ICV	ICV	05/25/22 15:02	II220519-3	2		1.942	mg/L	97	95	105			
WG542886ICB	ICB	05/25/22 15:08		_		U	mg/L		-0.021	0.021			
WG542886LFB	LFB	05/25/22 15:21	11220505-2	.5		.4997	mg/L	100	85	115			
L73325-04AS	AS	05/25/22 15:43	11220505-2	.5	.0682	.5623	mg/L	99	85	115			
L73325-04ASD	ASD	05/25/22 15:46	II220505-2	.5	.0682	.5742	mg/L	101	85	115	2	20	
Beryllium, dissol	ved		M200.8 I	CP-MS									
ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543358													
WG543358ICV	ICV	06/01/22 19:49	MS220502-1	.05		.051394	mg/L	103	90	110			
WG543358ICB	ICB	06/01/22 19:51		.50		.000149	mg/L		-0.000176	0.000176			
WG543358LFB	LFB	06/01/22 19:52	MS220506-2	.05005		.052934	mg/L	106	85	115			
L73319-02AS	AS	06/01/22 20:14	MS220506-2	.05005	U	.053412	mg/L	107	70	130			
L73319-02ASD	ASD	06/01/22 20:16	MS220506-2	.05005	U	.056172		112	70	130	5	20	

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South32 ACZ Project ID: L73273

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.

ilmits are in % Re	₽C.												
Cadmium, dissol	lved		M200.8 I	CP-MS									
ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543358													
WG543358ICV	ICV	06/01/22 19:49	MS220502-1	.05		.052163	mg/L	104	90	110			
WG543358ICB	ICB	06/01/22 19:51				U	mg/L		-0.00011	0.00011			
WG543358LFB	LFB	06/01/22 19:52	MS220506-2	.05005		.050876	mg/L	102	85	115			
L73319-02AS	AS	06/01/22 20:14	MS220506-2	.05005	U	.050266	mg/L	100	70	130			
L73319-02ASD	ASD	06/01/22 20:16	MS220506-2	.05005	U	.052275	mg/L	104	70	130	4	20	
Chromium, disso	olved		M200.8 I	CP-MS									
ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543358													
WG543358ICV	ICV	06/01/22 19:49	MS220502-1	.05		.05165	mg/L	103	90	110			
WG543358ICB	ICB	06/01/22 19:51				U	mg/L		-0.0011	0.0011			
WG543358LFB	LFB	06/01/22 19:52	MS220506-2	.05		.05089	mg/L	102	85	115			
L73319-02AS	AS	06/01/22 20:14	MS220506-2	.05	U	.05065	mg/L	101	70	130			
L73319-02ASD	ASD	06/01/22 20:16	MS220506-2	.05	U	.05261	mg/L	105	70	130	4	20	
Conductivity @2	5C		SM2510E	3									
ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543101													
WG543101LCSW2	LCSW	05/26/22 19:11	PCN65454	1409		1497	umhos/cm	106	90	110			
L73278-02DUP	DUP	05/26/22 22:14	1 01103434	1409	722	715	umhos/cm	100	90	110	1	20	
WG543101LCSW5	LCSW	05/26/22 22:14	PCN65454	1409	122	1484	umhos/cm	105	90	110	'	20	
WG543101LCSW8	LCSW	05/27/22 1:09	PCN65454	1409		1482	umhos/cm	105	90	110			
WG543101LCSW11		05/27/22 4:33	PCN65454	1409		1473	umhos/cm	105	90	110			
WG543101LCSW14		05/27/22 7:28	PCN65454	1409		1464	umhos/cm	104	90	110			
Conner dissolve	. al		M200.8 I	CD MS									
Copper, dissolve		A se a la sea a d			Commis	Farmel	Heite	<b>D</b> = -0/	1	Honor	DDD	Limit	Ourl
ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543358													
WG543358ICV	ICV	06/01/22 19:49	MS220502-1	.05		.05446	mg/L	109	90	110			
WG543358ICB	ICB	06/01/22 19:51				U	mg/L		-0.00176	0.00176			
WG543358LFB	LFB	06/01/22 19:52	MS220506-2	.05		.05171	mg/L	103	85	115			
L73319-02AS	AS	06/01/22 20:14	MS220506-2	.05	.00082	.05253	mg/L	103	70	130			
L73319-02ASD	ASD	06/01/22 20:16	MS220506-2	.05	.00082	.05452	mg/L	107	70	130	4	20	
Cyanide, Free			D6888-09	9/OIA-1677	-09								
ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG542646													
WG542646ICV	ICV	05/20/22 12:53	WI220520-3	.3003		.3085	mg/L	103	90	110			
WG542646ICB	ICB	05/20/22 12:55				U	mg/L		-0.003	0.003			
WG542646LFB	LFB	05/20/22 12:59	WI220520-5	.1001		.1037	mg/L	104	90	110			
L73270-01AS	AS	05/20/22 13:29	WI220520-5	.1001	U	.0948	mg/L	95	90	110			
L73270-01ASD	ASD	05/20/22 13:31	WI220520-5	.1001	U	.0972	mg/L	97	90	110	3	20	

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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.

