

July 15, 2022

Report to:
Kara Haas
South32
2210 E Ft. Lowell Rd.
Tucson, AZ 85719

Bill to:
Accounts Payable
South32
2210 E Fort Lowell Road
Tucson, AZ 85719

Project ID:
ACZ Project ID: L74129

Kara Haas:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on June 23, 2022. This project has been assigned to ACZ's project number, L74129. 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 L74129. 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 July 04, 2024. If the samples are determined to be hazardous, additional charges apply for disposal (typically \$11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

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



Scott Habermehl has reviewed
and approved this report.



South32

Project ID:

Sample ID: OUTFALL 1-06222022

ACZ Sample ID: **L74129-01**

Date Sampled: 06/22/22 10:45

Date Received: 06/23/22

Sample Matrix: Surface Water

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Hot Plate Digestion	M200.2 ICP-MS								06/30/22 14:13	kja
Total Hot Plate Digestion	M200.2 ICP								07/05/22 22:30	aeH

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Arsenic, dissolved	M200.8 ICP-MS	1	0.0197			mg/L	0.0002	0.001	07/01/22 20:24	kja
Arsenic, total	M200.8 ICP-MS	1	0.0224			mg/L	0.0002	0.001	07/01/22 10:36	kja
Cadmium, dissolved	M200.8 ICP-MS	1	0.000253			mg/L	0.00005	0.00025	07/01/22 20:24	kja
Cadmium, total	M200.8 ICP-MS	1	0.000537			mg/L	0.00005	0.00025	07/01/22 10:36	kja
Calcium, dissolved	M200.7 ICP	1	153			mg/L	0.1	0.5	07/12/22 17:59	keh1
Copper, dissolved	M200.8 ICP-MS	1	<0.0008	U		mg/L	0.0008	0.002	07/01/22 20:24	kja
Copper, total	M200.7 ICP	1	0.049	B	*	mg/L	0.01	0.05	07/08/22 4:04	wtc
Lead, dissolved	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	07/01/22 20:24	kja
Lead, total	M200.8 ICP-MS	1	0.0142			mg/L	0.0001	0.0005	07/01/22 10:36	kja
Magnesium, dissolved	M200.7 ICP	1	31.5			mg/L	0.2	1	07/14/22 17:19	keh1
Silver, dissolved	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	07/01/22 20:24	kja
Silver, total	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	07/01/22 10:36	kja
Zinc, dissolved	M200.8 ICP-MS	1	0.0516		*	mg/L	0.006	0.015	07/01/22 20:24	kja
Zinc, total	M200.7 ICP	1	0.160			mg/L	0.02	0.05	07/08/22 4:04	wtc

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, Free	D6888-09/OIA-1677-09	1	<0.003	U	*	mg/L	0.003	0.01	06/27/22 16:43	mjj1
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		512			mg/L	0.2	5	07/15/22 0:00	calc

Arizona license number: **AZ0102**

Report Header Explanations

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>Lower</i>	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
<i>MDL</i>	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>Upper</i>	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

QC Sample Types

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

QC Sample Type Explanations

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

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
- (3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
- (4) EPA SW-846. Test Methods for Evaluating Solid Waste.
- (5) Standard Methods for the Examination of Water and Wastewater.

Comments

- (1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
- (3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
- (4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
- (5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

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

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

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ACZ Project ID: **L74129**

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

Arsenic, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG545606													
WG545606ICV	ICV	07/01/22 19:40	MS220502-1	.05		.05181	mg/L	104	90	110			
WG545606ICB	ICB	07/01/22 19:42				U	mg/L		-0.00044	0.00044			
WG545606LFB	LFB	07/01/22 19:44	MS220627-2	.05005		.05271	mg/L	105	85	115			
L74143-04AS	AS	07/01/22 20:31	MS220627-2	.05005	.00441	.05846	mg/L	108	70	130			
L74143-04ASD	ASD	07/01/22 20:33	MS220627-2	.05005	.00441	.05748	mg/L	106	70	130	2	20	

Arsenic, total

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG545571													
WG545571ICV	ICV	07/01/22 9:58	MS220502-1	.05		.05119	mg/L	102	90	110			
WG545571ICB	ICB	07/01/22 9:59				U	mg/L		-0.0006	0.0006			
WG545470LRB	LRB	07/01/22 10:01				U	mg/L		-0.00044	0.00044			
WG545470LFB	LFB	07/01/22 10:03	MS220627-2	.05005		.05143	mg/L	103	85	115			
L74137-05LFM	LFM	07/01/22 10:50	MS220627-2	.05005	.00031	.05124	mg/L	102	70	130			
L74137-05LFMD	LFMD	07/01/22 10:52	MS220627-2	.05005	.00031	.051	mg/L	101	70	130	0	20	

Cadmium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG545606													
WG545606ICV	ICV	07/01/22 19:40	MS220502-1	.05		.050983	mg/L	102	90	110			
WG545606ICB	ICB	07/01/22 19:42				U	mg/L		-0.00011	0.00011			
WG545606LFB	LFB	07/01/22 19:44	MS220627-2	.05005		.0523	mg/L	104	85	115			
L74143-04AS	AS	07/01/22 20:31	MS220627-2	.05005	.00325	.054134	mg/L	102	70	130			
L74143-04ASD	ASD	07/01/22 20:33	MS220627-2	.05005	.00325	.053673	mg/L	101	70	130	1	20	

