CALDERA
Mineral Resources

September 3rd, 2024

Colorado Division of Reclamation, Mining and Safety
1313 Sherman Street, Room 215
Denver, Colorado 80203
Attention: Lucas West

Subject: Camp Bird Permit 1982-090, TR-08 Adequacy Review Response

Please see the following clarifications based on the feedback from the TR-08 Adequacy Review letter dated August 8th, 2024

1. Please see attached table for "SPLP and ABA Testing" Results. Located under **Attachment A** are the updated tables that include Net Acid Forming vs Net Neutralizing Potential. **Attachment B** is the Laboratory Analysis to corroborate the provided tables.
2. We expect to export a maximum of 30,000 tons of surface material over a 3-year period.
3. We have discussed with the County permitting of the Road. As is known we do have a right to road access. We have worked with the County to develop an agreement to accommodate multi-use access. The permit approach was intended to document times of use with the goal of minimizing disruption to Tourism activities in the County. Documentation of the permit is located under **Attachment C**.
4. Export activity is expected to be over a range of 60-70 days per year. Export times will be intermittent and between the hours of 6am-9:30am. This is documented in the Permit.
5. Two samples each were taken from the representative mill feed "head-grade" material from the Camp Bird and Revenue, four samples total. Initially one of each sample for the two properties would be used for ABA and the other would be used for SPLP testing, it was then decided to conduct both ABA & SPLP testing on all of the samples for additional data points. RV indicates that the material came from the Revenue-Virginius and CB indicates material originated from the Camp Bird. A map of sample locations for the Camp Brid are provided under **Attachment D**. Sample material for laboratory testing was collected during bench top testing as it was fed through the crushing and grinding portion of the process. Material was collected on set intervals as to obtain an unbiased sample as it passed through the mini-jaw crusher prior to being fed into the impact mill for grinding.

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6. Sample locations were taken across a range of areas within the Polygon identified in the original submission. Sample depths were up to 5 feet. The bulk material was mixed on a large scale using the front end loader before being collected for processing on the bench scale testing circuit. The goal was to provide a representative sample collection across the polygon.

Thank you for your attention to our adequacy review response.

Sincerely,

Chris Skerik

Chris Skerik

Chief Operating Officer

Caldera Mineral Resources

cskerik@thorinresources.com

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Attachment A – Updated Material Quality & Acid Generating Potential Tables

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Updated Table 1: Summary of SPLP & ABA – Camp Bird Material

Analyte	Units	Minimum	Maximum	Average	Sample Count	Non-Detect Count	MDL
Acid Generation Potential (calc on Sulfur tota	t CaCO3/Kt	9.06	14.1	11.58000	2	-	0.31
Acid Neutralization Potential (calc)	t CaCO3/Kt	64	98	81	2	-	1
Acid-Base Potential (calculation)	t CaCO3/Kt	54.9	83.9	69.4	2	-	-
Aluminum (1312)	mg/L	0.45	0.52	0.485	2	-	0.05
Antimony (1312)	mg/L	0.00114	0.00157	0.001355	2	-	0.0004
Arsenic (1312)	mg/L	0.00655	0.00719	0.00687	2	-	0.0002
Barium (1312)	mg/L	0.0096	0.0154	0.0125	2	-	0.0005
Beryllium (1312)	mg/L	-	-	-	2	2	0.00008
Bicarbonate as CaCO3	mg/L	31.4	33.1	32.25	2	-	2
Boron (1312)	mg/L	-	-	-	2	2	0.03
Bromide (1312-DI)	mg/L	0.35	0.435	0.3925	2	-	0.05
Cadmium (1312)	mg/L	-	-	-	2	2	0.00005
Calcium (1312)	mg/L	8.97	10	9.485	2	-	0.1
Carbon, total organic (TOC) (1312-DI)	mg/L	1.7	1.8	1.75	2	-	1
Carbonate as CaCO3	mg/L	-	-	-	2	2	2
Chloride (1312-DI)	mg/L	-	-	-	2	2	0.4
Chromium (1312)	mg/L	-	-	-	2	2	0.0005
Cobalt (1312)	mg/L	0.000058	0.000082	0.00007	2	-	0.00005
Conductivity @25C (1312-DI)	umhos/cm	51	56	53.5	2	-	1
Copper (1312)	mg/L	0.00128	0.0013	0.00129	2	-	0.0008
Fluoride (1312 DI)	mg/L	0.37	0.38	0.375	2	-	0.15
Hardness as CaCO3 (1312)	mg/L	24	27	25.5	2	-	0.2
Hydroxide as CaCO3	mg/L	-	-	-	2	2	2
Iron (1312)	mg/L	0.071	0.071	0.071	2	1	0.06
Lead (1312)	mg/L	0.00119	0.00273	0.00196	2	-	0.0001
Lithium (1312)	mg/L	-	-	-	2	2	0.008
Magnesium (1312)	mg/L	0.38	0.38	0.38	2	-	0.2
Manganese (1312)	mg/L	0.0251	0.0312	0.02815	2	-	0.0004
Mercury (1312)	mg/L	-	-	-	2	2	0.0002
Molybdenum (1312)	mg/L	0.00357	0.00376	0.003665	2	-	0.0002
Neutralization Potential as CaCO3	%	6.4	9.8	8.1	2	-	0.1
Nickel (1312)	mg/L	-	-	-	2	2	0.0004
Nitrate (1312 DI)	mg/L	0.037	0.037	0.037	2	1	0.02
Nitrate/Nitrite as N (1312-DI)	mg/L	0.037	0.037	0.037	2	1	0.02
Nitrite as N (1312-DI)	mg/L	-	-	-	2	2	0.01
Nitrogen, ammonia (1312-DI)	mg/L	0.106	0.106	0.106	2	1	0.1
pH	Units	9	9	9	2	-	0.1
Phosphorus, ortho dissolved (1312-DI)	mg/L	0.011	0.011	0.011	2	1	0.01
Phosphorus, Total (1312-DI)	mg/L	0.011	0.012	0.0115	2	-	0.01
Potassium (1312)	mg/L	2.31	2.93	2.62	2	-	0.5
Residue, Filterable (TDS) @180C (1312)	mg/L	32	36	34	2	-	20
Residue, Non-Filter (TSS) @180C (1312-DI)	mg/L	-	-	-	2	2	5
Selenium (1312)	mg/L	0.00016	0.00034	0.00025	2	-	0.0001
Silica (1312)	mg/L	3.3	3.7	3.5	2	-	0.2
Silver (1312)	mg/L	-	-	-	2	2	0.0001
Sodium (1312)	mg/L	0.94	1.19	1.065	2	-	0.2
Strontium (1312)	mg/L	0.0857	0.133	0.10935	2	-	0.009
Sulfate (1312-DI)	mg/L	2.84	3.19	3.015	2	-	0.9
Temperature	Units	20.3	20.9	20.6	2	-	0.1
Thallium (1312)	mg/L	-	-	-	2	2	0.0001
Tin (1312)	mg/L	-	-	-	2	2	0.04
Total Alkalinity	mg/L	31.4	33.1	32.25	2	-	2
Uranium (1312)	mg/L	-	-	-	2	2	0.0001
Vanadium (1312)	mg/L	0.00185	0.00213	0.00199	2	-	0.0005
Zinc (1312)	mg/L	-	-	-	2	2	0.006

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New Table: Acid Generation Vs Acid Neutralizing Potential – Camp Bird Material

Analyte	Units	Minimum	Maximum	Average	Sample Count	Non-Detect Count	MDL
Acid Generation Potential (calc on Sulfur total)	t CaCO3/Kt	9.06	14.1	11.58	2	0	0.31
Acid Neutralization Potential (calc)	t CaCO3/Kt	64	98	81	2	0	1
Acid-Base Potential (calculation)	t CaCO3/Kt	54.9	83.9	69.4	2	0	0
Neutralization Potential as CaCO3	%	6.4	9.8	8.1	2	0	0.1
Neutralization Potential Ratio				7.0	2	0	

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Attachment B – Material Quality Laboratory Reports

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

July 23, 2024

Report to:
CJ Dickerson
Thorin Resources
105 Meadow Estates Dr.

Ridgway, CO 81432

cc: Accounts Payable

Bill to:
Accounts Payable
Thorin Resources
1900 Main St
Unit #1
Ouray, CO 81427

Project ID:
ACZ Project ID: L86570

CJ Dickerson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on March 13, 2024. This project has been assigned to ACZ's project number, L86570. 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 L86570. 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 22, 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

Mark McNeal has reviewed and approved this report.

Thorin Resources

July 23, 2024

Project ID:
ACZ Project ID: L86570

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 4 miscellaneous samples from Thorin Resources on March 13, 2024. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L86570. 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

These samples were analyzed for inorganic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports.

This report is being reissued to include values for AGP and ANP.

Thorin Resources
Project ID:
Sample ID: RV ABA HGW HEADS-01

ACZ Sample ID: ***L86570-01***
Date Sampled: *03/04/24 09:40*
Date Received: *03/13/24*
Sample Matrix: *Soil*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, Total (1312-DI)	EPA 365.1								03/25/24 10:37	mrd
Total Hot Plate Digestion (1312)	EPA 3010A								03/29/24 15:12	jrj
Total Hot Plate Digestion (1312)	EPA 3010A								03/22/24 12:50	aeh

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum (1312)	EPA 6010D	1	0.056	B	*	mg/L	0.05	0.25	03/26/24 18:04	brc
Antimony (1312)	EPA 6020B	1	0.0116			mg/L	0.0004	0.002	03/30/24 17:32	jrj
Arsenic (1312)	EPA 6020B	1	0.00222			mg/L	0.0002	0.001	03/30/24 17:32	jrj
Barium (1312)	EPA 6020B	1	0.0655			mg/L	0.0005	0.0025	03/30/24 17:32	jrj
Beryllium (1312)	EPA 6020B	1	<0.00008	U	*	mg/L	0.00008	0.00025	03/30/24 17:32	jrj
Boron (1312)	EPA 6010D	1	<0.03	U	*	mg/L	0.03	0.1	03/26/24 18:04	brc
Cadmium (1312)	EPA 6020B	1	<0.00005	U	*	mg/L	0.00005	0.00025	03/30/24 17:32	jrj
Calcium (1312)	EPA 6010D	1	22.8			mg/L	0.1	0.5	03/26/24 18:04	brc
Chromium (1312)	EPA 6020B	1	<0.0005	U	*	mg/L	0.0005	0.002	03/30/24 17:32	jrj
Cobalt (1312)	EPA 6020B	1	0.000104	B	*	mg/L	0.00005	0.00025	03/30/24 17:32	jrj
Copper (1312)	EPA 6020B	1	0.0101		*	mg/L	0.0008	0.002	04/02/24 14:24	aps
Iron (1312)	EPA 6010D	1	<0.06	U	*	mg/L	0.06	0.15	03/26/24 18:04	brc
Lead (1312)	EPA 6020B	1	0.0875			mg/L	0.0001	0.0005	03/30/24 17:32	jrj
Lithium (1312)	EPA 6010D	1	<0.008	U	*	mg/L	0.008	0.04	03/26/24 18:04	brc
Magnesium (1312)	EPA 6010D	1	0.89	B	*	mg/L	0.2	1	03/26/24 18:04	brc
Manganese (1312)	EPA 6020B	1	0.0768			mg/L	0.0004	0.002	03/30/24 17:32	jrj
Mercury (1312)	EPA 7470A	1	<0.0002	U	*	mg/L	0.0002	0.001	03/26/24 14:38	aeh
Molybdenum (1312)	EPA 6020B	1	0.0137		*	mg/L	0.0002	0.0005	03/30/24 17:32	jrj
Nickel (1312)	EPA 6020B	1	<0.0004	U	*	mg/L	0.0004	0.001	03/30/24 17:32	jrj
Potassium (1312)	EPA 6010D	1	4.14		*	mg/L	0.5	1	03/26/24 18:04	brc
Selenium (1312)	EPA 6020B	1	0.00015	B	*	mg/L	0.0001	0.00025	03/30/24 17:32	jrj
Silica (1312)	EPA 6010D	1	2.5			mg/L	0.2	1	03/26/24 18:04	brc
Silver (1312)	EPA 6020B	1	<0.0001	U	*	mg/L	0.0001	0.0005	03/30/24 17:32	jrj
Sodium (1312)	EPA 6010D	1	0.79	B	*	mg/L	0.2	1	03/26/24 18:04	brc
Strontium (1312)	EPA 6010D	1	0.429		*	mg/L	0.009	0.045	03/26/24 18:04	brc
Thallium (1312)	EPA 6020B	1	0.00016	B	*	mg/L	0.0001	0.0005	03/30/24 17:32	jrj
Tin (1312)	EPA 6010D	1	<0.04	U	*	mg/L	0.04	0.2	03/26/24 18:04	brc
Uranium (1312)	EPA 6020B	1	<0.0001	U	*	mg/L	0.0001	0.0005	03/30/24 17:32	jrj
Vanadium (1312)	EPA 6020B	1	<0.0005	U	*	mg/L	0.0005	0.002	03/30/24 17:32	jrj
Zinc (1312)	EPA 6020B	1	0.0086	B	*	mg/L	0.006	0.015	03/30/24 17:32	jrj