IIIIIIIS AIC III /6 ING	<del>.</del> .												
Fluoride			SM4500F	-C									
ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543642													
WG543642ICV	ICV	06/06/22 10:23	WC220602-7	2.008		2.06	mg/L	103	90	110			
WG543642ICB	ICB	06/06/22 10:28				U	mg/L		-0.3	0.3			
WG543642LFB1	LFB	06/06/22 10:35	WC220104-2	5.02		5.46	mg/L	109	90	110			
L73273-01AS	AS	06/06/22 10:45	WC220104-2	5.02	1.1	5.93	mg/L	96	90	110			
L73273-01ASD	ASD	06/06/22 10:49	WC220104-2	5.02	1.1	5.9	mg/L	96	90	110	1	20	
Iron, dissolved			M200.7 IC	P									
ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG542886													
WG542886ICV	ICV	05/25/22 15:02	II220519-3	2		1.973	mg/L	99	95	105			
WG542886ICB	ICB	05/25/22 15:08				U	mg/L		-0.18	0.18			
WG542886LFB	LFB	05/25/22 15:21	11220505-2	1.0013		1.017	mg/L	102	85	115			
L73325-04AS	AS	05/25/22 15:43	II220505-2	1.0013	U	1.038	mg/L	104	85	115			
L73325-04ASD	ASD	05/25/22 15:46	II220505-2	1.0013	U	1.066	mg/L	106	85	115	3	20	
Lead, dissolved			M200.8 IC	P-MS									_
ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543358													
WG543358ICV	ICV	06/01/22 19:49	MS220502-1	.05		.05332	mg/L	107	90	110			
WG543358ICB	ICB	06/01/22 19:51				U	mg/L		-0.00022	0.00022			
WG543358LFB	LFB	06/01/22 19:52	MS220506-2	.0501		.05233	mg/L	104	85	115			
L73319-02AS	AS	06/01/22 20:14	MS220506-2	.0501	.00089	.05256	mg/L	103	70	130			
L73319-02ASD	ASD	06/01/22 20:16	MS220506-2	.0501	.00089	.05488	mg/L	108	70	130	4	20	
Manganese, diss	olved		M200.7 IC	P									
ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG542886													
WG542886ICV	ICV	05/25/22 15:02	II220519-3	2		1.95	mg/L	98	95	105			
WG542886ICB	ICB	05/25/22 15:08				U	mg/L		-0.03	0.03			
WG542886LFB	LFB	05/25/22 15:21	11220505-2	.499		.514	mg/L	103	85	115			
L73325-04AS	AS	05/25/22 15:43	II220505-2	.499	U	.519	mg/L	104	85	115			
L73325-04ASD	ASD	05/25/22 15:46	11220505-2	.499	U	.531	mg/L	106	85	115	2	20	
Mercury, dissolv	ed		M245.1 C	VAA									
ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG542977													
WG542977ICV	ICV	05/26/22 12:35	HG220523-3	.005005		.00494	mg/L	99	95	105			
WG542977ICB	ICB	05/26/22 12:36				U	mg/L		-0.0002	0.0002			
WG542979													
WG542979LRB	LRB	05/26/22 13:45				U	mg/L		-0.00044	0.00044			
WG542979LFB	LFB	05/26/22 13:45	HG220523-6	.002002		.00187	mg/L	93	85	115			
L73272-01LFM	LFM	05/26/22 13:48	HG220523-6	.002002	U	.00187	mg/L	93	85	115			
L73272-01LFMD	LFMD	05/26/22 13:49	HG220523-6	.002002	U	.00184	mg/L	92	85	115	2	20	

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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.