Cadmium, total

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG545571													
WG545571ICV	ICV	07/01/22 9:58	MS220502-1	.05		.051983	mg/L	104	90	110			
WG545571ICB	ICB	07/01/22 9:59				U	mg/L		-0.00015	0.00015			
WG545470LRB	LRB	07/01/22 10:01				U	mg/L		-0.00011	0.00011			
WG545470LFB	LFB	07/01/22 10:03	MS220627-2	.05005		.04957	mg/L	99	85	115			
L74137-05LFM	LFM	07/01/22 10:50	MS220627-2	.05005	U	.048453	mg/L	97	70	130			
L74137-05LFMD	LFMD	07/01/22 10:52	MS220627-2	.05005	U	.048436	mg/L	97	70	130	0	20	

Calcium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG546147													
WG546147ICV	ICV	07/12/22 16:40	II220624-2	100		98.07	mg/L	98	95	105			
WG546147ICB	ICB	07/12/22 16:46				U	mg/L		-0.3	0.3			
WG546147LFB	LFB	07/12/22 16:59	II220628-3	67.98862		67.49	mg/L	99	85	115			
L74143-02AS	AS	07/12/22 18:15	II220628-3	67.98862	38.4	114.8	mg/L	112	85	115			
L74143-02ASD	ASD	07/12/22 18:18	II220628-3	67.98862	38.4	104.1	mg/L	97	85	115	10	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.

Copper, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG545606													
WG545606ICV	ICV	07/01/22 19:40	MS220502-1	.05		.05447	mg/L	109	90	110			
WG545606ICB	ICB	07/01/22 19:42				U	mg/L		-0.00176	0.00176			
WG545606LFB	LFB	07/01/22 19:44	MS220627-2	.05		.05327	mg/L	107	85	115			
L74143-04AS	AS	07/01/22 20:31	MS220627-2	.05	U	.05125	mg/L	103	70	130			
L74143-04ASD	ASD	07/01/22 20:33	MS220627-2	.05	U	.05077	mg/L	102	70	130	1	20	

Copper, total

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG545983													
WG545983ICV	ICV	07/08/22 2:18	II220621-2	2		1.956	mg/L	98	95	105			
WG545983ICB	ICB	07/08/22 2:24				U	mg/L		-0.03	0.03			
WG545746LRB	LRB	07/08/22 2:36				U	mg/L		-0.022	0.022			
WG545746LFB	LFB	07/08/22 2:39	II220628-3	.5005		.499	mg/L	100	85	115			
L74120-03LFM	LFM	07/08/22 3:37	II220628-3	.5005	78	77.74	mg/L	-52	70	130			M3
L74120-03LFMD	LFMD	07/08/22 3:40	II220628-3	.5005	78	77.94	mg/L	-12	70	130	0	20	M3

Cyanide, Free

D6888-09/OIA-1677-09

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG545160													
WG545160ICV	ICV	06/27/22 15:53	WI220624-9	.3003		.275	mg/L	92	90	110			
WG545160ICB	ICB	06/27/22 15:55				U	mg/L		-0.003	0.003			
WG545160LFB	LFB	06/27/22 15:59	WI220624-10	.1001		.0981	mg/L	98	90	110			
L74126-02AS	AS	06/27/22 16:33	WI220624-10	.1001	.005	.0932	mg/L	88	90	110			MC
L74126-02ASD	ASD	06/27/22 16:35	WI220624-10	.1001	.005	.0935	mg/L	88	90	110	0	20	MC

Lead, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG545606													
WG545606ICV	ICV	07/01/22 19:40	MS220502-1	.05		.05118	mg/L	102	90	110			
WG545606ICB	ICB	07/01/22 19:42				U	mg/L		-0.00022	0.00022			
WG545606LFB	LFB	07/01/22 19:44	MS220627-2	.0501		.05214	mg/L	104	85	115			
L74143-04AS	AS	07/01/22 20:31	MS220627-2	.0501	.00166	.05254	mg/L	102	70	130			
L74143-04ASD	ASD	07/01/22 20:33	MS220627-2	.0501	.00166	.05233	mg/L	101	70	130	0	20	

Lead, total

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG545571													
WG545571ICV	ICV	07/01/22 9:58	MS220502-1	.05		.05176	mg/L	104	90	110			
WG545571ICB	ICB	07/01/22 9:59				U	mg/L		-0.0003	0.0003			
WG545470LRB	LRB	07/01/22 10:01				U	mg/L		-0.00022	0.00022			
WG545470LFB	LFB	07/01/22 10:03	MS220627-2	.0501		.04936	mg/L	99	85	115			
L74137-05LFM	LFM	07/01/22 10:50	MS220627-2	.0501	U	.04942	mg/L	99	70	130			
L74137-05LFMD	LFMD	07/01/22 10:52	MS220627-2	.0501	U	.04962	mg/L	99	70	130	0	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.