Thorin Resources
Project ID:
Sample ID: RV ABA HGW HEADS-01

ACZ Sample ID: ***L86570-01***
Date Sampled: *03/04/24 09:40*
Date Received: *03/13/24*
Sample Matrix: *Soil*

Soil Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Acid Generation Potential (calc on Sulfur total)	EPA 600/2-78-054 3.2.4		17.2			t CaCO3/Kt	0.31	3.1	07/23/24 0:00	calc
Acid Neutralization Potential (calc)	EPA 600/2-78-054 1.3		131			t CaCO3/Kt	1	5	07/23/24 0:00	calc
Acid-Base Potential (calculation)	EPA 600/2-78-054 1.3		114			t CaCO3/Kt			07/23/24 0:00	calc
Neutralization Potential as CaCO3	EPA 600/2-78-054 3.2.3	1	13.1		*	%	0.1	0.5	07/19/24 13:15	bdc
pH, (1312)	EPA 9045D/9040C									
pH			8.5			Units	0.1	0.1	07/23/24 0:00	LFP
Temperature			20.7			Units	0.1	0.1	07/23/24 0:00	LFP
Sulfur Forms	EPA 600/2-78-054 3.2.4 Modified									
Sulfur HCl Residue		1	0.51		*	%	0.01	0.1	07/23/24 0:00	kmb
Sulfur HNO3 Residue		1	<0.01	U	*	%	0.01	0.1	07/23/24 0:00	kmb
Sulfur Organic Residual		1	<0.01	U	*	%	0.01	0.1	07/23/24 0:00	kmb
Sulfur Pyritic Sulfide		1	0.51			%	0.01	0.1	07/23/24 0:00	kmb
Sulfur Sulfate		1	0.04	B	*	%	0.01	0.1	07/23/24 0:00	kmb
Sulfur Total		1	0.55		*	%	0.01	0.1	07/23/24 0:00	kmb
Total Sulfur minus Sulfate		1	0.51			%	0.01	0.1	07/23/24 0:00	kmb

Soil Preparation

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Air Dry at 34 Degrees C	USDA No. 1, 1972								07/17/24 15:00	bdc
Crush and Pulverize (Ring & Puck)	EPA 600/2-78-054 3.1.3								07/18/24 10:00	bdc
Synthetic Precip. Leaching Procedure	EPA 1312								03/20/24 10:00	lfp
Synthetic Precip. Leaching Procedure	EPA 1312								03/20/24 21:52	lfp

Thorin Resources
Project ID:
Sample ID: RV ABA HGW HEADS-01

ACZ Sample ID: ***L86570-01***
Date Sampled: *03/04/24 09:40*
Date Received: *03/13/24*
Sample Matrix: *Soil*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity (1312 DI)	SM 2320 B-2011									
Bicarbonate as CaCO3		1	30.7		*	mg/L	2	20	03/28/24 0:00	jck
Carbonate as CaCO3		1	<2	U	*	mg/L	2	20	03/28/24 0:00	jck
Hydroxide as CaCO3		1	<2	U	*	mg/L	2	20	03/28/24 0:00	jck
Total Alkalinity		1	30.7		*	mg/L	2	20	03/28/24 0:00	jck
Bromide (1312-DI)	EPA 300.0	1	<0.05	U	*	mg/L	0.05	0.25	03/26/24 20:29	bls
Carbon, total organic (TOC) (1312-DI)	SM 5310 B-2011/2014	1	2.9	B	*	mg/L	1	5	04/01/24 21:14	ems
Chloride (1312-DI)	EPA 300.0	1	0.63	B	*	mg/L	0.4	2	03/26/24 20:29	bls
Conductivity @25C (1312-DI)	SM 2510 B-2011	1	107		*	umhos/cm	1	10	03/28/24 17:17	jck
Fluoride (1312 DI)	SM 4500-F C-2011	1	<0.15	U	*	mg/L	0.15	0.35	03/28/24 12:30	jck
Hardness as CaCO3 (1312)	Calculation (SM 2340 B-2011)		61			mg/L	0.2	5	07/23/24 0:00	calc
Nitrate (1312 DI)	Calculation (NO3NO2-NO2)		1.83			mg/L	0.02	0.1	07/23/24 0:00	calc
Nitrate/Nitrite as N (1312-DI)	EPA 353.2	1	1.85		*	mg/L	0.02	0.1	03/22/24 0:46	pjb
Nitrite as N (1312-DI)	EPA 353.2	1	0.023	B	*	mg/L	0.01	0.05	03/22/24 0:46	pjb
Nitrogen, ammonia (1312-DI)	EPA 350.1	1	0.116	B	*	mg/L	0.1	0.2	04/02/24 11:39	jqr
Phosphorus, ortho dissolved (1312-DI)	EPA 365.1	1	<0.01	U	*	mg/L	0.01	0.05	03/22/24 1:17	pjb
Phosphorus, Total (1312-DI)	EPA 365.1	1	<0.01	U	*	mg/L	0.01	0.05	03/27/24 14:37	mrd
Residue, Filterable (TDS) @180C (1312)	SM 2540 C-2011	1	76		*	mg/L	20	40	03/25/24 18:35	jck
Residue, Non-Filter (TSS) @180C (1312-DI)	SM 2540 D-2011/2015	1	<5	U	*	mg/L	5	20	03/27/24 21:36	jck
Sulfate (1312-DI)	EPA 300.0	1	26.1		*	mg/L	0.9	2	03/26/24 20:29	bls

Thorin Resources
Project ID:
Sample ID: RV SPL HEADS-02

ACZ Sample ID: ***L86570-02***
Date Sampled: *03/04/24 09:40*
Date Received: *03/13/24*
Sample Matrix: *Soil*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, Total (1312-DI)	EPA 365.1								03/25/24 11:42	mrd
Total Hot Plate Digestion (1312)	EPA 3010A								03/22/24 16:10	aeh
Total Hot Plate Digestion (1312)	EPA 3010A								03/29/24 15:34	jrj

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum (1312)	EPA 6010D	1	0.098	B	*	mg/L	0.05	0.25	03/26/24 18:18	brc
Antimony (1312)	EPA 6020B	1	0.0103			mg/L	0.0004	0.002	03/30/24 17:39	jrj
Arsenic (1312)	EPA 6020B	1	0.00153			mg/L	0.0002	0.001	03/30/24 17:39	jrj
Barium (1312)	EPA 6020B	1	0.0613			mg/L	0.0005	0.0025	03/30/24 17:39	jrj
Beryllium (1312)	EPA 6020B	1	<0.00008	U	*	mg/L	0.00008	0.00025	04/02/24 14:29	aps
Boron (1312)	EPA 6010D	1	<0.03	U	*	mg/L	0.03	0.1	03/26/24 18:18	brc
Cadmium (1312)	EPA 6020B	1	<0.00005	U	*	mg/L	0.00005	0.00025	03/30/24 17:39	jrj
Calcium (1312)	EPA 6010D	1	17.9			mg/L	0.1	0.5	03/26/24 18:18	brc
Chromium (1312)	EPA 6020B	1	<0.0005	U	*	mg/L	0.0005	0.002	03/30/24 17:39	jrj
Cobalt (1312)	EPA 6020B	1	0.000073	B	*	mg/L	0.00005	0.00025	03/30/24 17:39	jrj
Copper (1312)	EPA 6020B	1	0.00084	B	*	mg/L	0.0008	0.002	04/02/24 14:29	aps
Iron (1312)	EPA 6010D	1	<0.06	U	*	mg/L	0.06	0.15	03/26/24 18:18	brc
Lead (1312)	EPA 6020B	1	0.0676			mg/L	0.0001	0.0005	03/30/24 17:39	jrj
Lithium (1312)	EPA 6010D	1	<0.008	U	*	mg/L	0.008	0.04	03/26/24 18:18	brc
Magnesium (1312)	EPA 6010D	1	0.77	B	*	mg/L	0.2	1	03/26/24 18:18	brc
Manganese (1312)	EPA 6020B	1	0.0567			mg/L	0.0004	0.002	03/30/24 17:39	jrj
Mercury (1312)	EPA 7470A	1	<0.0002	U	*	mg/L	0.0002	0.001	03/26/24 14:42	aeh
Molybdenum (1312)	EPA 6020B	1	0.0218		*	mg/L	0.0002	0.0005	03/30/24 17:39	jrj
Nickel (1312)	EPA 6020B	1	<0.0004	U	*	mg/L	0.0004	0.001	03/30/24 17:39	jrj
Potassium (1312)	EPA 6010D	1	3.79		*	mg/L	0.5	1	03/26/24 18:18	brc
Selenium (1312)	EPA 6020B	1	0.00010	B	*	mg/L	0.0001	0.00025	03/30/24 17:39	jrj
Silica (1312)	EPA 6010D	1	2.1			mg/L	0.2	1	03/26/24 18:18	brc
Silver (1312)	EPA 6020B	1	<0.0001	U	*	mg/L	0.0001	0.0005	03/30/24 17:39	jrj
Sodium (1312)	EPA 6010D	1	0.53	B	*	mg/L	0.2	1	03/26/24 18:18	brc
Strontium (1312)	EPA 6010D	1	0.350		*	mg/L	0.009	0.045	03/26/24 18:18	brc
Thallium (1312)	EPA 6020B	1	<0.0001	U	*	mg/L	0.0001	0.0005	03/30/24 17:39	jrj
Tin (1312)	EPA 6010D	1	<0.04	U	*	mg/L	0.04	0.2	03/26/24 18:18	brc
Uranium (1312)	EPA 6020B	1	<0.0001	U	*	mg/L	0.0001	0.0005	03/30/24 17:39	jrj
Vanadium (1312)	EPA 6020B	1	<0.0005	U	*	mg/L	0.0005	0.002	03/30/24 17:39	jrj
Zinc (1312)	EPA 6020B	1	<0.006	U	*	mg/L	0.006	0.015	03/30/24 17:39	jrj

Thorin Resources
Project ID:
Sample ID: RV SPL HEADS-02

ACZ Sample ID: ***L86570-02***
Date Sampled: *03/04/24 09:40*
Date Received: *03/13/24*
Sample Matrix: *Soil*

Soil Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Acid Generation Potential (calc on Sulfur total)	EPA 600/2-78-054 3.2.4		68.8			t CaCO3/Kt	0.31	3.1	07/23/24 0:00	calc
Acid Neutralization Potential (calc)	EPA 600/2-78-054 1.3		105			t CaCO3/Kt	1	5	07/23/24 0:00	calc
Acid-Base Potential (calculation)	EPA 600/2-78-054 1.3		36.3			t CaCO3/Kt			07/23/24 0:00	calc
Neutralization Potential as CaCO3	EPA 600/2-78-054 3.2.3	1	10.5		*	%	0.1	0.5	07/19/24 13:42	bdc
pH, (1312)	EPA 9045D/9040C									
pH			8.8			Units	0.1	0.1	07/23/24 0:00	LFP
Temperature			20.1			Units	0.1	0.1	07/23/24 0:00	LFP
Sulfur Forms	EPA 600/2-78-054 3.2.4 Modified									
Sulfur HCl Residue		1	1.86		*	%	0.01	0.1	07/23/24 0:00	kmb
Sulfur HNO3 Residue		1	0.11		*	%	0.01	0.1	07/23/24 0:00	kmb
Sulfur Organic Residual		1	0.11		*	%	0.01	0.1	07/23/24 0:00	kmb
Sulfur Pyritic Sulfide		1	1.75			%	0.01	0.1	07/23/24 0:00	kmb
Sulfur Sulfate		1	0.34		*	%	0.01	0.1	07/23/24 0:00	kmb
Sulfur Total		1	2.20		*	%	0.01	0.1	07/23/24 0:00	kmb
Total Sulfur minus Sulfate		1	1.86			%	0.01	0.1	07/23/24 0:00	kmb