Nicket    Nic	minus are mi /o ixe	70.												
WG542886         WG542886ICV         ICV         05/25/22 15:02         II220519-3         2         1,929         mg/L         96         95         105         VEX. NG542886ICB         ICD         05/25/22 15:02         II220519-3         2         1,929         mg/L         96         95         105         VEX. NG542886ICB         ICD         05/25/22 15:42         II220505-2         5005         U         5028         mg/L         100         85         115         L         L         L         L         CVBC542846AB         AS         05/25/22 15:44         II220505-2         5005         U         5028         mg/L         101         85         115         L	Nickel, dissolved	ı		M200.7 IC	P									
WG542886ICV   ICV   05/25/22 15:08   IC20519-3   2   1.929   mgl.   96   95   105   V   V   V   V   V   V   V   V   V	ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WGS42886ICB	WG542886													
WG542886LFB	WG542886ICV	ICV	05/25/22 15:02	II220519-3	2		1.929	mg/L	96	95	105			
L73325-04AS AS 05/25/22 15:43   ii20505-2   .5005   U   .5037   mg/L   101   85   115   2   20    Nitrate/Nitrite as N, disso/vet	WG542886ICB	ICB	05/25/22 15:08				U	mg/L		-0.024	0.024			
M353,2 - Automated   Cadmium   Record   C	WG542886LFB	LFB	05/25/22 15:21	II220505-2	.5005		.5028	mg/L	100	85	115			
Mitrate/Nitrite as N, dissolved   M353.2 - Automated Cadmium Reduction   M6542424	L73325-04AS	AS	05/25/22 15:43	II220505-2	.5005	U	.5037	mg/L	101	85	115			
MCG12    Type   Analyzed   PCN/SCN   QC   Sample   Found   Units   Rec'k   Lower   Upper   RPD   Limit	L73325-04ASD	ASD	05/25/22 15:46	11220505-2	.5005	U	.5128	mg/L	102	85	115	2	20	
WG542424  WG542424  CP	Nitrate/Nitrite as	N, diss	olved	M353.2 - A	Automate	d Cadmiun	n Reduc	tion						
Wight   Wigh	ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
NG642424(ICB   ICB   05/18/22 1:05   W1220401-10   2   U   mg/L   100   90   110   110   72   72272-03AS   AS   05/18/22 1:31   W1220401-10   2   U   2.048   mg/L   102   90   110   2   2   20   20   20   20   20	WG542424													
Wight   Wigh	WG542424ICV	ICV	05/18/22 1:04	WI220301-7	2.4161		2.258	mg/L	93	90	110			
AS   05/18/22 1:31   W120401-10   2   U   2.048   mg/L   102   90   110   2   2   20	WG542424ICB	ICB	05/18/22 1:05				U	mg/L		-0.02	0.02			
Matrice as N, dissolved   Matrice as N, di	WG542424LFB	LFB	05/18/22 1:09	WI220401-10	2		2.004	mg/L	100	90	110			
M353.2 - Automated Cadmium Reduction   R	L73272-03AS	AS	05/18/22 1:31	WI220401-10	2	U	2.048	mg/L	102	90	110			
ACZ ID Type Analyzed PCN/SCN QC Sample Found Units Rec% Lower Upper RPD Limit  WG542424  WG542424CV ICV 05/18/22 1:04 WI220301-7 .6089	L73272-04DUP	DUP	05/18/22 1:33			.147	.15	mg/L				2	20	RA
WG542424ICV   CV   05/18/22 1:04   Wi220301-7   .6089   .609   mg/L   100   90   110   WG542424ICB   ICB   05/18/22 1:05   U   mg/L   -0.01   0.01   WG542424ICB   LFB   05/18/22 1:09   Wi220401-10   1   1.046   mg/L   105   90   110   L73272-03AS   AS   05/18/22 1:31   Wi220401-10   1   U   1.092   mg/L   109   90   110   L73272-04DUP   DUP   05/18/22 1:33   U   U   U   mg/L   WG542101   U   U   U   WG542101   U   U   U   U   U   U   U   U   U	Nitrite as N, diss	olved		M353.2 - A	Automate	d Cadmiun	n Reduc	tion						
MG542424 CV   ICV   05/18/22 1:04   W 220301-7   .6089   .609   mg/L   100   90   110   W	ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qua
NG542424ICB   ICB   05/18/22 1:05	WG542424													
NG542424LFB	NG542424ICV	ICV	05/18/22 1:04	WI220301-7	.6089		.609	mg/L	100	90	110			
AS 05/18/22 1:31 W1220401-10 1 U 1.092 mg/L 109 90 1110  PH (lab) SM4500H+ B  ACZ ID Type Analyzed PCN/SCN QC Sample Found Units Rec% Lower Upper RPD Limit  WG543101LCSW1 LCSW 05/26/22 19:09 PCN64057 6 6.1 units 102 5.9 6.1  L73278-02DUP DUP 05/26/22 22:14 8 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW4 LCSW 05/26/22 19:09 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW7 LCSW 05/26/22 22:18 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW7 LCSW 05/26/22 22:18 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW7 LCSW 05/27/22 1:08 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW7 LCSW 05/27/22 1:08 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW13 LCSW 05/27/22 1:08 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW13 LCSW 05/27/22 2:38 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW13 LCSW 05/27/22 2:38 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW13 LCSW 05/27/22 7:26 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW13 LCSW 05/27/22 7:26 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW15 LCSW 05/27/22 7:26 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW16 LCSW 05/27/22 7:26 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW16 LCSW 05/27/22 7:26 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW16 LCSW 05/27/22 7:26 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW16 LCSW 05/27/22 7:26 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW16 LCSW 05/27/22 7:26 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW16 LCSW 05/27/22 7:26 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW16 LCSW 05/27/22 7:26 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW16 LCSW 05/27/22 7:26 PCN64057 6 6.1 units 102 5.9 6.1	WG542424ICB	ICB	05/18/22 1:05				U	mg/L		-0.01	0.01			
### DUP 05/18/22 1:33  ### U U mg/L  ### U U u u mg/L  ### U U u u mg/L  ### U u u u u u	WG542424LFB	LFB	05/18/22 1:09	WI220401-10	1		1.046	mg/L	105	90	110			
SM4500H+ B  ACZ ID Type Analyzed PCN/SCN QC Sample Found Units Rec% Lower Upper RPD Limit  WG543101  WG543101LCSW1 LCSW 05/26/22 19:09 PCN64057 6 6.1 units 102 5.9 6.1  L73278-02DUP DUP 05/26/22 22:14 8.3 8.3 units 0 2 0 20  WG543101LCSW4 LCSW 05/26/22 22:18 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW7 LCSW 05/27/22 1:08 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW7 LCSW 05/27/22 4:31 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW10 LCSW 05/27/22 4:31 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW11 LCSW 05/27/22 7:26 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW13 LCSW 05/27/22 7:26 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW13 LCSW 05/27/22 7:26 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW13 LCSW 05/27/22 7:26 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW13 LCSW 05/27/22 7:26 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW13 LCSW 05/27/22 7:26 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW13 LCSW 05/27/22 7:26 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW13 LCSW 05/27/22 7:26 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW13 LCSW 05/27/22 7:26 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW13 LCSW 05/27/22 7:26 PCN64057 6 6.1 units 102 5.9 6.1	L73272-03AS	AS	05/18/22 1:31	WI220401-10	1	U	1.092	mg/L	109	90	110			