Magnesium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG546353													
WG546353ICV	ICV	07/14/22 15:59	II220624-2	100		95.05	mg/L	95	95	105			
WG546353ICB	ICB	07/14/22 16:05				U	mg/L		-0.6	0.6			
WG546353LFB	LFB	07/14/22 16:18	II220628-3	49.99809		47.39	mg/L	95	85	115			
L74143-02AS	AS	07/14/22 17:35	II220628-3	49.99809	1.76	55.39	mg/L	107	85	115			
L74143-02ASD	ASD	07/14/22 17:38	II220628-3	49.99809	1.76	49.87	mg/L	96	85	115	10	20	

Silver, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG545606													
WG545606ICV	ICV	07/01/22 19:40	MS220502-1	.02		.02009	mg/L	100	90	110			
WG545606ICB	ICB	07/01/22 19:42				U	mg/L		-0.00022	0.00022			
WG545606LFB	LFB	07/01/22 19:44	MS220627-2	.01		.01005	mg/L	101	85	115			
L74143-04AS	AS	07/01/22 20:31	MS220627-2	.01	U	.00981	mg/L	98	70	130			
L74143-04ASD	ASD	07/01/22 20:33	MS220627-2	.01	U	.00983	mg/L	98	70	130	0	20	

Silver, total

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG545571													
WG545571ICV	ICV	07/01/22 9:58	MS220502-1	.02		.02029	mg/L	101	90	110			
WG545571ICB	ICB	07/01/22 9:59				U	mg/L		-0.0003	0.0003			
WG545470LRB	LRB	07/01/22 10:01				U	mg/L		-0.00022	0.00022			
WG545470LFB	LFB	07/01/22 10:03	MS220627-2	.01		.00968	mg/L	97	85	115			
L74137-05LFM	LFM	07/01/22 10:50	MS220627-2	.01	U	.00913	mg/L	91	70	130			
L74137-05LFMD	LFMD	07/01/22 10:52	MS220627-2	.01	U	.00912	mg/L	91	70	130	0	20	

Zinc, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG545606													
WG545606ICV	ICV	07/01/22 19:40	MS220502-1	.05		.0489	mg/L	98	90	110			
WG545606ICB	ICB	07/01/22 19:42				U	mg/L		-0.0132	0.0132			
WG545606LFB	LFB	07/01/22 19:44	MS220627-2	.050075		.0528	mg/L	105	85	115			
L74143-04AS	AS	07/01/22 20:31	MS220627-2	.050075	1.04	1.0772	mg/L	74	70	130			
L74143-04ASD	ASD	07/01/22 20:33	MS220627-2	.050075	1.04	1.0748	mg/L	69	70	130	0	20	M3

Zinc, total

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG545983													
WG545983ICV	ICV	07/08/22 2:18	II220621-2	2		1.893	mg/L	95	95	105			
WG545983ICB	ICB	07/08/22 2:24				U	mg/L		-0.06	0.06			
WG545746LRB	LRB	07/08/22 2:36				U	mg/L		-0.044	0.044			
WG545746LFB	LFB	07/08/22 2:39	II220628-3	.50045		.505	mg/L	101	85	115			
L74120-03LFM	LFM	07/08/22 3:37	II220628-3	.50045	2.66	3.092	mg/L	86	70	130			
L74120-03LFMD	LFMD	07/08/22 3:40	II220628-3	.50045	2.66	3.076	mg/L	83	70	130	1	20	

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ACZ Project ID: **L74129**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L74129-01	WG545983	Copper, total	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG545160	Cyanide, Free	D6888-09/OIA-1677-09	MC	Recovery for matrix spike and matrix spike duplicate are outside of acceptance limits; recovery for the method control sample was acceptable.
	WG545606	Zinc, dissolved	M200.8 ICP-MS	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.

South32

ACZ Project ID: **L74129**

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

South32

ACZ Project ID: L74129
 Date Received: 06/23/2022 11:31
 Received By:
 Date Printed: 6/24/2022

Receipt Verification

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

Samples/Containers

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

NA indicates Not Applicable

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Temp Criteria (°C)	Rad (µR/Hr)	Custody Seal Intact?
7158	1.5	<=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.

South32

ACZ Project ID: L74129

Date Received: 06/23/2022 11:31

Received By:

Date Printed: 6/24/2022

¹ The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na₂S₂O₃ preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).



Accredited Environmental Testing

2773 Downhill Drive
Steamboat Springs, CO 80487
(970) 879-6590

L74129

CHAIN of CUSTODY

Report to:

Name: Kara Haas
Company: AMI/South 32
E-mail: Kara.Haas@south32.net

Address: 749 Harshaw Road
Patagonia, AZ 85624
Telephone: 505.947.1738

Copy of Report to:

Name:
Company:

E-mail:
Telephone:

Invoice to:

Name: Kara Haas
Company: AMI/South 32
E-mail: Kara.Haas@south32.net

Address: 749 Harshaw Road
Patagonia, AZ 85624
Telephone: 505.947.1738

Copy of Invoice to:

Name: South32
Company: AMI/South32
E-mail: sscinvoices@south32.net

Address: NA
Telephone: NA

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: Taim Lopez Sampler's Site Information State AZ Zip code 85640 Time Zone MT
*Sampler's Signature: [Signature]
*In 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 #:	PO#:	Reporting state for compliance testing:	Check box if samples include NRC licensed material?	SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Total Metals	Dissolved Metals	Free Cyanide
STORM-OUTFALL-1		AZ	<input type="checkbox"/>	Outfall 1 - 06222022	10:45 6-22-22	SW	3	X	X	X
6-22-22										
6-22-22										
6-22-22										
6-22-22										
6-22-22										
6-22-22										
6-22-22										
6-22-22										
6-22-22										

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

REMARKS

DISSOLVED METALS FIELD FILTERED
For metals analyte list please refer to back of COC

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Taim Lopez	6-22-22 2pm	[Signature]	6/23/22 11:31

Qualtrax ID: 1984 Revision #: 2 White - Return with sample. Yellow - Retain for your records.