Soil Preparation

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Air Dry at 34 Degrees C	USDA No. 1, 1972								07/17/24 15:05	bdc
Crush and Pulverize (Ring & Puck)	EPA 600/2-78-054 3.1.3								07/18/24 10:08	bdc
Synthetic Precip. Leaching Procedure	EPA 1312								03/21/24 3:31	lfp
Synthetic Precip. Leaching Procedure	EPA 1312								03/20/24 15:00	lfp

Thorin Resources
Project ID:
Sample ID: RV SPL HEADS-02

ACZ Sample ID: ***L86570-02***
Date Sampled: *03/04/24 09:40*
Date Received: *03/13/24*
Sample Matrix: *Soil*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity (1312 DI)	SM 2320 B-2011									
Bicarbonate as CaCO3		1	30.6		*	mg/L	2	20	03/28/24 0:00	jck
Carbonate as CaCO3		1	<2	U	*	mg/L	2	20	03/28/24 0:00	jck
Hydroxide as CaCO3		1	<2	U	*	mg/L	2	20	03/28/24 0:00	jck
Total Alkalinity		1	30.6		*	mg/L	2	20	03/28/24 0:00	jck
Bromide (1312-DI)	EPA 300.0	1	<0.05	U	*	mg/L	0.05	0.25	03/26/24 21:05	bls
Carbon, total organic (TOC) (1312-DI)	SM 5310 B-2011/2014	1	1.5	B	*	mg/L	1	5	04/01/24 21:40	ems
Chloride (1312-DI)	EPA 300.0	1	<0.4	U	*	mg/L	0.4	2	03/26/24 21:05	bls
Conductivity @25C (1312-DI)	SM 2510 B-2011	1	85		*	umhos/cm	1	10	03/28/24 17:26	jck
Fluoride (1312 DI)	SM 4500-F C-2011	1	<0.15	U	*	mg/L	0.15	0.35	03/28/24 12:53	jck
Hardness as CaCO3 (1312)	Calculation (SM 2340 B-2011)		48			mg/L	0.2	5	07/23/24 0:00	calc
Nitrate (1312 DI)	Calculation (NO3NO2-NO2)		1.72			mg/L	0.02	0.1	07/23/24 0:00	calc
Nitrate/Nitrite as N (1312-DI)	EPA 353.2	1	1.74		*	mg/L	0.02	0.1	03/22/24 0:48	pjb
Nitrite as N (1312-DI)	EPA 353.2	1	0.016	B	*	mg/L	0.01	0.05	03/22/24 0:48	pjb
Nitrogen, ammonia (1312-DI)	EPA 350.1	1	<0.1	U	*	mg/L	0.1	0.2	04/02/24 11:42	jqr
Phosphorus, ortho dissolved (1312-DI)	EPA 365.1	1	<0.01	U	*	mg/L	0.01	0.05	03/22/24 1:19	pjb
Phosphorus, Total (1312-DI)	EPA 365.1	1	<0.01	U	*	mg/L	0.01	0.05	03/27/24 14:39	mrd
Residue, Filterable (TDS) @180C (1312)	SM 2540 C-2011	1	56		*	mg/L	20	40	03/25/24 18:42	jck
Residue, Non-Filter (TSS) @180C (1312-DI)	SM 2540 D-2011/2015	2	<10	U	*	mg/L	10	40	03/27/24 21:40	jck
Sulfate (1312-DI)	EPA 300.0	1	13.6		*	mg/L	0.9	2	03/26/24 21:05	bls

Thorin Resources
Project ID:
Sample ID: CBW ABA HEADS-03

ACZ Sample ID: ***L86570-03***
Date Sampled: *03/04/24 09:40*
Date Received: *03/13/24*
Sample Matrix: *Soil*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, Total (1312-DI)	EPA 365.1								03/25/24 12:47	mrd
Total Hot Plate Digestion (1312)	EPA 3010A								03/22/24 17:00	aeh
Total Hot Plate Digestion (1312)	EPA 3010A								03/29/24 16:08	jrj

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum (1312)	EPA 6010D	1	0.520		*	mg/L	0.05	0.25	03/26/24 18:22	brc
Antimony (1312)	EPA 6020B	1	0.00114	B		mg/L	0.0004	0.002	03/30/24 17:45	jrj
Arsenic (1312)	EPA 6020B	1	0.00655			mg/L	0.0002	0.001	03/30/24 17:45	jrj
Barium (1312)	EPA 6020B	1	0.0154			mg/L	0.0005	0.0025	03/30/24 17:45	jrj
Beryllium (1312)	EPA 6020B	1	<0.00008	U	*	mg/L	0.00008	0.00025	04/02/24 14:36	aps
Boron (1312)	EPA 6010D	1	<0.03	U	*	mg/L	0.03	0.1	03/26/24 18:22	brc
Cadmium (1312)	EPA 6020B	1	<0.00005	U	*	mg/L	0.00005	0.00025	03/30/24 17:45	jrj
Calcium (1312)	EPA 6010D	1	8.97			mg/L	0.1	0.5	03/26/24 18:22	brc
Chromium (1312)	EPA 6020B	1	<0.0005	U	*	mg/L	0.0005	0.002	03/30/24 17:45	jrj
Cobalt (1312)	EPA 6020B	1	0.000082	B	*	mg/L	0.00005	0.00025	03/30/24 17:45	jrj
Copper (1312)	EPA 6020B	1	0.00130	B	*	mg/L	0.0008	0.002	04/02/24 14:36	aps
Iron (1312)	EPA 6010D	1	0.071	B	*	mg/L	0.06	0.15	03/26/24 18:22	brc
Lead (1312)	EPA 6020B	1	0.00273			mg/L	0.0001	0.0005	03/30/24 17:45	jrj
Lithium (1312)	EPA 6010D	1	<0.008	U	*	mg/L	0.008	0.04	03/26/24 18:22	brc
Magnesium (1312)	EPA 6010D	1	0.38	B	*	mg/L	0.2	1	03/26/24 18:22	brc
Manganese (1312)	EPA 6020B	1	0.0312			mg/L	0.0004	0.002	03/30/24 17:45	jrj
Mercury (1312)	EPA 7470A	1	<0.0002	U	*	mg/L	0.0002	0.001	03/26/24 14:43	aeh
Molybdenum (1312)	EPA 6020B	1	0.00376		*	mg/L	0.0002	0.0005	03/30/24 17:45	jrj
Nickel (1312)	EPA 6020B	1	<0.0004	U	*	mg/L	0.0004	0.001	03/30/24 17:45	jrj
Potassium (1312)	EPA 6010D	1	2.31		*	mg/L	0.5	1	03/26/24 18:22	brc
Selenium (1312)	EPA 6020B	1	0.00034		*	mg/L	0.0001	0.00025	03/30/24 17:45	jrj
Silica (1312)	EPA 6010D	1	3.7			mg/L	0.2	1	03/26/24 18:22	brc
Silver (1312)	EPA 6020B	1	<0.0001	U	*	mg/L	0.0001	0.0005	03/30/24 17:45	jrj
Sodium (1312)	EPA 6010D	1	1.19		*	mg/L	0.2	1	03/26/24 18:22	brc
Strontium (1312)	EPA 6010D	1	0.0857		*	mg/L	0.009	0.045	03/26/24 18:22	brc
Thallium (1312)	EPA 6020B	1	<0.0001	U	*	mg/L	0.0001	0.0005	03/30/24 17:45	jrj
Tin (1312)	EPA 6010D	1	<0.04	U	*	mg/L	0.04	0.2	03/26/24 18:22	brc
Uranium (1312)	EPA 6020B	1	<0.0001	U	*	mg/L	0.0001	0.0005	03/30/24 17:45	jrj
Vanadium (1312)	EPA 6020B	1	0.00185	B	*	mg/L	0.0005	0.002	03/30/24 17:45	jrj
Zinc (1312)	EPA 6020B	1	<0.006	U	*	mg/L	0.006	0.015	03/30/24 17:45	jrj

Thorin Resources
Project ID:
Sample ID: CBW ABA HEADS-03

ACZ Sample ID: ***L86570-03***
Date Sampled: *03/04/24 09:40*
Date Received: *03/13/24*
Sample Matrix: *Soil*

Soil Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Acid Generation Potential (calc on Sulfur total)	EPA 600/2-78-054 3.2.4		9.06			t CaCO3/Kt	0.31	3.1	07/23/24 0:00	calc
Acid Neutralization Potential (calc)	EPA 600/2-78-054 1.3		64.0			t CaCO3/Kt	1	5	07/23/24 0:00	calc
Acid-Base Potential (calculation)	EPA 600/2-78-054 1.3		54.9			t CaCO3/Kt			07/23/24 0:00	calc
Neutralization Potential as CaCO3	EPA 600/2-78-054 3.2.3	1	6.4		*	%	0.1	0.5	07/19/24 15:05	bdc
pH, (1312)	EPA 9045D/9040C									
pH			9			Units	0.1	0.1	07/23/24 0:00	LFP
Temperature			20.9			Units	0.1	0.1	07/23/24 0:00	LFP
Sulfur Forms	EPA 600/2-78-054 3.2.4 Modified									
Sulfur HCl Residue		1	0.29		*	%	0.01	0.1	07/23/24 0:00	kmb
Sulfur HNO3 Residue		1	<0.01	U	*	%	0.01	0.1	07/23/24 0:00	kmb
Sulfur Organic Residual		1	<0.01	U	*	%	0.01	0.1	07/23/24 0:00	kmb
Sulfur Pyritic Sulfide		1	0.29			%	0.01	0.1	07/23/24 0:00	kmb
Sulfur Sulfate		1	<0.01	U	*	%	0.01	0.1	07/23/24 0:00	kmb
Sulfur Total		1	0.29		*	%	0.01	0.1	07/23/24 0:00	kmb
Total Sulfur minus Sulfate		1	0.29			%	0.01	0.1	07/23/24 0:00	kmb

Soil Preparation

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Air Dry at 34 Degrees C	USDA No. 1, 1972								07/17/24 15:10	bdc
Crush and Pulverize (Ring & Puck)	EPA 600/2-78-054 3.1.3								07/18/24 10:16	bdc
Synthetic Precip. Leaching Procedure	EPA 1312								03/21/24 9:10	lfp
Synthetic Precip. Leaching Procedure	EPA 1312								03/20/24 17:30	lfp