ACZ ID Type Analyzed PCN/SCN QC Sample Found Units Rec% Lower Upper RPD Limit  WG543101  WG543101LCSW1 LCSW 05/26/22 19:09 PCN64057 6 6.1 units 102 5.9 6.1  L73278-02DUP DUP 05/26/22 22:14 8.3 8.3 units 0 20  WG543101LCSW4 LCSW 05/26/22 22:18 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW7 LCSW 05/27/22 1:08 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW10 LCSW 05/27/22 4:31 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW110 LCSW 05/27/22 4:31 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW13 LCSW 05/27/22 7:26 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW13 LCSW 05/27/22 7:26 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW13 LCSW 05/27/22 7:26 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW13 LCSW 05/27/22 7:26 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW13 LCSW 05/27/22 7:26 PCN64057 F 6 6.1 units 102 5.9 6.1  WG543101LCSW13 LCSW 05/27/22 7:26 PCN64057 F C.1 units 102 5.9 6.1  WG543101LCSW13 LCSW 05/27/22 7:26 PCN64057 F C.1 units 102 5.9 6.1  WG543101LCSW13 LCSW 05/27/22 7:26 PCN64057 F C.1 units 102 5.9 6.1	L73272-04DUP	DUP	05/18/22 1:33			U	U	mg/L				0	20	RA
WG543101LCSW1 LCSW 05/26/22 19:09 PCN64057 6 6.1 units 102 5.9 6.1  73278-02DUP DUP 05/26/22 22:14 8.3 8.3 units 0 20  WG543101LCSW4 LCSW 05/26/22 22:18 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW7 LCSW 05/27/22 1:08 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW10 LCSW 05/27/22 1:08 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW10 LCSW 05/27/22 4:31 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW110 LCSW 05/27/22 7:26 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW13 LCSW 05/27/22 7:26 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW13 LCSW 05/27/22 7:26 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW13 LCSW 05/27/22 7:26 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW13 LCSW 05/27/22 7:26 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW13 LCSW 05/27/22 7:26 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW13 LCSW 05/27/22 7:26 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW13 LCSW 05/27/22 7:26 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW13 LCSW 05/27/22 7:26 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW13 LCSW 05/27/22 7:26 PCN64057 6 6.1 units 102 5.9 6.1  WG543101LCSW13 LCSW 05/27/22 7:26 PCN64057 6 6.1 units 102 5.9 6.1	oH (lab)			SM4500H	+ B									
WG543101LCSW1         LCSW         05/26/22 19:09         PCN64057         6         6.1         units         102         5.9         6.1           L73278-02DUP         DUP         05/26/22 22:14         8.3         8.3         units         0         20           WG543101LCSW4         LCSW         05/26/22 22:18         PCN64057         6         6.1         units         102         5.9         6.1           WG543101LCSW7         LCSW         05/27/22 1:08         PCN64057         6         6.1         units         102         5.9         6.1           WG543101LCSW10         LCSW         05/27/22 4:31         PCN64057         6         6.1         units         102         5.9         6.1           WG543101LCSW13         LCSW         05/27/22 7:26         PCN64057         6         6.1         units         102         5.9         6.1           WG543101LCSW13         LCSW         05/27/22 7:26         PCN64057         6         6.1         units         102         5.9         6.1           WG542576         SM2540C         SM2540C         Smple         Found         Units         Rec%         Lower         Upper         RPD         Limit	ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qua
### Aralyzed PCN/SCN QC Sample Found Units Rec\( \) Lower Upper RPD Limit  ##################################	WG543101													
WG543101LCSW4         LCSW         05/26/22 22:18         PCN64057         6         6.1         units         102         5.9         6.1           WG543101LCSW7         LCSW         05/27/22 1:08         PCN64057         6         6.1         units         102         5.9         6.1           WG543101LCSW10         LCSW         05/27/22 4:31         PCN64057         6         6.1         units         102         5.9         6.1           WG543101LCSW13         LCSW         05/27/22 7:26         PCN64057         6         6.1         units         102         5.9         6.1           Residue, Filterable (TDS) @180C           SM2540C           ACZ ID         Type         Analyzed         PCN/SCN         QC         Sample         Found         Units         Rec%         Lower         Upper         RPD         Limit           WG542576	WG543101LCSW1	LCSW	05/26/22 19:09	PCN64057	6		6.1	units	102	5.9	6.1			
WG543101LCSW7         LCSW         05/27/22 1:08         PCN64057         6         6.1         units         102         5.9         6.1           WG543101LCSW10         LCSW         05/27/22 4:31         PCN64057         6         6.1         units         102         5.9         6.1           WG543101LCSW13         LCSW         05/27/22 7:26         PCN64057         6         6.1         units         102         5.9         6.1           Residue, Filterable (TDS) @180C           SM2540C           ACZ ID         Type         Analyzed         PCN/SCN         QC         Sample         Found         Units         Rec%         Lower         Upper         RPD         Limit           WG542576	_73278-02DUP	DUP	05/26/22 22:14			8.3	8.3	units				0	20	
WG543101LCSW10         LCSW         05/27/22 4:31         PCN64057         6         6.1         units         102         5.9         6.1           WG543101LCSW13         LCSW         05/27/22 7:26         PCN64057         6         6.1         units         102         5.9         6.1           Residue, Filterable (TDS) @180C         SM2540C           ACZ ID         Type         Analyzed         PCN/SCN         QC         Sample         Found Units         Rec% Lower         Upper         RPD         Limit           WG542576	NG543101LCSW4	LCSW	05/26/22 22:18	PCN64057	6		6.1	units	102	5.9	6.1			
WG543101LCSW13         LCSW         05/27/22 7:26         PCN64057         6         6.1         units         102         5.9         6.1           Residue, Filterable (TDS) @180C         SM2540C           ACZ ID         Type         Analyzed         PCN/SCN         QC         Sample         Found         Units         Rec%         Lower         Upper         RPD         Limit           WG542576         WG542576         Limit	WG543101LCSW7	LCSW	05/27/22 1:08	PCN64057	6		6.1	units	102	5.9	6.1			
Residue, Filterable (TDS) @180C SM2540C  ACZ ID Type Analyzed PCN/SCN QC Sample Found Units Rec% Lower Upper RPD Limit  WG542576	WG543101LCSW10	LCSW	05/27/22 4:31	PCN64057	6		6.1	units	102	5.9	6.1			
ACZ ID Type Analyzed PCN/SCN QC Sample Found Units Rec% Lower Upper RPD Limit	WG543101LCSW13	LCSW	05/27/22 7:26	PCN64057	6		6.1	units	102	5.9	6.1			
WG542576	Residue, Filterab	ole (TDS	s) @180C	SM2540C	;									
	ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qua
NG542576PBW PBW 05/19/22 10:28 II ma/L -20 20	WG542576													
	WG542576PBW	PBW	05/19/22 10:28				U	mg/L		-20	20			
WG542576LCSW LCSW 05/19/22 10:30 PCN65838 1000 980 mg/L 98 80 120				PCN65838	1000				98					
L73278-01DUP DUP 05/19/22 11:02 464 464 mg/L 0 10						464						0	10	