L74129 Chain of Custody

July 21, 2022

Report to:
Kara Haas
South32
2210 E Ft. Lowell Rd.
Tucson, AZ 85719

Bill to:
Accounts Payable
South32
2210 E Fort Lowell Road
Tucson, AZ 85719

Project ID:
ACZ Project ID: L74335

Kara Haas:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on July 06, 2022. This project has been assigned to ACZ's project number, L74335. 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 L74335. 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 July 10, 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.



South32

Project ID:

Sample ID: OUTFALL2-07052022

ACZ Sample ID: **L74335-01**

Date Sampled: 07/05/22 08:15

Date Received: 07/06/22

Sample Matrix: Surface Water

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Hot Plate Digestion	M200.2 ICP-MS				*				07/12/22 13:37	kja
Total Hot Plate Digestion	M200.2 ICP								07/12/22 20:23	aeh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	1	126			mg/L	0.1	0.5	07/21/22 3:11	wtc
Copper, dissolved	M200.8 ICP-MS	1	0.00121	B		mg/L	0.0008	0.002	07/11/22 13:43	mfm
Copper, total	M200.7 ICP	1	0.152			mg/L	0.01	0.05	07/15/22 17:55	keh1
Lead, dissolved	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	07/11/22 13:43	mfm
Lead, total	M200.8 ICP-MS	2	0.268			mg/L	0.0002	0.001	07/13/22 11:17	kja
Magnesium, dissolved	M200.7 ICP	1	33.1			mg/L	0.2	1	07/21/22 3:11	wtc
Silver, dissolved	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	07/11/22 13:43	mfm
Silver, total	M200.8 ICP-MS	2	0.00212			mg/L	0.0002	0.001	07/13/22 11:17	kja
Zinc, dissolved	M200.8 ICP-MS	1	<0.006	U		mg/L	0.006	0.015	07/11/22 13:43	mfm
Zinc, total	M200.7 ICP	1	1.08			mg/L	0.02	0.05	07/15/22 17:55	keh1

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, Free	D6888-09/OIA-1677-09	1	<0.003	U	*	mg/L	0.003	0.01	07/07/22 13:07	mjj1
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		451			mg/L	0.2	5	07/21/22 0:00	calc

Arizona license number: AZ0102

Report Header Explanations

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>Lower</i>	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
<i>MDL</i>	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>Upper</i>	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

QC Sample Types

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

QC Sample Type Explanations

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

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
- (3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
- (4) EPA SW-846. Test Methods for Evaluating Solid Waste.
- (5) Standard Methods for the Examination of Water and Wastewater.

Comments

- (1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
- (3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
- (4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
- (5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

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

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

AZMINING

ACZ Project ID: **L74335**

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

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG546823													
WG546823ICV	ICV	07/21/22 1:59	II220719-1	100		99.47	mg/L	99	95	105			
WG546823ICB	ICB	07/21/22 2:05				U	mg/L		-0.3	0.3			
WG546823LFB	LFB	07/21/22 2:18	II220628-3	67.98862		68.63	mg/L	101	85	115			
L74333-07AS	AS	07/21/22 2:33	II220628-3	67.98862	160	223	mg/L	93	85	115			
L74333-07ASD	ASD	07/21/22 2:36	II220628-3	67.98862	160	222.2	mg/L	91	85	115	0	20	

Copper, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG546139													
WG546139ICV	ICV	07/11/22 12:53	MS220701-3	.05		.05332	mg/L	107	90	110			
WG546139ICB	ICB	07/11/22 12:55				U	mg/L		-0.00176	0.00176			
WG546139LFB	LFB	07/11/22 12:57	MS220627-2	.05		.04937	mg/L	99	85	115			
L74313-02AS	AS	07/11/22 13:32	MS220627-2	.05	.00218	.04093	mg/L	78	70	130			
L74313-02ASD	ASD	07/11/22 13:34	MS220627-2	.05	.00218	.04054	mg/L	77	70	130	1	20	

Copper, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG546506													
WG546506ICV	ICV	07/15/22 16:33	II220621-2	2		1.97	mg/L	99	95	105			
WG546506ICB	ICB	07/15/22 16:39				U	mg/L		-0.03	0.03			
WG546298LRB	LRB	07/15/22 16:52				U	mg/L		-0.022	0.022			
WG546298LFB	LFB	07/15/22 16:55	II220628-3	.5005		.506	mg/L	101	85	115			
L74336-01LFM	LFM	07/15/22 18:08	II5XWATER	2.5075	1.01	3.498	mg/L	99	70	130			
L74336-01LFMD	LFMD	07/15/22 18:11	II5XWATER	2.5075	1.01	3.454	mg/L	97	70	130	1	20	