Thorin Resources
Project ID:
Sample ID: CBW ABA HEADS-03

ACZ Sample ID: ***L86570-03***
Date Sampled: *03/04/24 09:40*
Date Received: *03/13/24*
Sample Matrix: *Soil*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity (1312 DI)	SM 2320 B-2011									
Bicarbonate as CaCO3		1	31.4		*	mg/L	2	20	03/28/24 0:00	jck
Carbonate as CaCO3		1	<2	U	*	mg/L	2	20	03/28/24 0:00	jck
Hydroxide as CaCO3		1	<2	U	*	mg/L	2	20	03/28/24 0:00	jck
Total Alkalinity		1	31.4		*	mg/L	2	20	03/28/24 0:00	jck
Bromide (1312-DI)	EPA 300.0	1	0.350		*	mg/L	0.05	0.25	03/26/24 21:41	bls
Carbon, total organic (TOC) (1312-DI)	SM 5310 B-2011/2014	1	1.7	B	*	mg/L	1	5	04/01/24 22:23	ems
Chloride (1312-DI)	EPA 300.0	1	<0.4	U	*	mg/L	0.4	2	03/26/24 21:41	bls
Conductivity @25C (1312-DI)	SM 2510 B-2011	1	51		*	umhos/cm	1	10	03/28/24 17:31	jck
Fluoride (1312 DI)	SM 4500-F C-2011	1	0.38		*	mg/L	0.15	0.35	03/28/24 12:58	jck
Hardness as CaCO3 (1312)	Calculation (SM 2340 B-2011)		24.0			mg/L	0.2	5	07/23/24 0:00	calc
Nitrate (1312 DI)	Calculation (NO3NO2-NO2)		<0.02	U		mg/L	0.02	0.1	07/23/24 0:00	calc
Nitrate/Nitrite as N (1312-DI)	EPA 353.2	1	<0.02	U	*	mg/L	0.02	0.1	03/22/24 0:51	pjb
Nitrite as N (1312-DI)	EPA 353.2	1	<0.01	U	*	mg/L	0.01	0.05	03/22/24 0:51	pjb
Nitrogen, ammonia (1312-DI)	EPA 350.1	1	<0.1	U	*	mg/L	0.1	0.2	04/02/24 11:45	jqr
Phosphorus, ortho dissolved (1312-DI)	EPA 365.1	1	0.011	B	*	mg/L	0.01	0.05	03/22/24 1:21	pjb
Phosphorus, Total (1312-DI)	EPA 365.1	1	0.011	B	*	mg/L	0.01	0.05	03/27/24 14:41	mrd
Residue, Filterable (TDS) @180C (1312)	SM 2540 C-2011	1	32	B	*	mg/L	20	40	03/25/24 18:46	jck
Residue, Non-Filter (TSS) @180C (1312-DI)	SM 2540 D-2011/2015	1	<5	U	*	mg/L	5	20	03/27/24 21:42	jck
Sulfate (1312-DI)	EPA 300.0	1	2.84		*	mg/L	0.9	2	03/26/24 21:41	bls

Thorin Resources
Project ID:
Sample ID: CBW SPLP HEADS-04

ACZ Sample ID: ***L86570-04***
Date Sampled: *03/04/24 09:40*
Date Received: *03/13/24*
Sample Matrix: *Soil*

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Phosphorus, Total (1312-DI)	EPA 365.1								03/25/24 13:20	mrd
Total Hot Plate Digestion (1312)	EPA 3010A								03/22/24 17:50	aeh
Total Hot Plate Digestion (1312)	EPA 3010A								03/29/24 16:19	jrj

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum (1312)	EPA 6010D	1	0.450		*	mg/L	0.05	0.25	03/26/24 18:26	brc
Antimony (1312)	EPA 6020B	1	0.00157	B		mg/L	0.0004	0.002	03/30/24 17:47	jrj
Arsenic (1312)	EPA 6020B	1	0.00719			mg/L	0.0002	0.001	03/30/24 17:47	jrj
Barium (1312)	EPA 6020B	1	0.00960			mg/L	0.0005	0.0025	03/30/24 17:47	jrj
Beryllium (1312)	EPA 6020B	1	<0.00008	U	*	mg/L	0.00008	0.00025	04/02/24 14:38	aps
Boron (1312)	EPA 6010D	1	<0.03	U	*	mg/L	0.03	0.1	03/26/24 18:26	brc
Cadmium (1312)	EPA 6020B	1	<0.00005	U	*	mg/L	0.00005	0.00025	03/30/24 17:47	jrj
Calcium (1312)	EPA 6010D	1	10.00			mg/L	0.1	0.5	03/26/24 18:26	brc
Chromium (1312)	EPA 6020B	1	<0.0005	U	*	mg/L	0.0005	0.002	03/30/24 17:47	jrj
Cobalt (1312)	EPA 6020B	1	0.000058	B	*	mg/L	0.00005	0.00025	03/30/24 17:47	jrj
Copper (1312)	EPA 6020B	1	0.00128	B	*	mg/L	0.0008	0.002	04/02/24 14:38	aps
Iron (1312)	EPA 6010D	1	<0.06	U	*	mg/L	0.06	0.15	03/26/24 18:26	brc
Lead (1312)	EPA 6020B	1	0.00119			mg/L	0.0001	0.0005	03/30/24 17:47	jrj
Lithium (1312)	EPA 6010D	1	<0.008	U	*	mg/L	0.008	0.04	03/26/24 18:26	brc
Magnesium (1312)	EPA 6010D	1	0.38	B	*	mg/L	0.2	1	03/26/24 18:26	brc
Manganese (1312)	EPA 6020B	1	0.0251			mg/L	0.0004	0.002	03/30/24 17:47	jrj
Mercury (1312)	EPA 7470A	1	<0.0002	U	*	mg/L	0.0002	0.001	03/26/24 14:46	aeh
Molybdenum (1312)	EPA 6020B	1	0.00357		*	mg/L	0.0002	0.0005	03/30/24 17:47	jrj
Nickel (1312)	EPA 6020B	1	<0.0004	U	*	mg/L	0.0004	0.001	03/30/24 17:47	jrj
Potassium (1312)	EPA 6010D	1	2.93		*	mg/L	0.5	1	03/26/24 18:26	brc
Selenium (1312)	EPA 6020B	1	0.00016	B	*	mg/L	0.0001	0.00025	03/30/24 17:47	jrj
Silica (1312)	EPA 6010D	1	3.3			mg/L	0.2	1	03/26/24 18:26	brc
Silver (1312)	EPA 6020B	1	<0.0001	U	*	mg/L	0.0001	0.0005	03/30/24 17:47	jrj
Sodium (1312)	EPA 6010D	1	0.94	B	*	mg/L	0.2	1	03/26/24 18:26	brc
Strontium (1312)	EPA 6010D	1	0.133		*	mg/L	0.009	0.045	03/26/24 18:26	brc
Thallium (1312)	EPA 6020B	1	<0.0001	U	*	mg/L	0.0001	0.0005	03/30/24 17:47	jrj
Tin (1312)	EPA 6010D	1	<0.04	U	*	mg/L	0.04	0.2	03/26/24 18:26	brc
Uranium (1312)	EPA 6020B	1	<0.0001	U	*	mg/L	0.0001	0.0005	03/30/24 17:47	jrj
Vanadium (1312)	EPA 6020B	1	0.00213		*	mg/L	0.0005	0.002	03/30/24 17:47	jrj
Zinc (1312)	EPA 6020B	1	<0.006	U	*	mg/L	0.006	0.015	03/30/24 17:47	jrj

Thorin Resources
Project ID:
Sample ID: CBW SPLP HEADS-04

ACZ Sample ID: ***L86570-04***
Date Sampled: *03/04/24 09:40*
Date Received: *03/13/24*
Sample Matrix: *Soil*

Soil Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Acid Generation Potential (calc on Sulfur total)	EPA 600/2-78-054 3.2.4		14.1			t CaCO3/Kt	0.31	3.1	07/23/24 0:00	calc
Acid Neutralization Potential (calc)	EPA 600/2-78-054 1.3		98.0			t CaCO3/Kt	1	5	07/23/24 0:00	calc
Acid-Base Potential (calculation)	EPA 600/2-78-054 1.3		83.9			t CaCO3/Kt			07/23/24 0:00	calc
Neutralization Potential as CaCO3	EPA 600/2-78-054 3.2.3	1	9.8		*	%	0.1	0.5	07/19/24 15:32	bdc
pH, (1312)	EPA 9045D/9040C									
pH			9			Units	0.1	0.1	07/23/24 0:00	LFP
Temperature			20.3			Units	0.1	0.1	07/23/24 0:00	LFP
Sulfur Forms	EPA 600/2-78-054 3.2.4 Modified									
Sulfur HCl Residue		1	0.48		*	%	0.01	0.1	07/23/24 0:00	kmb
Sulfur HNO3 Residue		1	<0.01	U	*	%	0.01	0.1	07/23/24 0:00	kmb
Sulfur Organic Residual		1	<0.01	U	*	%	0.01	0.1	07/23/24 0:00	kmb
Sulfur Pyritic Sulfide		1	0.48			%	0.01	0.1	07/23/24 0:00	kmb
Sulfur Sulfate		1	<0.01	U	*	%	0.01	0.1	07/23/24 0:00	kmb
Sulfur Total		1	0.45		*	%	0.01	0.1	07/23/24 0:00	kmb
Total Sulfur minus Sulfate		1	0.48			%	0.01	0.1	07/23/24 0:00	kmb

Soil Preparation

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Air Dry at 34 Degrees C	USDA No. 1, 1972								07/17/24 15:15	bdc
Crush and Pulverize (Ring & Puck)	EPA 600/2-78-054 3.1.3								07/18/24 10:24	bdc
Synthetic Precip. Leaching Procedure	EPA 1312								03/21/24 10:35	lfp
Synthetic Precip. Leaching Procedure	EPA 1312								03/20/24 20:00	lfp

Thorin Resources
Project ID:
Sample ID: CBW SPLP HEADS-04

ACZ Sample ID: ***L86570-04***
Date Sampled: *03/04/24 09:40*
Date Received: *03/13/24*
Sample Matrix: *Soil*

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity (1312 DI)	SM 2320 B-2011									
Bicarbonate as CaCO3		1	33.1		*	mg/L	2	20	03/28/24 0:00	jck
Carbonate as CaCO3		1	<2	U	*	mg/L	2	20	03/28/24 0:00	jck
Hydroxide as CaCO3		1	<2	U	*	mg/L	2	20	03/28/24 0:00	jck
Total Alkalinity		1	33.1		*	mg/L	2	20	03/28/24 0:00	jck
Bromide (1312-DI)	EPA 300.0	1	0.435		*	mg/L	0.05	0.25	03/26/24 21:59	bls
Carbon, total organic (TOC) (1312-DI)	SM 5310 B-2011/2014	1	1.8	B	*	mg/L	1	5	04/01/24 22:49	ems
Chloride (1312-DI)	EPA 300.0	1	<0.4	U	*	mg/L	0.4	2	03/26/24 21:59	bls
Conductivity @25C (1312-DI)	SM 2510 B-2011	1	56		*	umhos/cm	1	10	03/28/24 17:36	jck
Fluoride (1312 DI)	SM 4500-F C-2011	1	0.37		*	mg/L	0.15	0.35	03/28/24 13:04	jck
Hardness as CaCO3 (1312)	Calculation (SM 2340 B-2011)		27			mg/L	0.2	5	07/23/24 0:00	calc
Nitrate (1312 DI)	Calculation (NO3NO2-NO2)		0.037	B		mg/L	0.02	0.1	07/23/24 0:00	calc
Nitrate/Nitrite as N (1312-DI)	EPA 353.2	1	0.037	B	*	mg/L	0.02	0.1	03/22/24 0:52	pjb
Nitrite as N (1312-DI)	EPA 353.2	1	<0.01	U	*	mg/L	0.01	0.05	03/22/24 0:52	pjb
Nitrogen, ammonia (1312-DI)	EPA 350.1	1	0.106	B	*	mg/L	0.1	0.2	04/02/24 11:46	jqr
Phosphorus, ortho dissolved (1312-DI)	EPA 365.1	1	<0.01	U	*	mg/L	0.01	0.05	03/22/24 1:23	pjb
Phosphorus, Total (1312-DI)	EPA 365.1	1	0.012	B	*	mg/L	0.01	0.05	03/27/24 14:42	mrd
Residue, Filterable (TDS) @180C (1312)	SM 2540 C-2011	1	36	B	*	mg/L	20	40	03/25/24 18:49	jck
Residue, Non-Filter (TSS) @180C (1312-DI)	SM 2540 D-2011/2015	1	<5	U	*	mg/L	5	20	03/27/24 21:45	jck
Sulfate (1312-DI)	EPA 300.0	1	3.19		*	mg/L	0.9	2	03/26/24 21:59	bls

Report Header Explanations

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 Sample Types

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

Thorin Resources

ACZ Project ID: ***L86570***

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

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586499													
WG586499PBW	PBW	03/28/24 16:55				3.1	mg/L		-20	20			
WG586499LCSW2	LCSW	03/28/24 17:04	WC240320-1	820.0001		765.1	mg/L	93	90	110			
WG585975PBS	PBS	03/28/24 17:10				5.4	mg/L		-20	20			
L86570-01DUP	DUP	03/28/24 17:22			30.7	31.3	mg/L				2	20	
WG586499LCSW4	LCSW	03/28/24 17:44	WC240320-1	820.0001		799.8	mg/L	98	90	110			