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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.

Selenium, disso	li rad		M200 0 10	D MC									
			M200.8 IC										
ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543358													
WG543358ICV	ICV	06/01/22 19:49	MS220502-1	.05		.05099	mg/L	102	90	110			
WG543358ICB	ICB	06/01/22 19:51				U	mg/L		-0.00022	0.00022			
WG543358LFB	LFB	06/01/22 19:52	MS220506-2	.05		.04981	mg/L	100	85	115			
L73319-02AS	AS	06/01/22 20:14	MS220506-2	.05	U	.05022	mg/L	100	70	130			
L73319-02ASD	ASD	06/01/22 20:16	MS220506-2	.05	U	.05207	mg/L	104	70	130	4	20	
Sulfate			D516-02/-	07/-11 - T	URBIDIME	TRIC							
ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG542875													
WG542875ICB	ICB	05/24/22 8:54				U	mg/L		-3	3			
WG542875ICV	ICV	05/24/22 8:54	WI220517-1	20.46		19.6	mg/L	96	90	110			
WG542875LFB	LFB	05/24/22 15:00	WI220415-3	9.95		10.1	mg/L	102	90	110			
L73272-01DUP	DUP	05/24/22 15:29			748	720.7	mg/L				4	20	
L73272-02AS	AS	05/24/22 15:29	SO4TURB25X	10	719	720.7	mg/L	17	90	110			МЗ
Thallium, disso	lved		M200.8 IC	P-MS									
ACZ ID	Type	A so a lo sea al	PCN/SCN	00									
	туре	Analyzed	1 011/0011	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG543358	Туре	Analyzed	1 GIWGGIN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
	ICV	06/01/22 19:49	MS220502-1	.05	Sample	.05403	Units mg/L	Rec%	Lower 90	Upper	RPD	Limit	Qual
<b>WG543358</b> WG543358ICV					Sample						RPD	Limit	Qual
<b>WG543358</b> WG543358ICV WG543358ICB	ICV	06/01/22 19:49			Sample	.05403	mg/L		90	110	RPD	Limit	Qual
WG543358 WG543358ICV WG543358ICB WG543358LFB	ICV ICB	06/01/22 19:49 06/01/22 19:51	MS220502-1	.05	Sample	.05403 U	mg/L mg/L	108	90 -0.00022	110 0.00022	RPD	Limit	Qual
WG543358	ICV ICB LFB	06/01/22 19:49 06/01/22 19:51 06/01/22 19:52	MS220502-1 MS220506-2	.05		.05403 U .05174	mg/L mg/L mg/L	108	90 -0.00022 85	110 0.00022 115	RPD 3	Limit	Qual
WG543358 WG543358ICV WG543358ICB WG543358LFB L73319-02AS	ICV ICB LFB AS	06/01/22 19:49 06/01/22 19:51 06/01/22 19:52 06/01/22 20:14	MS220502-1 MS220506-2 MS220506-2	.05 .05 .05	U	.05403 U .05174 .05153	mg/L mg/L mg/L mg/L	108 103 103	90 -0.00022 85 70	110 0.00022 115 130			Qual
WG543358 WG543358ICV WG543358ICB WG543358LFB L73319-02AS L73319-02ASD	ICV ICB LFB AS	06/01/22 19:49 06/01/22 19:51 06/01/22 19:52 06/01/22 20:14	MS220502-1 MS220506-2 MS220506-2 MS220506-2	.05 .05 .05	U	.05403 U .05174 .05153	mg/L mg/L mg/L mg/L mg/L	108 103 103	90 -0.00022 85 70	110 0.00022 115 130			Qual
WG543358 WG543358ICV WG543358ICB WG543358LFB L73319-02AS L73319-02ASD Zinc, dissolved	ICV ICB LFB AS ASD	06/01/22 19:49 06/01/22 19:51 06/01/22 19:52 06/01/22 20:14 06/01/22 20:16	MS220502-1 MS220506-2 MS220506-2 MS220506-2	.05 .05 .05 .05	U	.05403 U .05174 .05153 .05336	mg/L mg/L mg/L mg/L mg/L	108 103 103 107	90 -0.00022 85 70 70	110 0.00022 115 130 130	3	20	
WG543358 WG543358ICV WG543358ICB WG543358LFB L73319-02AS L73319-02ASD Zinc, dissolved ACZ ID WG542886	ICV ICB LFB AS ASD	06/01/22 19:49 06/01/22 19:51 06/01/22 19:52 06/01/22 20:14 06/01/22 20:16	MS220502-1 MS220506-2 MS220506-2 MS220506-2	.05 .05 .05 .05	U	.05403 U .05174 .05153 .05336	mg/L mg/L mg/L mg/L mg/L	108 103 103 107	90 -0.00022 85 70 70	110 0.00022 115 130 130	3	20	
WG543358 WG543358ICV WG543358ICB WG543358LFB L73319-02AS L73319-02ASD Zinc, dissolved ACZ ID WG542886 WG542886ICV	ICV ICB LFB AS ASD	06/01/22 19:49 06/01/22 19:51 06/01/22 19:52 06/01/22 20:14 06/01/22 20:16	MS220502-1  MS220506-2  MS220506-2  MS220506-2  M200.7 IC  PCN/SCN	.05 .05 .05 .05	U	.05403 U .05174 .05153 .05336	mg/L mg/L mg/L mg/L mg/L	108 103 103 107 Rec%	90 -0.00022 85 70 70	110 0.00022 115 130 130	3	20	
WG543358 WG543358ICV WG543358ICB WG543358LFB L73319-02AS L73319-02ASD Zinc, dissolved	ICV ICB LFB AS ASD	06/01/22 19:49 06/01/22 19:51 06/01/22 19:52 06/01/22 20:14 06/01/22 20:16 Analyzed	MS220502-1  MS220506-2  MS220506-2  MS220506-2  M200.7 IC  PCN/SCN	.05 .05 .05 .05	U	.05403 U .05174 .05153 .05336	mg/L mg/L mg/L mg/L mg/L	108 103 103 107 Rec%	90 -0.00022 85 70 70 <b>Lower</b>	110 0.00022 115 130 130	3	20	
WG543358 WG543358ICV WG543358ICB WG543358LFB L73319-02AS L73319-02ASD  Zinc, dissolved ACZ ID WG542886 WG542886ICV WG542886ICB	ICV ICB LFB AS ASD Type	06/01/22 19:49 06/01/22 19:51 06/01/22 19:52 06/01/22 20:14 06/01/22 20:16 Analyzed 05/25/22 15:02 05/25/22 15:08	MS220502-1  MS220506-2  MS220506-2  M200.7 IC  PCN/SCN	.05 .05 .05 .05	U	.05403 U .05174 .05153 .05336 Found	mg/L mg/L mg/L mg/L mg/L mg/L	108 103 103 107 Rec%	90 -0.00022 85 70 70 Lower	110 0.00022 115 130 130 Upper	3	20	
/G543358 G543358ICV G543358ICB G543358LFB 73319-02AS 73319-02ASD inc, dissolved CZ ID /G542886 G542886ICV G542886ICB	ICV ICB LFB AS ASD Type	06/01/22 19:49 06/01/22 19:51 06/01/22 19:52 06/01/22 20:14 06/01/22 20:16 Analyzed 05/25/22 15:02 05/25/22 15:08	MS220502-1  MS220506-2  MS220506-2  M200.7 IC  PCN/SCN	.05 .05 .05 .05	U	.05403 U .05174 .05153 .05336 Found	mg/L mg/L mg/L mg/L mg/L mg/L	108 103 103 107 Rec%	90 -0.00022 85 70 70 Lower	110 0.00022 115 130 130 Upper	3	20	