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

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG545901													
WG545901ICV	ICV	07/07/22 12:53	WI220706-9	.3003		.289	mg/L	96	90	110			
WG545901ICB	ICB	07/07/22 12:55				U	mg/L		-0.003	0.003			
WG545901LFB	LFB	07/07/22 12:59	WI220706-10	.1001		.0988	mg/L	99	90	110			
L74334-01AS	AS	07/07/22 13:03	WI220706-10	.1001	U	.1042	mg/L	104	90	110			
L74334-01ASD	ASD	07/07/22 13:05	WI220706-10	.1001	U	.1029	mg/L	103	90	110	1	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG546139													
WG546139ICV	ICV	07/11/22 12:53	MS220701-3	.05		.05318	mg/L	106	90	110			
WG546139ICB	ICB	07/11/22 12:55				U	mg/L		-0.00022	0.00022			
WG546139LFB	LFB	07/11/22 12:57	MS220627-2	.0501		.05194	mg/L	104	85	115			
L74313-02AS	AS	07/11/22 13:32	MS220627-2	.0501	U	.04074	mg/L	81	70	130			
L74313-02ASD	ASD	07/11/22 13:34	MS220627-2	.0501	U	.04192	mg/L	84	70	130	3	20	

AZMINING

ACZ Project ID: **L74335**

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

Lead, total

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG546318													
WG546318ICV	ICV	07/13/22 10:34	MS220701-3	.05		.05089	mg/L	102	90	110			
WG546318ICB	ICB	07/13/22 10:36				U	mg/L		-0.0003	0.0003			
WG546216LRB	LRB	07/13/22 10:37				U	mg/L		-0.00022	0.00022			
WG546216LFB	LFB	07/13/22 10:39	MS220627-2	.0501		.04909	mg/L	98	85	115			
L74340-02LFM	LFM	07/13/22 11:25	MS220627-2	.0501	.00064	.0495	mg/L	98	70	130			
L74340-02LFMD	LFMD	07/13/22 11:26	MS220627-2	.0501	.00064	.04917	mg/L	97	70	130	1	20	

Magnesium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG546823													
WG546823ICV	ICV	07/21/22 1:59	II220719-1	100		95.95	mg/L	96	95	105			
WG546823ICB	ICB	07/21/22 2:05				U	mg/L		-0.6	0.6			
WG546823LFB	LFB	07/21/22 2:18	II220628-3	49.99809		47.61	mg/L	95	85	115			
L74333-07AS	AS	07/21/22 2:33	II220628-3	49.99809	28.3	75.09	mg/L	94	85	115			
L74333-07ASD	ASD	07/21/22 2:36	II220628-3	49.99809	28.3	75.1	mg/L	94	85	115	0	20	

Silver, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG546139													
WG546139ICV	ICV	07/11/22 12:53	MS220701-3	.02		.0207	mg/L	104	90	110			
WG546139ICB	ICB	07/11/22 12:55				U	mg/L		-0.00022	0.00022			
WG546139LFB	LFB	07/11/22 12:57	MS220627-2	.01		.00998	mg/L	100	85	115			
L74313-02AS	AS	07/11/22 13:32	MS220627-2	.01	U	.00761	mg/L	76	70	130			
L74313-02ASD	ASD	07/11/22 13:34	MS220627-2	.01	U	.00838	mg/L	84	70	130	10	20	

Silver, total

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG546318													
WG546318ICV	ICV	07/13/22 10:34	MS220701-3	.02		.02037	mg/L	102	90	110			
WG546318ICB	ICB	07/13/22 10:36				U	mg/L		-0.0003	0.0003			
WG546216LRB	LRB	07/13/22 10:37				U	mg/L		-0.00022	0.00022			
WG546216LFB	LFB	07/13/22 10:39	MS220627-2	.01		.00978	mg/L	98	85	115			
L74340-02LFM	LFM	07/13/22 11:25	MS220627-2	.01	U	.00947	mg/L	95	70	130			
L74340-02LFMD	LFMD	07/13/22 11:26	MS220627-2	.01	U	.00931	mg/L	93	70	130	2	20	

Zinc, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG546139													
WG546139ICV	ICV	07/11/22 12:53	MS220701-3	.05		.0498	mg/L	100	90	110			
WG546139ICB	ICB	07/11/22 12:55				U	mg/L		-0.0132	0.0132			
WG546139LFB	LFB	07/11/22 12:57	MS220627-2	.050075		.0514	mg/L	103	85	115			
L74313-02AS	AS	07/11/22 13:32	MS220627-2	.050075	.0155	.0591	mg/L	87	70	130			
L74313-02ASD	ASD	07/11/22 13:34	MS220627-2	.050075	.0155	.0547	mg/L	78	70	130	8	20	

AZMINING

ACZ Project ID: **L74335**

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

Zinc, total

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG546506													
WG546506ICV	ICV	07/15/22 16:33	II220621-2	2		1.956	mg/L	98	95	105			
WG546506ICB	ICB	07/15/22 16:39				U	mg/L		-0.06	0.06			
WG546298LRB	LRB	07/15/22 16:52				U	mg/L		-0.044	0.044			
WG546298LFB	LFB	07/15/22 16:55	II220628-3	.50045		.528	mg/L	106	85	115			
L74336-01LFM	LFM	07/15/22 18:08	II5XWATER	2.50375	3.26	6.035	mg/L	111	70	130			
L74336-01LFMD	LFMD	07/15/22 18:11	II5XWATER	2.50375	3.26	5.97	mg/L	108	70	130	1	20	

South32

ACZ Project ID: **L74335**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L74335-01	NG546216	Total Hot Plate Digestion	M200.2 ICP-MS	DF	Sample required dilution due to high sediment.