Aluminum (1312) EPA 6010D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586211													
WG586211ICV	ICV	03/26/24 17:29	II240309-1	2		1.946	mg/L	97	90	110			
WG586211ICB	ICB	03/26/24 17:33				U	mg/L		-0.15	0.15			
WG585978PBS	PBS	03/26/24 17:56				U	mg/L		-0.15	0.15			
WG585978LFB1	LFB	03/26/24 18:00	II240306-3	1.001		.962	mg/L	96	80	120			
L86570-01MS	MS	03/26/24 18:07	II240306-3	1.001	.056	1.065	mg/L	101	75	125			
L86570-01MSD	MSD	03/26/24 18:11	II240306-3	1.001	.056	1.07	mg/L	101	75	125	0	20	
L86570-01DUP	DUP	03/26/24 18:14			.056	.072	mg/L				25	20	RA

Antimony (1312) EPA 6020B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586576													
WG586576ICV	ICV	03/30/24 17:10	MS240109-5	.02002		.01899	mg/L	95	90	110			
WG586576ICB	ICB	03/30/24 17:12				U	mg/L		-0.0012	0.0012			
WG585978PBS	PBS	03/30/24 17:21				U	mg/L		-0.0012	0.0012			
WG586112PBS	PBS	03/30/24 17:23				U	mg/L		-0.0012	0.0012			
WG586354PBS	PBS	03/30/24 17:25				U	mg/L		-0.0012	0.0012			
WG585978LFB2	LFB	03/30/24 17:27	MS240321-2	.01		.00928	mg/L	93	80	120			
WG586112LFB2	LFB	03/30/24 17:28	MS240321-2	.01		.00951	mg/L	95	80	120			
WG586354LFB2	LFB	03/30/24 17:30	MS240321-2	.01		.00946	mg/L	95	80	120			
L86570-01DUP	DUP	03/30/24 17:38			.0116	.01115	mg/L				4	20	
L86570-02MS	MS	03/30/24 17:41	MS240321-2	.01	.0103	.02043	mg/L	101	75	125			
L86570-02MSD	MSD	03/30/24 17:43	MS240321-2	.01	.0103	.02026	mg/L	100	75	125	1	20	

Arsenic (1312) EPA 6020B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586576													
WG586576ICV	ICV	03/30/24 17:10	MS240109-5	.05		.05196	mg/L	104	90	110			
WG586576ICB	ICB	03/30/24 17:12				U	mg/L		-0.0006	0.0006			
WG585978PBS	PBS	03/30/24 17:21				U	mg/L		-0.0006	0.0006			
WG586112PBS	PBS	03/30/24 17:23				U	mg/L		-0.0006	0.0006			
WG586354PBS	PBS	03/30/24 17:25				U	mg/L		-0.0006	0.0006			
WG585978LFB2	LFB	03/30/24 17:27	MS240321-2	.0501		.04664	mg/L	93	80	120			
WG586112LFB2	LFB	03/30/24 17:28	MS240321-2	.0501		.04679	mg/L	93	80	120			
WG586354LFB2	LFB	03/30/24 17:30	MS240321-2	.0501		.04683	mg/L	93	80	120			
L86570-01DUP	DUP	03/30/24 17:38			.00222	.00245	mg/L				10	20	
L86570-02MS	MS	03/30/24 17:41	MS240321-2	.0501	.00153	.04972	mg/L	96	75	125			
L86570-02MSD	MSD	03/30/24 17:43	MS240321-2	.0501	.00153	.04948	mg/L	96	75	125	0	20	

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ACZ Project ID: ***L86570***

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.

Barium (1312) EPA 6020B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586576													
WG586576ICV	ICV	03/30/24 17:10	MS240109-5	.05		.05218	mg/L	104	90	110			
WG586576ICB	ICB	03/30/24 17:12				U	mg/L		-0.0015	0.0015			
WG585978PBS	PBS	03/30/24 17:21				U	mg/L		-0.0015	0.0015			
WG586112PBS	PBS	03/30/24 17:23				U	mg/L		-0.0015	0.0015			
WG586354PBS	PBS	03/30/24 17:25				U	mg/L		-0.0015	0.0015			
WG585978LFB2	LFB	03/30/24 17:27	MS240321-2	.05005		.04558	mg/L	91	80	120			
WG586112LFB2	LFB	03/30/24 17:28	MS240321-2	.05005		.04496	mg/L	90	80	120			
WG586354LFB2	LFB	03/30/24 17:30	MS240321-2	.05005		.04582	mg/L	92	80	120			
L86570-01DUP	DUP	03/30/24 17:38			.0655	.0628	mg/L				4	20	
L86570-02MS	MS	03/30/24 17:41	MS240321-2	.05005	.0613	.10846	mg/L	94	75	125			
L86570-02MSD	MSD	03/30/24 17:43	MS240321-2	.05005	.0613	.10732	mg/L	92	75	125	1	20	

Beryllium (1312) EPA 6020B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586576													
WG586576ICV	ICV	03/30/24 17:10	MS240109-5	.05		.051105	mg/L	102	90	110			
WG586576ICB	ICB	03/30/24 17:12				U	mg/L		-0.00024	0.00024			
WG585978PBS	PBS	03/30/24 17:21				U	mg/L		-0.00024	0.00024			
WG586112PBS	PBS	03/30/24 17:23				U	mg/L		-0.00024	0.00024			
WG586354PBS	PBS	03/30/24 17:25				U	mg/L		-0.00024	0.00024			
WG585978LFB2	LFB	03/30/24 17:27	MS240321-2	.05005		.046064	mg/L	92	80	120			
WG586112LFB2	LFB	03/30/24 17:28	MS240321-2	.05005		.044718	mg/L	89	80	120			
WG586354LFB2	LFB	03/30/24 17:30	MS240321-2	.05005		.047159	mg/L	94	80	120			
L86570-01DUP	DUP	03/30/24 17:38			U	U	mg/L				0	20	RA
L86570-02MS	MS	03/30/24 17:41	MS240321-2	.05005	U	.047451	mg/L	95	75	125			
L86570-02MSD	MSD	03/30/24 17:43	MS240321-2	.05005	U	.047274	mg/L	94	75	125	0	20	
WG586646													
WG586646ICV	ICV	04/02/24 14:03	MS240109-5	.05		.052088	mg/L	104	90	110			
WG586646ICB	ICB	04/02/24 14:06				U	mg/L		-0.00024	0.00024			
WG585978PBS	PBS	04/02/24 14:20				U	mg/L		-0.00024	0.00024			
WG585978LFB2	LFB	04/02/24 14:22	MS240321-2	.05005		.047776	mg/L	95	80	120			
L86570-01DUP	DUP	04/02/24 14:27			U	U	mg/L				0	20	RA
L86570-02MS	MS	04/02/24 14:31	MS240321-2	.05005	U	.047325	mg/L	95	75	125			
L86570-02MSD	MSD	04/02/24 14:34	MS240321-2	.05005	U	.045864	mg/L	92	75	125	3	20	
WG586112PBS	PBS	04/02/24 14:48				U	mg/L		-0.00024	0.00024			
WG586112LFB2	LFB	04/02/24 14:50	MS240321-2	.05005		.046595	mg/L	93	80	120			

Boron (1312) EPA 6010D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586211													
WG586211ICV	ICV	03/26/24 17:29	II240309-1	2		1.997	mg/L	100	90	110			
WG586211ICB	ICB	03/26/24 17:33				U	mg/L		-0.09	0.09			
WG585978PBS	PBS	03/26/24 17:56				U	mg/L		-0.09	0.09			
WG585978LFB1	LFB	03/26/24 18:00	II240306-3	.5005		.485	mg/L	97	80	120			
L86570-01MS	MS	03/26/24 18:07	II240306-3	.5005	U	.495	mg/L	99	75	125			
L86570-01MSD	MSD	03/26/24 18:11	II240306-3	.5005	U	.501	mg/L	100	75	125	1	20	
L86570-01DUP	DUP	03/26/24 18:14			U	U	mg/L				0	20	RA

Thorin Resources

ACZ Project ID: ***L86570***

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.

Bromide (1312-DI) EPA 300.0

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG585845													
WG585845ICV	ICV	03/20/24 14:53	WI240315-8	4.016		3.946	mg/L	98	90	110			
WG585845ICB	ICB	03/20/24 15:11				U	mg/L		-0.05	0.05			
WG586304													
WG586304ICV	ICV	03/20/24 14:53	WI240315-8	4.016		3.946	mg/L	98	90	110			
WG586304ICB	ICB	03/20/24 15:11				U	mg/L		-0.05	0.05			
WG586304LFB	LFB	03/26/24 19:53	WI230714-6	1.5		1.352	mg/L	90	90	110			
WG585975PBS	PBS	03/26/24 20:11				U	mg/L		-0.05	0.05			
L86570-01DUP	DUP	03/26/24 20:47			U	U	mg/L				0	20	RA
L86570-02AS	AS	03/26/24 21:23	WI230714-6	1.5	U	1.253	mg/L	84	90	110			M2

Cadmium (1312) EPA 6020B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586576													
WG586576ICV	ICV	03/30/24 17:10	MS240109-5	.05		.052382	mg/L	105	90	110			
WG586576ICB	ICB	03/30/24 17:12				U	mg/L		-0.00015	0.00015			
WG585978PBS	PBS	03/30/24 17:21				U	mg/L		-0.00015	0.00015			
WG586112PBS	PBS	03/30/24 17:23				U	mg/L		-0.00015	0.00015			
WG586354PBS	PBS	03/30/24 17:25				U	mg/L		-0.00015	0.00015			
WG585978LFB2	LFB	03/30/24 17:27	MS240321-2	.05005		.044942	mg/L	90	80	120			
WG586112LFB2	LFB	03/30/24 17:28	MS240321-2	.05005		.044837	mg/L	90	80	120			
WG586354LFB2	LFB	03/30/24 17:30	MS240321-2	.05005		.045903	mg/L	92	80	120			
L86570-01DUP	DUP	03/30/24 17:38			U	U	mg/L				0	20	RA
L86570-02MS	MS	03/30/24 17:41	MS240321-2	.05005	U	.044697	mg/L	89	75	125			
L86570-02MSD	MSD	03/30/24 17:43	MS240321-2	.05005	U	.045095	mg/L	90	75	125	1	20	

Calcium (1312) EPA 6010D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586211													
WG586211ICV	ICV	03/26/24 17:29	II240309-1	100		96.63	mg/L	97	90	110			
WG586211ICB	ICB	03/26/24 17:33				U	mg/L		-0.3	0.3			
WG585978PBS	PBS	03/26/24 17:56				U	mg/L		-0.3	0.3			
WG585978LFB1	LFB	03/26/24 18:00	II240306-3	67.94555		66.66	mg/L	98	80	120			
L86570-01MS	MS	03/26/24 18:07	II240306-3	67.94555	22.8	89.12	mg/L	98	75	125			
L86570-01MSD	MSD	03/26/24 18:11	II240306-3	67.94555	22.8	90.28	mg/L	99	75	125	1	20	
L86570-01DUP	DUP	03/26/24 18:14			22.8	20.19	mg/L				12	20	

Carbon, total organic (TOC) (1312-DI) SM 5310 B-2011/2014

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG584961													
WG584961ICV	ICV	03/02/24 9:02	WI240129-11	100		97.4	mg/L	97	90	110			
WG584961ICB	ICB	03/02/24 9:17				U	mg/L		-2.5	2.5			
WG586623													
WG586623ICB	ICB	04/01/24 20:12				U	mg/L		-2.5	2.5			
WG586623LFB	LFB	04/01/24 20:44	WI231227-9	49.6		49.4	mg/L	100	85	115			
WG585975PBS	PBS	04/01/24 20:59				1.2	mg/L		-2.5	2.5			
L86570-01DUP	DUP	04/01/24 21:27			2.9	3	mg/L				3	15	RA
L86570-04AS	AS	04/02/24 8:39	WI231227-9	49.6	1.8	57.7	mg/L	113	85	115			

Thorin Resources

ACZ Project ID: ***L86570***

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.