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Inorganic Extended Qualifier Report

South32 ACZ Project ID: L73273

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L73273-01	NG542424	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	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).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	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).
	WG542875	Sulfate	D516-02/-07/-11 - TURBIDIMETRIC	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.

REPAD.15.06.05.01

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# RadioChemistry Analytical Results

South32

4542257445

Project ID: 45
Sample ID: M

MW3-05162022

Locator:

ACZ Sample ID: L73273-01

Date Sampled: 05/16/22 11:05

Date Received: 05/17/22

Sample Matrix: Groundwater

Combined Radium (total)

Calculation (RA226 + RA228)

Prep Method:

Parameter	Measure Date	Prep Date	Result E	Frror(+/-)	LLD	Units	XQ	Analyst
Combined Radium (total)	06/23/22 15:40		3.3			pCi/I		calc

Gross Alpha Total, corrected

Prep Method:

Calculation

Parameter	Measure Date	Prep Date	Result Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha Total, c	corrected 06/23/22 15:40		5.1		pCi/L		calc

Gross Alpha, total

Prep Method:

M900.0

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha, total	06/22/22 0:04		5.1	6.9	38	pCi/L	*	jhd

Radium 226 + Alpha Emitting Radium Isotopes, total

Prep Method:

M903.0

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Radium 226 + Alpha	06/09/22 0:02		0.28	0.17	0.59	pCi/L	*	tmb

Radium 228, total

Prep Method:

M904.0

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Radium 228, total	08/09/22 11:35		3.3	1.3	2.9	pCi/L	*	jhd

Uranium, Isotopic Total

Prep Method:

Eichrom ACW03

REPRC.02.06.05.01

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Uranium 234, total	06/07/22 16:56		0.91	0.96	1.5	pCi/L	*	msm
Uranium 235, total	06/07/22 16:56		0.256	0.5	0.94	pCi/L	*	msm
Uranium 238, total	06/07/22 16:56		0.518	0.61	0.96	pCi/L	*	msm

Arizona license number: AZ0102

\* Please refer to Qualifier Reports for details.

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

#### Report Header Explanations

Batch A distinct set of samples analyzed at a specific time

Error(+/-) Calculated sample specific uncertainty

Found Value of the QC Type of interest

Limit Upper limit for RPD, in %.

LCL Lower Control Limit, in % (except for LCSS, mg/Kg)
LLD Calculated sample specific Lower Limit of Detection

PCN/SCN A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis

PQL Practical Quantitation Limit

QC True Value of the Control Sample or the amount added to the Spike

Rec Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)

RER Relative Error Ratio, calculation used for Dup. QC taking into account the error factor.