South32

ACZ Project ID: **L74335**

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

South32

ACZ Project ID: L74335
 Date Received: 07/06/2022 11:39
 Received By:
 Date Printed: 7/7/2022

Receipt Verification

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

Samples/Containers

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

NA indicates Not Applicable

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Temp Criteria (°C)	Rad (µR/Hr)	Custody Seal Intact?
4518	2.8	<=6.0	15	Yes

Was ice present in the shipment container(s)?

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

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

South32

ACZ Project ID: L74335
Date Received: 07/06/2022 11:39
Received By:
Date Printed: 7/7/2022

¹ The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na₂S₂O₃ preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).



Accredited Environmental Testing

2773 Downhill Drive Steamboat Springs, CO 80487 (970) 879-6590

L74335

CHAIN of CUSTODY

Report to:

Name: Kara Haas
Company: AMI/South 32
E-mail: Kara.Haas@south32.net

Address: 749 Harshaw Road
Patagonia, AZ 85624
Telephone: 505.947.1738

Copy of Report to:

Name:
Company:

E-mail:
Telephone:

Invoice to:

Name: Kara Haas
Company: AMI/South 32
E-mail: Kara.Haas@south32.net

Address: 749 Harshaw Road
Patagonia, AZ 85624
Telephone: 505.947.1738

Copy of Invoice to:

Name: South32
Company: AMI/South32
E-mail: sscinvoices@south32.net

Address: NA
Telephone: NA

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 [checked] NO

Are samples for SDWA Compliance Monitoring? Yes No [checked]
If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Jaime L. Sampler's Site Information State: Az Zip code: 85624 Time Zone: MT
*Sampler's Signature: Jaime L.
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)

Table with columns: Quote #, PO#, Reporting state, Check box, SAMPLE IDENTIFICATION, DATE:TIME, Matrix, # of Containers, Total Metals, Dissolved Metals, Free Cyanide. Includes handwritten entries like 'Storm-Outfall-2', '7.5.22', and 'SW'.

REMARKS
DISSOLVED METALS FIELD FILTERED
For metals analyte list please refer to back of COC
Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY: Jaime Lopez DATE:TIME: 7.5.22 12:00 PM RECEIVED BY: DATE:TIME: 7/6/22 1139

Qualtrax ID: 1984

Revision #: 2

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

L74335 Chain of Custody

August 12, 2022

Report to:
Kara Haas
South32
749 Harshaw Rd
Patagonia, AZ 85624
cc: Matt Owens

Bill to:
Accounts Payable
South32
2210 E Fort Lowell Road
Tucson, AZ 85719

Project ID:
ACZ Project ID: L74731

Kara Haas:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on July 22, 2022. This project has been assigned to ACZ's project number, L74731. 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 L74731. 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.



South32

Project ID:

Sample ID: OUTFALL 3-07212022

ACZ Sample ID: **L74731-01**

Date Sampled: 07/21/22 07:30

Date Received: 07/22/22

Sample Matrix: Surface Water

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Hot Plate Digestion	M200.2 ICP-MS								08/01/22 13:06	kja
Total Hot Plate Digestion	M200.2 ICP				*				08/02/22 17:23	keh1

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	1	4.27			mg/L	0.1	0.5	08/08/22 22:43	keh1
Copper, dissolved	M200.8 ICP-MS	1	0.00236			mg/L	0.0008	0.002	08/02/22 17:15	kja
Copper, total	M200.7 ICP	2	0.034	B		mg/L	0.02	0.1	08/06/22 16:09	wtc
Lead, dissolved	M200.8 ICP-MS	1	0.00060			mg/L	0.0001	0.0005	08/01/22 17:06	kja
Lead, total	M200.8 ICP-MS	1	0.0208			mg/L	0.0001	0.0005	08/02/22 10:14	kja
Magnesium, dissolved	M200.7 ICP	1	1.60			mg/L	0.2	1	08/08/22 22:43	keh1
Silver, dissolved	M200.8 ICP-MS	1	<0.0001	U		mg/L	0.0001	0.0005	08/01/22 17:06	kja
Silver, total	M200.8 ICP-MS	1	0.00037	B		mg/L	0.0001	0.0005	08/02/22 10:14	kja
Zinc, dissolved	M200.8 ICP-MS	1	0.0110	B		mg/L	0.006	0.015	08/01/22 17:06	kja
Zinc, total	M200.7 ICP	2	0.094	B		mg/L	0.04	0.1	08/06/22 16:09	wtc

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, Free	D6888-09/OIA-1677-09	1	<0.003	U	*	mg/L	0.003	0.01	07/27/22 15:24	mjj1
Hardness as CaCO3 (dissolved)	SM2340B - Calculation		17			mg/L	0.2	5	08/12/22 0:00	calc

Arizona license number: AZ0102

Report Header Explanations

<i>Batch</i>	A distinct set of samples analyzed at a specific time
<i>Found</i>	Value of the QC Type of interest
<i>Limit</i>	Upper limit for RPD, in %.
<i>Lower</i>	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
<i>MDL</i>	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
<i>PCN/SCN</i>	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
<i>PQL</i>	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
<i>QC</i>	True Value of the Control Sample or the amount added to the Spike
<i>Rec</i>	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
<i>RPD</i>	Relative Percent Difference, calculation used for Duplicate QC Types
<i>Upper</i>	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
<i>Sample</i>	Value of the Sample of interest

QC Sample Types

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

QC Sample Type Explanations

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

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
- (3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
- (4) EPA SW-846. Test Methods for Evaluating Solid Waste.
- (5) Standard Methods for the Examination of Water and Wastewater.