Chloride (1312-DI) EPA 300.0

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG585845													
WG585845ICV	ICV	03/20/24 14:53	WI240315-8	20.02		19.9	mg/L	99	90	110			
WG585845ICB	ICB	03/20/24 15:11				U	mg/L		-0.4	0.4			
WG586304													
WG586304ICV	ICV	03/20/24 14:53	WI240315-8	20.02		19.9	mg/L	99	90	110			
WG586304ICB	ICB	03/20/24 15:11				U	mg/L		-0.4	0.4			
WG586304LFB	LFB	03/26/24 19:53	WI230714-6	30		28.29	mg/L	94	90	110			
WG585975PBS	PBS	03/26/24 20:11				U	mg/L		-0.4	0.4			
L86570-01DUP	DUP	03/26/24 20:47			.63	.59	mg/L				7	20	RA
L86570-02AS	AS	03/26/24 21:23	WI230714-6	30	U	29.56	mg/L	99	90	110			

Chromium (1312) EPA 6020B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586576													
WG586576ICV	ICV	03/30/24 17:10	MS240109-5	.05		.05283	mg/L	106	90	110			
WG586576ICB	ICB	03/30/24 17:12				U	mg/L		-0.0015	0.0015			
WG585978PBS	PBS	03/30/24 17:21				U	mg/L		-0.0015	0.0015			
WG586112PBS	PBS	03/30/24 17:23				U	mg/L		-0.0015	0.0015			
WG586354PBS	PBS	03/30/24 17:25				U	mg/L		-0.0015	0.0015			
WG585978LFB2	LFB	03/30/24 17:27	MS240321-2	.05005		.04676	mg/L	93	80	120			
WG586112LFB2	LFB	03/30/24 17:28	MS240321-2	.05005		.04689	mg/L	94	80	120			
WG586354LFB2	LFB	03/30/24 17:30	MS240321-2	.05005		.04698	mg/L	94	80	120			
L86570-01DUP	DUP	03/30/24 17:38			U	U	mg/L				0	20	RA
L86570-02MS	MS	03/30/24 17:41	MS240321-2	.05005	U	.04823	mg/L	96	75	125			
L86570-02MSD	MSD	03/30/24 17:43	MS240321-2	.05005	U	.04773	mg/L	95	75	125	1	20	

Cobalt (1312) EPA 6020B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586576													
WG586576ICV	ICV	03/30/24 17:10	MS240109-5	.05		.052814	mg/L	106	90	110			
WG586576ICB	ICB	03/30/24 17:12				U	mg/L		-0.00015	0.00015			
WG585978PBS	PBS	03/30/24 17:21				U	mg/L		-0.00015	0.00015			
WG586112PBS	PBS	03/30/24 17:23				U	mg/L		-0.00015	0.00015			
WG586354PBS	PBS	03/30/24 17:25				U	mg/L		-0.00015	0.00015			
WG585978LFB2	LFB	03/30/24 17:27	MS240321-2	.05005		.045978	mg/L	92	80	120			
WG586112LFB2	LFB	03/30/24 17:28	MS240321-2	.05005		.046142	mg/L	92	80	120			
WG586354LFB2	LFB	03/30/24 17:30	MS240321-2	.05005		.047238	mg/L	94	80	120			
L86570-01DUP	DUP	03/30/24 17:38			.000104	.000085	mg/L				20	20	RA
L86570-02MS	MS	03/30/24 17:41	MS240321-2	.05005	.000073	.045874	mg/L	92	75	125			
L86570-02MSD	MSD	03/30/24 17:43	MS240321-2	.05005	.000073	.045819	mg/L	91	75	125	0	20	

Thorin Resources

ACZ Project ID: ***L86570***

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.

Conductivity @25C (1312-DI) SM 2510 B-2011

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586499													
WG586499PBW	PBW	03/28/24 16:55				31	umhos/cm		-10	10			
WG586499LCSW1	LCSW	03/28/24 17:01	PCN626495	1410		1454	umhos/cm	103	90	110			
WG585975PBS	PBS	03/28/24 17:10				10	umhos/cm		-4	4			
L86570-01DUP	DUP	03/28/24 17:22			107	118	umhos/cm				10	20	
WG586499LCSW3	LCSW	03/28/24 17:41	PCN626495	1410		1474	umhos/cm	105	90	110			

Copper (1312) EPA 6020B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586646													
WG586646ICV	ICV	04/02/24 14:03	MS240109-5	.05		.05249	mg/L	105	90	110			
WG586646ICB	ICB	04/02/24 14:06				U	mg/L		-0.0024	0.0024			
WG585978PBS	PBS	04/02/24 14:20				.00105	mg/L		-0.0024	0.0024			
WG585978LFB2	LFB	04/02/24 14:22	MS240321-2	.05005		.04709	mg/L	94	80	120			
L86570-01DUP	DUP	04/02/24 14:27			.0101	U	mg/L				200	20	RD
L86570-02MS	MS	04/02/24 14:31	MS240321-2	.05005	.00084	.04581	mg/L	90	75	125			
L86570-02MSD	MSD	04/02/24 14:34	MS240321-2	.05005	.00084	.04413	mg/L	86	75	125	4	20	
WG586112PBS	PBS	04/02/24 14:48				U	mg/L		-0.0024	0.0024			
WG586112LFB2	LFB	04/02/24 14:50	MS240321-2	.05005		.04527	mg/L	90	80	120			

Fluoride (1312 DI) SM 4500-F C-2011

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586467													
WG586467ICV	ICV	03/28/24 11:52	WC240322-2	2.002		2	mg/L	100	90	110			
WG586467ICB	ICB	03/28/24 12:00				U	mg/L		-0.3	0.3			
WG586467LFB	LFB	03/28/24 12:14	WC230825-1	5.005		5.37	mg/L	107	90	110			
WG585975PBS	PBS	03/28/24 12:22				U	mg/L		-0.3	0.3			
L86570-01AS	AS	03/28/24 12:37	WC230825-1	5.005	U	5.37	mg/L	107	90	110			
L86570-01DUP	DUP	03/28/24 12:45			U	.2	mg/L				200	20	RA

Iron (1312) EPA 6010D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586211													
WG586211ICV	ICV	03/26/24 17:29	II240309-1	2		1.905	mg/L	95	90	110			
WG586211ICB	ICB	03/26/24 17:33				U	mg/L		-0.18	0.18			
WG585978PBS	PBS	03/26/24 17:56				U	mg/L		-0.18	0.18			
WG585978LFB1	LFB	03/26/24 18:00	II240306-3	1.003		1	mg/L	100	80	120			
L86570-01MS	MS	03/26/24 18:07	II240306-3	1.003	U	.963	mg/L	96	75	125			
L86570-01MSD	MSD	03/26/24 18:11	II240306-3	1.003	U	.973	mg/L	97	75	125	1	20	
L86570-01DUP	DUP	03/26/24 18:14			U	U	mg/L				0	20	RA

Thorin Resources

ACZ Project ID: ***L86570***

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 (1312) EPA 6020B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586576													
WG586576ICV	ICV	03/30/24 17:10	MS240109-5	.05		.05186	mg/L	104	90	110			
WG586576ICB	ICB	03/30/24 17:12				U	mg/L		-0.0003	0.0003			
WG585978PBS	PBS	03/30/24 17:21				.00025	mg/L		-0.0003	0.0003			
WG586112PBS	PBS	03/30/24 17:23				U	mg/L		-0.0003	0.0003			
WG586354PBS	PBS	03/30/24 17:25				U	mg/L		-0.0003	0.0003			
WG585978LFB2	LFB	03/30/24 17:27	MS240321-2	.05005		.04504	mg/L	90	80	120			
WG586112LFB2	LFB	03/30/24 17:28	MS240321-2	.05005		.04491	mg/L	90	80	120			
WG586354LFB2	LFB	03/30/24 17:30	MS240321-2	.05005		.04583	mg/L	92	80	120			
L86570-01DUP	DUP	03/30/24 17:38			.0875	.08053	mg/L				8	20	
L86570-02MS	MS	03/30/24 17:41	MS240321-2	.05005	.0676	.11608	mg/L	97	75	125			
L86570-02MSD	MSD	03/30/24 17:43	MS240321-2	.05005	.0676	.11602	mg/L	97	75	125	0	20	

Lithium (1312) EPA 6010D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586211													
WG586211ICV	ICV	03/26/24 17:29	II240309-1	2		1.936	mg/L	97	90	110			
WG586211ICB	ICB	03/26/24 17:33				U	mg/L		-0.024	0.024			
WG585978PBS	PBS	03/26/24 17:56				U	mg/L		-0.024	0.024			
WG585978LFB1	LFB	03/26/24 18:00	II240306-3	1		.9414	mg/L	94	80	120			
L86570-01MS	MS	03/26/24 18:07	II240306-3	1	U	.9657	mg/L	97	75	125			
L86570-01MSD	MSD	03/26/24 18:11	II240306-3	1	U	.9704	mg/L	97	75	125	0	20	
L86570-01DUP	DUP	03/26/24 18:14			U	U	mg/L				0	20	RA

Magnesium (1312) EPA 6010D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586211													
WG586211ICV	ICV	03/26/24 17:29	II240309-1	100		96.86	mg/L	97	90	110			
WG586211ICB	ICB	03/26/24 17:33				U	mg/L		-0.6	0.6			
WG585978PBS	PBS	03/26/24 17:56				U	mg/L		-0.6	0.6			
WG585978LFB1	LFB	03/26/24 18:00	II240306-3	50.00453		48.71	mg/L	97	80	120			
L86570-01MS	MS	03/26/24 18:07	II240306-3	50.00453	.89	49.8	mg/L	98	75	125			
L86570-01MSD	MSD	03/26/24 18:11	II240306-3	50.00453	.89	50.2	mg/L	99	75	125	1	20	
L86570-01DUP	DUP	03/26/24 18:14			.89	.84	mg/L				6	20	RA

Manganese (1312) EPA 6020B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586576													
WG586576ICV	ICV	03/30/24 17:10	MS240109-5	.05		.05227	mg/L	105	90	110			
WG586576ICB	ICB	03/30/24 17:12				U	mg/L		-0.0012	0.0012			
WG585978PBS	PBS	03/30/24 17:21				.0006	mg/L		-0.0012	0.0012			
WG586112PBS	PBS	03/30/24 17:23				U	mg/L		-0.0012	0.0012			
WG585978LFB2	LFB	03/30/24 17:27	MS240321-2	.0501		.04663	mg/L	93	80	120			
WG586112LFB2	LFB	03/30/24 17:28	MS240321-2	.0501		.0467	mg/L	93	80	120			
WG586354LFB2	LFB	03/30/24 17:30	MS240321-2	.0501		.05051	mg/L	101	80	120			
L86570-01DUP	DUP	03/30/24 17:38			.0768	.07544	mg/L				2	20	
L86570-02MS	MS	03/30/24 17:41	MS240321-2	.0501	.0567	.10518	mg/L	97	75	125			
L86570-02MSD	MSD	03/30/24 17:43	MS240321-2	.0501	.0567	.10489	mg/L	96	75	125	0	20	

Thorin Resources

ACZ Project ID: ***L86570***

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

Mercury (1312) EPA 7470A

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586201													
WG586201ICV1	ICV	03/26/24 13:19	HG240226-3	.005		.00515	mg/L	103	95	105			
WG586201ICB	ICB	03/26/24 13:20				U	mg/L		-0.0002	0.0002			
WG586206													
WG586206LFB	LFB	03/26/24 14:35	HG240325-3	.002002		.00185	mg/L	92	85	115			
WG585978PBS	PBS	03/26/24 14:36				U	mg/L		-0.0006	0.0006			
WG585978LFB1	LFB	03/26/24 14:37	HG240325-3	.002002		.00175	mg/L	87	85	115			
L86570-01MS	MS	03/26/24 14:39	HG240325-3	.002002	U	.00178	mg/L	89	85	115			
L86570-01MSD	MSD	03/26/24 14:40	HG240325-3	.002002	U	.00178	mg/L	89	85	115	0	20	
L86570-01DUP	DUP	03/26/24 14:41			U	U	mg/L				0	20	RA
WG586112PBS	PBS	03/26/24 14:47				U	mg/L		-0.0006	0.0006			
WG586112LFB1	LFB	03/26/24 14:48	HG240325-3	.002002		.0018	mg/L	90	85	115			