RPD Relative Percent Difference, calculation used for Duplicate QC Types

UCL Upper Control Limit, in % (except for LCSS, mg/Kg)

Laboratory Control Sample - Water

Sample Value of the Sample of interest

#### **QC Sample Types**

LCSW

DUPSample DuplicateMS/MSDMatrix Spike/Matrix Spike DuplicateLCSSLaboratory Control Sample - SoilPBSPrep Blank - Soil

PBW

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.

#### **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

REP003.09.12.01

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Units: pCi/L

South32 ACZ Project ID: L73273

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.

Gross Alpha, total M900.0 Units: pCi/L

ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec%	Lower	Upper	RPD/RER	Limit	Qual
WG544810																
WG544810PBW	PBW	06/22/22						1.8	1.3	12			24			
WG544810LCSWA	LCSW	06/22/22	PCN65744	100				110	9	12	110	67	144			
L73541-01MSA	MS	06/22/22	PCN65744	5000	4800	630	450	8600	780	750	76	67	144			
L73811-01DUP	DUP-RER	06/22/22			1.8	1.5	6.1	2.7	1.9	5.3				0.37	2	
L73811-01DUP	DUP-RPD	06/22/22			1.8	1.5	6.1	2.7	1.9	5.3				40	20	RG

# Radium 226 + Alpha Emitting Radium M903.0

ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec%	Lower	Upper	RPD/RER	Limit	Qual
WG543653																
WG543653PBW	PBW	06/09/22						06	0.09	0.79			1.58			
WG543653LCSW	LCSW	06/09/22	PCN65743	20				14	1.1	0.71	70	66	132			
L73273-01DUP	DUP-RER	06/09/22			0.28	0.17	0.59	.09	0.12	0.61				0.91	2	
L73273-01DUP	DUP-RPD	06/09/22			0.28	0.17	0.59	.09	0.12	0.61				103	20	RG
L73370-07MS	MS	06/09/22	PCN65743	40	-0.46	0.31	0.96	31	2	1	79	66	132			
L73370-08DUP	DUP-RPD	06/09/22			0.04	0.2	1.2	.15	0.21	1.1				116	20	RG
L73370-08DUP	DUP-RER	06/09/22			0.04	0.2	1.2	.15	0.21	1.1				0.38	2	

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
WG547818																
WG547818LCSW	LCSW	08/09/22	PCN64684	9.06				12	1.7	3	133	47	123			N1
WG547818PBW	PBW	08/09/22						4.1	1.6	3.8			7.6			
L74414-04DUP	DUP-RPD	08/09/22			10	4.6	10	7.2	3.2	6.9				33	20	RG
L74414-04DUP	DUP-RER	08/09/22			10	4.6	10	7.2	3.2	6.9				0.5	2	
L74671-03MS	MS	08/09/22	PCN64684	9.06	4.7	2.4	5.7	13	1.8	3.3	92	47	123			
L74671-04DUP	DUP-RPD	08/09/22			5.2	2.9	7.3	2.2	1.6	4				81	20	RG
L74671-04DUP	DUP-RER	08/09/22			5.2	2.9	7.3	2.2	1.6	4				0.91	2	

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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.

U-232 Eichrom ACW03 Units: %

ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec%	Lower	Upper	RPD/RER	Limit	Qual
WG543309																
WG543309PBW	PBW	06/07/22						78	130	30			60			
WG543309LCSW	LCSW	06/07/22	PCN65957					74	130	30						
L73182-01DUP	DUP-RPD	06/07/22			41	130	30							72	20	
L73182-01DUP	DUP-RER	06/07/22			41	130	30	87	130	30					20	
L73182-01DUP	DUP-RPD	06/07/22			41	130	30	87	130	30					20	
L73237-01MS	MS	06/07/22	PCN65957		82	130	30	72	130	30						
L73294-01DUP	DUP-RER	06/08/22			84	130	30	91	130	30					20	
L73294-01DUP	DUP-RPD	06/08/22			84	130	30	91	130	30					20	
L73294-01DUP	DUP-RPD	06/08/22			84	130	30							8	20	

U-234 Eichrom ACW03 Units: pCi/L

ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec%	Lower	Upper	RPD/RER	Limit	Qual
WG543309																
WG543309PBW	PBW	06/07/22						221	1.1	2.2			4.4			
WG543309LCSW	LCSW	06/07/22	PCN65957	98.2				96.7	12	1.9	98	77	122			
L73182-01DUP	DUP-RPD	06/07/22			1.4	1.9	3.3	.31	1.1	2				127	20	RG
L73182-01DUP	DUP-RER	06/07/22			1.4	1.9	3.3	.31	1.1	2				0.5	2	
L73237-01MS	MS	06/07/22	PCN65957	98.2	5.07	1.9	2.1	98.5	13	1.9	95	77	122			
L73294-01DUP	DUP-RER	06/08/22			10.4	2.5	1.6	13.1	2.7	1.5				0.73	2	
L73294-01DUP	DUP-RPD	06/08/22			10.4	2.5	1.6	13.1	2.7	1.5				23	20	RH

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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.