Comments

- (1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
- (3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
- (4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
- (5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

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

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

AZMINING

ACZ Project ID: **L74731**

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

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG548009													
WG548009ICV	ICV	08/08/22 21:04	II220729-1	100		99.27	mg/L	99	95	105			
WG548009ICB	ICB	08/08/22 21:10				U	mg/L		-0.3	0.3			
WG548009LFB	LFB	08/08/22 21:23	II220804-2	67.98862		69.73	mg/L	103	85	115			
L74752-01AS	AS	08/08/22 22:49	II220804-2	67.98862	2.93	71.6	mg/L	101	85	115			
L74752-01ASD	ASD	08/08/22 22:53	II220804-2	67.98862	2.93	71.27	mg/L	101	85	115	0	20	

Copper, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG547645													
WG547645ICV	ICV	08/02/22 16:53	MS220701-3	.05		.05477	mg/L	110	90	110			
WG547645ICB	ICB	08/02/22 16:55				U	mg/L		-0.00176	0.00176			
WG547645LFB	LFB	08/02/22 16:57	MS220722-2	.05		.05198	mg/L	104	85	115			
L74731-01AS	AS	08/02/22 17:17	MS220722-2	.05	.00236	.05487	mg/L	105	70	130			
L74731-01ASD	ASD	08/02/22 17:19	MS220722-2	.05	.00236	.05413	mg/L	104	70	130	1	20	

Copper, total M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG547946													
WG547946ICV	ICV	08/06/22 14:50	II220720-4	2		2.005	mg/L	100	95	105			
WG547946ICB	ICB	08/06/22 14:56				U	mg/L		-0.03	0.03			
WG547629LRB	LRB	08/06/22 15:08				U	mg/L		-0.022	0.022			
WG547629LFB	LFB	08/06/22 15:11	II220720-3	.5005		.51	mg/L	102	85	115			
L74731-01LFM	LFM	08/06/22 16:12	II2XWATER	1	.034	1.034	mg/L	100	70	130			
L74731-01LFMD	LFMD	08/06/22 16:21	II2XWATER	1	.034	1.05	mg/L	102	70	130	2	20	

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

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG547285													
WG547285ICV	ICV	07/27/22 15:06	WI220727-9	.3003		.281	mg/L	94	90	110			
WG547285ICB	ICB	07/27/22 15:08				U	mg/L		-0.003	0.003			
WG547285LFB	LFB	07/27/22 15:12	WI220727-11	.1001		.0988	mg/L	99	90	110			
L74682-01AS	AS	07/27/22 15:20	WI220727-11	.1001	U	.092	mg/L	92	90	110			
L74682-01ASD	ASD	07/27/22 15:22	WI220727-11	.1001	U	.0949	mg/L	95	90	110	3	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG547556													
WG547556ICV	ICV	08/01/22 16:19	MS220701-3	.05		.05127	mg/L	103	90	110			
WG547556ICB	ICB	08/01/22 16:20				U	mg/L		-0.00022	0.00022			
WG547556LFB	LFB	08/01/22 16:22	MS220722-2	.0501		.05152	mg/L	103	85	115			
L74731-01AS	AS	08/01/22 17:08	MS220722-2	.0501	.0006	.05167	mg/L	102	70	130			
L74731-01ASD	ASD	08/01/22 17:10	MS220722-2	.0501	.0006	.05088	mg/L	100	70	130	2	20	

AZMINING

ACZ Project ID: **L74731**

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

Lead, total

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG547617													
WG547617ICV	ICV	08/02/22 9:30	MS220701-3	.05		.05197	mg/L	104	90	110			
WG547617ICB	ICB	08/02/22 9:32				U	mg/L		-0.0003	0.0003			
WG547519LRB	LRB	08/02/22 9:34				U	mg/L		-0.00022	0.00022			
WG547519LFB	LFB	08/02/22 9:36	MS220722-2	.0501		.04884	mg/L	97	85	115			
L74752-01LFM	LFM	08/02/22 10:19	MS220722-2	.0501	U	.04899	mg/L	98	70	130			
L74752-01LFMD	LFMD	08/02/22 10:21	MS220722-2	.0501	U	.04923	mg/L	98	70	130	0	20	

Magnesium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG548009													
WG548009ICV	ICV	08/08/22 21:04	II220729-1	100		95.75	mg/L	96	95	105			
WG548009ICB	ICB	08/08/22 21:10				U	mg/L		-0.6	0.6			
WG548009LFB	LFB	08/08/22 21:23	II220804-2	49.99809		48.36	mg/L	97	85	115			
L74752-01AS	AS	08/08/22 22:49	II220804-2	49.99809	1.21	48.8	mg/L	95	85	115			
L74752-01ASD	ASD	08/08/22 22:53	II220804-2	49.99809	1.21	48.51	mg/L	95	85	115	1	20	