Molybdenum (1312) EPA 6020B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586576													
WG586576ICV	ICV	03/30/24 17:10	MS240109-5	.02		.02014	mg/L	101	90	110			
WG586576ICB	ICB	03/30/24 17:12				U	mg/L		-0.0006	0.0006			
WG585978PBS	PBS	03/30/24 17:21				U	mg/L		-0.0006	0.0006			
WG586112PBS	PBS	03/30/24 17:23				U	mg/L		-0.0006	0.0006			
WG586354PBS	PBS	03/30/24 17:25				U	mg/L		-0.0006	0.0006			
WG585978LFB2	LFB	03/30/24 17:27	MS240321-2	.05005		.04572	mg/L	91	80	120			
WG586112LFB2	LFB	03/30/24 17:28	MS240321-2	.05005		.04661	mg/L	93	80	120			
WG586354LFB2	LFB	03/30/24 17:30	MS240321-2	.05005		.04751	mg/L	95	80	120			
L86570-01DUP	DUP	03/30/24 17:38			.0137	.01697	mg/L				21	20	RD
L86570-02MS	MS	03/30/24 17:41	MS240321-2	.05005	.0218	.06929	mg/L	95	75	125			
L86570-02MSD	MSD	03/30/24 17:43	MS240321-2	.05005	.0218	.06799	mg/L	92	75	125	2	20	

Neutralization Potential as CaCO3 EPA 600/2-78-054 3.2.3

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG593465													
WG593465PBS	PBS	07/19/24 12:20				U	%		-0.2	0.2			
WG593465LCSS	LCSS	07/19/24 12:47	PCN625358	99.8		97.5	%	98	80	120			
L86570-02DUP	DUP	07/19/24 14:10			10.5	10.6	%				1	20	
L86570-02MS	MS	07/19/24 14:37	SI230912-3	3	10.5	13.9	%	113	70	130			

Thorin Resources

ACZ Project ID: ***L86570***

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.

Nickel (1312) EPA 6020B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586576													
WG586576ICV	ICV	03/30/24 17:10	MS240109-5	.05		.0517	mg/L	103	90	110			
WG586576ICB	ICB	03/30/24 17:12				U	mg/L		-0.0012	0.0012			
WG585978PBS	PBS	03/30/24 17:21				U	mg/L		-0.0012	0.0012			
WG586112PBS	PBS	03/30/24 17:23				U	mg/L		-0.0012	0.0012			
WG585978LFB2	LFB	03/30/24 17:27	MS240321-2	.0501		.04742	mg/L	95	80	120			
WG586112LFB2	LFB	03/30/24 17:28	MS240321-2	.0501		.04678	mg/L	93	80	120			
WG586354LFB2	LFB	03/30/24 17:30	MS240321-2	.0501		.04671	mg/L	93	80	120			
L86570-01DUP	DUP	03/30/24 17:38			U	U	mg/L				0	20	RA
L86570-02MS	MS	03/30/24 17:41	MS240321-2	.0501	U	.0468	mg/L	93	75	125			
L86570-02MSD	MSD	03/30/24 17:43	MS240321-2	.0501	U	.04637	mg/L	93	75	125	1	20	

Nitrate/Nitrite as N (1312-DI) EPA 353.2

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586121													
WG586121ICV	ICV	03/21/24 23:31	WI240103-7	2.416		2.326	mg/L	96	90	110			
WG586121ICB	ICB	03/21/24 23:32				U	mg/L		-0.02	0.02			
WG586123													
WG586123LFB	LFB	03/22/24 0:43	WI240228-17	2		1.947	mg/L	97	90	110			
WG585975PBS	PBS	03/22/24 0:45				U	mg/L		-0.02	0.02			
L86570-01DUP	DUP	03/22/24 0:47			1.85	1.828	mg/L				1	20	
L86570-02AS	AS	03/22/24 0:50	WI240228-17	2	1.74	3.727	mg/L	99	90	110			

Nitrite as N (1312-DI) EPA 353.2

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586121													
WG586121ICV	ICV	03/21/24 23:31	WI240103-7	.608		.596	mg/L	98	90	110			
WG586121ICB	ICB	03/21/24 23:32				U	mg/L		-0.01	0.01			
WG586123													
WG586123LFB	LFB	03/22/24 0:43	WI240228-17	1		1.014	mg/L	101	90	110			
WG585975PBS	PBS	03/22/24 0:45				U	mg/L		-0.01	0.01			
L86570-01DUP	DUP	03/22/24 0:47			.023	.014	mg/L				49	20	RA
L86570-02AS	AS	03/22/24 0:50	WI240228-17	1	.016	1.075	mg/L	106	90	110			

Nitrogen, ammonia (1312-DI) EPA 350.1

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586671													
WG586671ICV	ICV	04/02/24 10:25	WI240106-1	12		12.336	mg/L	103	90	110			
WG586671ICB	ICB	04/02/24 10:26				U	mg/L		-0.1	0.1			
WG586679													
WG586679LFB	LFB	04/02/24 11:36	WI231102-6	10		9.713	mg/L	97	90	110			
WG585975PBS	PBS	04/02/24 11:37				U	mg/L		-0.1	0.1			
L86570-01DUP	DUP	04/02/24 11:40			.116	.113	mg/L				3	20	RA
L86570-02AS	AS	04/02/24 11:43	WI231102-6	10	U	10.679	mg/L	107	90	110			

Thorin Resources

ACZ Project ID: ***L86570***

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.

Phosphorus, ortho dissolved (1312-DI) EPA 365.1

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586122													
WG586122ICV	ICV	03/22/24 0:52	WI240307-4	.65228		.66	mg/L	101	90	110			
WG586122ICB	ICB	03/22/24 0:53				U	mg/L		-0.01	0.01			
WG586125													
WG586125LFB	LFB	03/22/24 1:15	WI240315-2	.5		.49	mg/L	98	90	110			
WG585975PBS	PBS	03/22/24 1:16				U	mg/L		-0.01	0.01			
L86570-01DUP	DUP	03/22/24 1:18			U	U	mg/L				0	20	RA
L86570-02AS	AS	03/22/24 1:20	WI240315-2	.5	U	.489	mg/L	98	90	110			

Phosphorus, Total (1312-DI) EPA 365.1

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586398													
WG586398ICV	ICV	03/27/24 14:32	WI240301-4	.6523		.694	mg/L	106	90	110			
WG586398ICB	ICB	03/27/24 14:35				U	mg/L		-0.01	0.01			
WG585975PBS	PBS	03/27/24 14:36				U	mg/L		-0.01	0.01			
L86570-01DUP	DUP	03/27/24 14:38			U	U	mg/L				0	20	RA
L86570-02MS	MS	03/27/24 14:40	WI240315-2	.5	U	.517	mg/L	103	90	110			
WG586190PBS	PBS	03/27/24 14:47				U	mg/L		-0.01	0.01			
WG586190LFB	LFB	03/27/24 14:50	WI240315-2	.5		.514	mg/L	103	90	110			

Potassium (1312) EPA 6010D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586211													
WG586211ICV	ICV	03/26/24 17:29	II240309-1	20		19.4	mg/L	97	90	110			
WG586211ICB	ICB	03/26/24 17:33				U	mg/L		-1.5	1.5			
WG585978PBS	PBS	03/26/24 17:56				U	mg/L		-1.5	1.5			
WG585978LFB1	LFB	03/26/24 18:00	II240306-3	100.0104		96.87	mg/L	97	80	120			
L86570-01MS	MS	03/26/24 18:07	II240306-3	100.0104	4.14	101.2	mg/L	97	75	125			
L86570-01MSD	MSD	03/26/24 18:11	II240306-3	100.0104	4.14	102.2	mg/L	98	75	125	1	20	
L86570-01DUP	DUP	03/26/24 18:14			4.14	3.97	mg/L				4	20	RA

Residue, Filterable (TDS) @180C (1312) SM 2540 C-2011

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586253													
WG586253PBW	PBW	03/25/24 18:25				U	mg/L		-20	20			
WG586253LCSW	LCSW	03/25/24 18:28	PCN626254	1000		986	mg/L	99	80	120			
WG585975PBS	PBS	03/25/24 18:32				U	mg/L		-40	40			
L86570-01DUP	DUP	03/25/24 18:39			76	86	mg/L				12	10	RA

Residue, Non-Filter (TSS) @180C (1312-DI) SM 2540 D-2011/2015

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586424													
WG586424PBW	PBW	03/27/24 21:30				5	mg/L		-5	5			BF
WG586424LCSW	LCSW	03/27/24 21:32	PCN626252	100		90	mg/L	90	80	120			
WG585975PBS	PBS	03/27/24 21:34				U	mg/L		-15	15			
L86570-01DUP	DUP	03/27/24 21:38			U	U	mg/L				0	10	RA

Thorin Resources

ACZ Project ID: ***L86570***

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 (1312) EPA 6020B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586576													
WG586576ICV	ICV	03/30/24 17:10	MS240109-5	.05		.05265	mg/L	105	90	110			
WG586576ICB	ICB	03/30/24 17:12				U	mg/L		-0.0003	0.0003			
WG585978PBS	PBS	03/30/24 17:21				U	mg/L		-0.0003	0.0003			
WG586112PBS	PBS	03/30/24 17:23				U	mg/L		-0.0003	0.0003			
WG586354PBS	PBS	03/30/24 17:25				U	mg/L		-0.0003	0.0003			
WG585978LFB2	LFB	03/30/24 17:27	MS240321-2	.05005		.04607	mg/L	92	80	120			
WG586112LFB2	LFB	03/30/24 17:28	MS240321-2	.05005		.04669	mg/L	93	80	120			
WG586354LFB2	LFB	03/30/24 17:30	MS240321-2	.05005		.04669	mg/L	93	80	120			
L86570-01DUP	DUP	03/30/24 17:38			.00015	.00013	mg/L				14	20	RA
L86570-02MS	MS	03/30/24 17:41	MS240321-2	.05005	.0001	.04741	mg/L	95	75	125			
L86570-02MSD	MSD	03/30/24 17:43	MS240321-2	.05005	.0001	.04748	mg/L	95	75	125	0	20	

Silica (1312) EPA 6010D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586211													
WG586211ICV	ICV	03/26/24 17:29	II240309-1	42.8		42.13	mg/L	98	90	110			
WG586211ICB	ICB	03/26/24 17:33				U	mg/L		-0.6	0.6			
WG585978PBS	PBS	03/26/24 17:56				U	mg/L		-0.6	0.6			
WG585978LFB1	LFB	03/26/24 18:00	II240306-3	21.42782		20.24	mg/L	94	80	120			
L86570-01MS	MS	03/26/24 18:07	II240306-3	21.42782	2.5	22.45	mg/L	93	75	125			
L86570-01MSD	MSD	03/26/24 18:11	II240306-3	21.42782	2.5	23.05	mg/L	96	75	125	3	20	
L86570-01DUP	DUP	03/26/24 18:14			2.5	2.31	mg/L				8	20	

Silver (1312) EPA 6020B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586576													
WG586576ICV	ICV	03/30/24 17:10	MS240109-5	.02		.02081	mg/L	104	90	110			
WG586576ICB	ICB	03/30/24 17:12				U	mg/L		-0.0003	0.0003			
WG585978PBS	PBS	03/30/24 17:21				U	mg/L		-0.0003	0.0003			
WG586112PBS	PBS	03/30/24 17:23				U	mg/L		-0.0003	0.0003			
WG586354PBS	PBS	03/30/24 17:25				U	mg/L		-0.0003	0.0003			
WG585978LFB2	LFB	03/30/24 17:27	MS240321-2	.01		.00932	mg/L	93	80	120			
WG586112LFB2	LFB	03/30/24 17:28	MS240321-2	.01		.00936	mg/L	94	80	120			
WG586354LFB2	LFB	03/30/24 17:30	MS240321-2	.01		.00953	mg/L	95	80	120			
L86570-01DUP	DUP	03/30/24 17:38			U	U	mg/L				0	20	RA
L86570-02MS	MS	03/30/24 17:41	MS240321-2	.01	U	.00954	mg/L	95	75	125			
L86570-02MSD	MSD	03/30/24 17:43	MS240321-2	.01	U	.0094	mg/L	94	75	125	1	20	

Sodium (1312) EPA 6010D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586211													
WG586211ICV	ICV	03/26/24 17:29	II240309-1	100		96.98	mg/L	97	90	110			
WG586211ICB	ICB	03/26/24 17:33				U	mg/L		-0.6	0.6			
WG585978PBS	PBS	03/26/24 17:56				U	mg/L		-0.6	0.6			
WG585978LFB1	LFB	03/26/24 18:00	II240306-3	99.96689		96.67	mg/L	97	80	120			
L86570-01MS	MS	03/26/24 18:07	II240306-3	99.96689	.79	97.81	mg/L	97	75	125			
L86570-01MSD	MSD	03/26/24 18:11	II240306-3	99.96689	.79	98.81	mg/L	98	75	125	1	20	
L86570-01DUP	DUP	03/26/24 18:14			.79	.72	mg/L				9	20	RA

Thorin Resources

ACZ Project ID: ***L86570***

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.