U-235 Eichrom ACW03 Units: pCi/L

ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec%	Lower	Upper	RPD/RER	Limit	Qual
WG543309																
WG543309PBW	PBW	06/07/22						278	0.67	1.7			3.4			
WG543309LCSW	LCSW	06/07/22	PCN65957	4.48				6.5	2.1	1.1	145	42	136			N1
L73182-01DUP	DUP-RER	06/07/22			-0.267	0.91	2.5	585	0.65	1.8				0.28	2	
L73182-01DUP	DUP-RPD	06/07/22			-0.267	0.91	2.5	585	0.65	1.8				75	20	RG
L73237-01MS	MS	06/07/22	PCN65957	4.48	-0.131	0.68	1.6	4.92	1.9	1.2	113	42	136			
L73294-01DUP	DUP-RER	06/08/22			0.266	0.52	0.98	1.17	0.78	0.59				0.96	2	
L73294-01DUP	DUP-RPD	06/08/22			0.266	0.52	0.98	1.17	0.78	0.59				126	20	RG

U-238 Eichrom ACW03 Units: pCi/L

ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec%	Lower	Upper	RPD/RER	Limit	Qual
WG543309																
WG543309PBW	PBW	06/07/22						.226	0.77	1.5			3			
WG543309LCSW	LCSW	06/07/22	PCN65957	97.4				98.9	13	1.5	102	87	124			
L73182-01DUP	DUP-RPD	06/07/22			1.08	1.4	2.3	.509	0.92	1.6				72	20	RG
L73182-01DUP	DUP-RER	06/07/22			1.08	1.4	2.3	.509	0.92	1.6				0.34	2	
L73237-01MS	MS	06/07/22	PCN65957	97.4	2.71	1.3	1.4	97.1	12	1.6	97	87	124			
L73294-01DUP	DUP-RPD	06/08/22			10.3	2.4	1	11.1	2.4	0.75				7	20	

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RadChem Extended
Qualifier Report

South32 ACZ Project ID: L73273

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L73273-01	NG544810	Gross Alpha, total	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.
	WG543653	Radium 226 + Alpha Emitting Radium Isotopes, total	M903.0	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.
	WG547818	Radium 228, total	M904.0	N1	See Case Narrative.
			M904.0	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.
	WG543309	Uranium 234, total	Eichrom ACW03	RH	For Radiochemistry non-drinking water samples, Replicate Error Ratio (RER) is used as the sole evaluator of precision.
		Uranium 235, total	Eichrom ACW03	N1	See Case Narrative.
			Eichrom ACW03	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.

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Certification Qualifiers

South32 ACZ Project ID: L73273

Radiochemistry

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Uranium 234, total Eichrom ACW03
Uranium 235, total Eichrom ACW03
Uranium 238, total Eichrom ACW03

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

Uranium 234, total Eichrom ACW03
Uranium 235, total Eichrom ACW03
Uranium 238, total Eichrom ACW03

Wet Chemistry

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Cyanide, Free D6888-09/OIA-1677-09

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section prior to ACZ custody.

section prior to ACZ custody.

# Sample Receipt

Arizona Minerals Inc. 4542257445

ACZ Project ID: L73273 Date Received: 05/17/2022 10:44

Received By:

Date Printed: 5/18/2022

#### **Receipt Verification** YES NO NA 1) Is a foreign soil permit included for applicable samples? Χ 2) Is the Chain of Custody form or other directive shipping papers present? Χ 3) Does this project require special handling procedures such as CLP protocol? Χ 4) Are any samples NRC licensable material? Х 5) If samples are received past hold time, proceed with requested short hold time analyses? Χ 6) Is the Chain of Custody form complete and accurate? Χ 7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples? Χ A change was made in the The sample Zip Code was corrected.

A change was made in the The sample Zip Code was corrected.

Samples/Containers					
	YES	NO	NA		
8) Are all containers intact and with no leaks?	X				
9) Are all labels on containers and are they intact and legible?	X				
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	Χ				
11) For preserved bottle types, was the pH checked and within limits? 1	X				
12) Is there sufficient sample volume to perform all requested work?	X				
13) Is the custody seal intact on all containers?			Х		
14) Are samples that require zero headspace acceptable?			Х		
15) Are all sample containers appropriate for analytical requirements?	X				
16) Is there an Hg-1631 trip blank present?			Х		
17) Is there a VOA trip blank present?			Х		
18) Were all samples received within hold time?	X				
	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?
635	3.7	<=6.0	15	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

**REPAD LPII 2012-03** 



Sample Receipt

ACZ Project ID: L73273 Arizona Minerals Inc. 4542257445

Date Received: 05/17/2022 10:44

Received By:

Date Printed: 5/18/2022

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

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The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

	Accredited Environmental Testing	2773 Downh Steamboat S (970) 879-65	prings, CO 80	)487 <u>[</u>	73	27	13	CI	IAI	of	cus	TOD	Υ	
Report to:														
Name: Kara Haas	s				Addres	ss: 749	Harsh	aw Ro	oad					
Company: AMI/So	ompany: AMI/South 32 Patagonia, AZ 85624													
E-mail: Kara.Haas@south32.net Telephone: 505.947.1738														
Copy of Report to	0:													
Name:					E-mail	:			1					
Company:														
Invoice to:														
Name: Kara Haa	s				Addre	ss: 749	Harsh	naw R	oad					
Company: AMI/S					_									
E-mail: Kara.Haa		et			Patagonia, AZ 85624 Telephone: 505.947.1738									
											-			
Copy of Invoice t Name: South32	.0.				Addes	ss: NA								
	outh32				Addre	SS: IVA								
Company: AMI/S E-mail: sscinvoic		not.		•	Talant	N	Δ							1
If sample(s) receive			f insufficient l	] HT roma		none: N					YES			
analysis before ex							•				NO			
If "NO" then ACZ will contact of				ACZ will proc		e requested	analyses, e		expired, a	nd data will	be qualifie	d		
Are samples for SE If yes, please inclu	-	_		POL for	Yes Colora	<u> </u>		No						
Sampler's Name:	Taine 4		s Site Informa		State	A2		Zip co	de X	6624	Time 2	Zone /	1	
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Qualtrax I

Revision #: 2

White - Return with sample.

Yellow - Retain for your records.

Qualtrax ID: 1984