Silver, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG547556													
WG547556ICV	ICV	08/01/22 16:19	MS220701-3	.02		.02064	mg/L	103	90	110			
WG547556ICB	ICB	08/01/22 16:20				U	mg/L		-0.00022	0.00022			
WG547556LFB	LFB	08/01/22 16:22	MS220722-2	.01		.01019	mg/L	102	85	115			
L74731-01AS	AS	08/01/22 17:08	MS220722-2	.01	U	.0101	mg/L	101	70	130			
L74731-01ASD	ASD	08/01/22 17:10	MS220722-2	.01	U	.00988	mg/L	99	70	130	2	20	

Silver, total

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG547617													
WG547617ICV	ICV	08/02/22 9:30	MS220701-3	.02		.02079	mg/L	104	90	110			
WG547617ICB	ICB	08/02/22 9:32				U	mg/L		-0.0003	0.0003			
WG547519LRB	LRB	08/02/22 9:34				U	mg/L		-0.00022	0.00022			
WG547519LFB	LFB	08/02/22 9:36	MS220722-2	.01		.0097	mg/L	97	85	115			
L74752-01LFM	LFM	08/02/22 10:19	MS220722-2	.01	U	.00936	mg/L	94	70	130			
L74752-01LFMD	LFMD	08/02/22 10:21	MS220722-2	.01	U	.00929	mg/L	93	70	130	1	20	

Zinc, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG547556													
WG547556ICV	ICV	08/01/22 16:19	MS220701-3	.05		.0505	mg/L	101	90	110			
WG547556ICB	ICB	08/01/22 16:20				U	mg/L		-0.0132	0.0132			
WG547556LFB	LFB	08/01/22 16:22	MS220722-2	.050075		.0511	mg/L	102	85	115			
L74731-01AS	AS	08/01/22 17:08	MS220722-2	.050075	.011	.0613	mg/L	100	70	130			
L74731-01ASD	ASD	08/01/22 17:10	MS220722-2	.050075	.011	.0598	mg/L	97	70	130	2	20	

AZMINING

ACZ Project ID: **L74731**

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

Zinc, total

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG547946													
WG547946ICV	ICV	08/06/22 14:50	II220720-4	2		1.979	mg/L	99	95	105			
WG547946ICB	ICB	08/06/22 14:56				U	mg/L		-0.06	0.06			
WG547629LRB	LRB	08/06/22 15:08				U	mg/L		-0.044	0.044			
WG547629LFB	LFB	08/06/22 15:11	II220720-3	.50045		.524	mg/L	105	85	115			
L74731-01LFM	LFM	08/06/22 16:12	II2XWATER	.9884	.094	1.149	mg/L	107	70	130			
L74731-01LFMD	LFMD	08/06/22 16:21	II2XWATER	.9884	.094	1.153	mg/L	107	70	130	0	20	

South32

ACZ Project ID: **L74731**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L74731-01	NG547629	Total Hot Plate Digestion	M200.2 ICP	DF	Sample required dilution due to high sediment.

South32

ACZ Project ID: **L74731**

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

South32

ACZ Project ID: L74731
 Date Received: 07/22/2022 11:43
 Received By:
 Date Printed: 7/25/2022

Receipt Verification

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

Samples/Containers

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

NA indicates Not Applicable

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp (°C)	Temp Criteria (°C)	Rad (µR/Hr)	Custody Seal Intact?
NA38036	4.9	<=6.0	15	Yes

Was ice present in the shipment container(s)?

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

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

South32

ACZ Project ID: L74731
Date Received: 07/22/2022 11:43
Received By:
Date Printed: 7/25/2022

¹ The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na₂S₂O₃ preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).



Accredited
Environmental
Testing

2773 Downhill Drive
Steamboat Springs, CO 80487
(970) 879-6590

L74731

CHAIN of CUSTODY

Report to:

Name: Kara Haas	Address: 749 Harshaw Road
Company: AMI/South 32	Patagonia, AZ 85624
E-mail: Kara.Haas@south32.net	Telephone: 505.947.1738

Copy of Report to:

Name: Matt Owens	E-mail: Matt.Owens1@South32.net
Company: South 32	Telephone:

Invoice to:

Name: Kara Haas	Address: 749 Harshaw Road
Company: AMI/South 32	Patagonia, AZ 85624
E-mail: Kara.Haas@south32.net	Telephone: 505.947.1738

Copy of Invoice to:

Name: South32	Address: NA
Company: AMI/South32	Telephone: NA
E-mail: sscinvoices@south32.net	

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES NO

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

Are samples for SDWA Compliance Monitoring? Yes No

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Jaime Y. Sampler's Site Information State _____ Zip code _____ Time Zone _____
 *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 unit numbers)

Quote #	PO#	Reporting state for compliance testing:	Check box if samples include NRC licensed material?	SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Total Metals	Dissolved Metals	Free Cyanide		
STORMWATER			<input type="checkbox"/>	Outfall 3-07212022	7.21.22 7:30	SW	3	X	X	X		72.22
					7.21.22	DL						

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

REMARKS

DISSOLVED METALS FIELD FILTERED
 For metals analyte list please refer to back of COC
 Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Jaime Lopez	7.21.22 7:30	[Signature]	7/22/22 11:43

Qualtrax ID: 1984 Revision #: 2 White - Return with sample. Yellow - Retain for your records.



L74731 Chain of Custody