Strontium (1312) EPA 6010D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586211													
WG586211ICV	ICV	03/26/24 17:29	II240309-1	2		1.915	mg/L	96	90	110			
WG586211ICB	ICB	03/26/24 17:33				U	mg/L		-0.027	0.027			
WG585978PBS	PBS	03/26/24 17:56				U	mg/L		-0.027	0.027			
WG585978LFB1	LFB	03/26/24 18:00	II240306-3	.501		.5072	mg/L	101	80	120			
L86570-01MS	MS	03/26/24 18:07	II240306-3	.501	.429	.9378	mg/L	102	75	125			
L86570-01MSD	MSD	03/26/24 18:11	II240306-3	.501	.429	.9525	mg/L	104	75	125	2	20	
L86570-01DUP	DUP	03/26/24 18:14			.429	.4686	mg/L				9	20	

Sulfate (1312-DI) EPA 300.0

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG585845													
WG585845ICV	ICV	03/20/24 14:53	WI240315-8	50		49.33	mg/L	99	90	110			
WG585845ICB	ICB	03/20/24 15:11				U	mg/L		-0.9	0.9			
WG586304													
WG586304ICV	ICV	03/20/24 14:53	WI240315-8	50		49.33	mg/L	99	90	110			
WG586304ICB	ICB	03/20/24 15:11				U	mg/L		-0.9	0.9			
WG586304LFB	LFB	03/26/24 19:53	WI230714-6	30		28.08	mg/L	94	90	110			
WG585975PBS	PBS	03/26/24 20:11				U	mg/L		-0.9	0.9			
L86570-01DUP	DUP	03/26/24 20:47			26.1	30.09	mg/L				14	20	
L86570-02AS	AS	03/26/24 21:23	WI230714-6	30	13.6	42.46	mg/L	96	90	110			

Sulfur Hcl Residue EPA 600/2-78-054 3.2.4 Modified

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG593362													
L86570-01DUP	DUP	07/23/24 13:01			.51	.47	%				8	20	

Sulfur Hno3 Residue EPA 600/2-78-054 3.2.4 Modified

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG593362													
L86570-01DUP	DUP	07/23/24 13:46			U	U	%				0	20	RA

Sulfur Organic Residual EPA 600/2-78-054 3.2.4 Modified

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG593362													
L86570-01DUP	DUP	07/23/24 13:46			U	U	%				0	20	RA

Sulfur Pyritic Sulfide EPA 600/2-78-054 3.2.4 Modified

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG593362													
L86570-01DUP	DUP	07/23/24 13:46			.51	.47	%				8	20	

Sulfur Sulfate EPA 600/2-78-054 3.2.4 Modified

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG593362													
L86570-01DUP	DUP	07/23/24 13:46			.04	.1	%				86	20	RA

Thorin Resources

ACZ Project ID: ***L86570***

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.

Sulfur Total EPA 600/2-78-054 3.2.4 Modified

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG593362													
WG593362LCSS	LCSS	07/23/24 12:06	PCN625750	3.95		3.75	%	95	80	120			
L86570-01MS	MS	07/23/24 12:11	PCN625561	1.28	.55	1.95	%	109	80	120			
L86570-01DUP	DUP	07/23/24 12:15			.55	.57	%				4	20	

Thallium (1312) EPA 6020B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586576													
WG586576ICV	ICV	03/30/24 17:10	MS240109-5	.05		.05484	mg/L	110	90	110			
WG586576ICB	ICB	03/30/24 17:12				U	mg/L		-0.0003	0.0003			
WG585978PBS	PBS	03/30/24 17:21				U	mg/L		-0.0003	0.0003			
WG586112PBS	PBS	03/30/24 17:23				U	mg/L		-0.0003	0.0003			
WG586354PBS	PBS	03/30/24 17:25				U	mg/L		-0.0003	0.0003			
WG585978LFB2	LFB	03/30/24 17:27	MS240321-2	.0501		.04654	mg/L	93	80	120			
WG586112LFB2	LFB	03/30/24 17:28	MS240321-2	.0501		.04765	mg/L	95	80	120			
WG586354LFB2	LFB	03/30/24 17:30	MS240321-2	.0501		.04772	mg/L	95	80	120			
L86570-01DUP	DUP	03/30/24 17:38			.00016	.00011	mg/L				37	20	RA
L86570-02MS	MS	03/30/24 17:41	MS240321-2	.0501	U	.04825	mg/L	96	75	125			
L86570-02MSD	MSD	03/30/24 17:43	MS240321-2	.0501	U	.04765	mg/L	95	75	125	1	20	

Tin (1312) EPA 6010D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586211													
WG586211ICV	ICV	03/26/24 17:29	II240309-1	2		1.923	mg/L	96	90	110			
WG586211ICB	ICB	03/26/24 17:33				U	mg/L		-0.12	0.12			
WG585978PBS	PBS	03/26/24 17:56				U	mg/L		-0.12	0.12			
WG585978LFB1	LFB	03/26/24 18:00	II240306-3	1.001		.962	mg/L	96	80	120			
L86570-01MS	MS	03/26/24 18:07	II240306-3	1.001	U	.965	mg/L	96	75	125			
L86570-01MSD	MSD	03/26/24 18:11	II240306-3	1.001	U	.98	mg/L	98	75	125	2	20	
L86570-01DUP	DUP	03/26/24 18:14			U	U	mg/L				0	20	RA

Total Sulfur Minus Sulfate EPA 600/2-78-054 3.2.4 Modified

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG593362													
L86570-01DUP	DUP	07/23/24 13:46			.51	.47	%				8	20	

Thorin Resources

ACZ Project ID: ***L86570***

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

Uranium (1312) EPA 6020B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586576													
WG586576ICV	ICV	03/30/24 17:10	MS240109-5	.05		.05406	mg/L	108	90	110			
WG586576ICB	ICB	03/30/24 17:12				U	mg/L		-0.0003	0.0003			
WG585978PBS	PBS	03/30/24 17:21				U	mg/L		-0.0003	0.0003			
WG586112PBS	PBS	03/30/24 17:23				U	mg/L		-0.0003	0.0003			
WG586354PBS	PBS	03/30/24 17:25				U	mg/L		-0.0003	0.0003			
WG585978LFB2	LFB	03/30/24 17:27	MS240321-2	.05		.04653	mg/L	93	80	120			
WG586112LFB2	LFB	03/30/24 17:28	MS240321-2	.05		.04646	mg/L	93	80	120			
WG586354LFB2	LFB	03/30/24 17:30	MS240321-2	.05		.04758	mg/L	95	80	120			
L86570-01DUP	DUP	03/30/24 17:38			U	U	mg/L				0	20	RA
L86570-02MS	MS	03/30/24 17:41	MS240321-2	.05	U	.04881	mg/L	98	75	125			
L86570-02MSD	MSD	03/30/24 17:43	MS240321-2	.05	U	.04789	mg/L	96	75	125	2	20	

Vanadium (1312) EPA 6020B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586576													
WG586576ICV	ICV	03/30/24 17:10	MS240109-5	.05		.05375	mg/L	108	90	110			
WG586576ICB	ICB	03/30/24 17:12				U	mg/L		-0.0015	0.0015			
WG585978PBS	PBS	03/30/24 17:21				U	mg/L		-0.0015	0.0015			
WG586112PBS	PBS	03/30/24 17:23				U	mg/L		-0.0015	0.0015			
WG586354PBS	PBS	03/30/24 17:25				U	mg/L		-0.0015	0.0015			
WG585978LFB2	LFB	03/30/24 17:27	MS240321-2	.05005		.04694	mg/L	94	80	120			
WG586112LFB2	LFB	03/30/24 17:28	MS240321-2	.05005		.04719	mg/L	94	80	120			
WG586354LFB2	LFB	03/30/24 17:30	MS240321-2	.05005		.0476	mg/L	95	80	120			
L86570-01DUP	DUP	03/30/24 17:38			U	U	mg/L				0	20	RA
L86570-02MS	MS	03/30/24 17:41	MS240321-2	.05005	U	.04933	mg/L	99	75	125			
L86570-02MSD	MSD	03/30/24 17:43	MS240321-2	.05005	U	.04864	mg/L	97	75	125	1	20	

Zinc (1312) EPA 6020B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG586576													
WG586576ICV	ICV	03/30/24 17:10	MS240109-5	.05		.0516	mg/L	103	90	110			
WG586576ICB	ICB	03/30/24 17:12				U	mg/L		-0.018	0.018			
WG585978PBS	PBS	03/30/24 17:21				U	mg/L		-0.018	0.018			
WG586112PBS	PBS	03/30/24 17:23				U	mg/L		-0.018	0.018			
WG586354PBS	PBS	03/30/24 17:25				.0104	mg/L		-0.018	0.018			
WG585978LFB2	LFB	03/30/24 17:27	MS240321-2	.050015		.0483	mg/L	97	80	120			
WG586112LFB2	LFB	03/30/24 17:28	MS240321-2	.050015		.0475	mg/L	95	80	120			
WG586354LFB2	LFB	03/30/24 17:30	MS240321-2	.050015		.0568	mg/L	114	80	120			
L86570-01DUP	DUP	03/30/24 17:38			.0086	.0072	mg/L				18	20	RA
L86570-02MS	MS	03/30/24 17:41	MS240321-2	.050015	U	.0487	mg/L	97	75	125			
L86570-02MSD	MSD	03/30/24 17:43	MS240321-2	.050015	U	.0487	mg/L	97	75	125	0	20	

Thorin Resources ACZ Project ID: ***L86570***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L86570-01	WG586211	Aluminum (1312)	EPA 6010D	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).
			EPA 6010D	ZG	The ICP or ICP-MS Serial Dilution was not used for data validation because the sample concentration was less than 50 times the MDL.
	WG586576	Beryllium (1312)	EPA 6020B	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).
	WG586499	Bicarbonate as CaCO3	SM 2320 B-2011	Q6	Sample was received above recommended temperature.
	WG586211	Boron (1312)	EPA 6010D	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).
	WG586304	Bromide (1312-DI)	EPA 300.0	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			EPA 300.0	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).
	WG586576	Cadmium (1312)	EPA 6020B	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).
	WG586623	Carbon, total organic (TOC) (1312-DI)	SM 5310 B-2011/2014	HD	Analysis is outside the intended scope of the method, which does not provide hold time information for soil extracts. No hold time is observed for collection to extraction. The referenced method hold time is observed for extraction-to-analysis.
			SM 5310 B-2011/2014	Q6	Sample was received above recommended temperature.
			SM 5310 B-2011/2014	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).
	WG586499	Carbonate as CaCO3	SM 2320 B-2011	Q6	Sample was received above recommended temperature.
	WG586304	Chloride (1312-DI)	EPA 300.0	HD	Analysis is outside the intended scope of the method, which does not provide hold time information for soil extracts. No hold time is observed for collection to extraction. The referenced method hold time is observed for extraction-to-analysis.
			EPA 300.0	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).
	WG586576	Chromium (1312)	EPA 6020B	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).
		Cobalt (1312)	EPA 6020B	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).
	WG586499	Conductivity @25C (1312-DI)	SM 2510 B-2011	Q6	Sample was received above recommended temperature.
	WG586646	Copper (1312)	EPA 6020B	RD	For a solid matrix, the duplicate RPD (spike or matrix) exceeded the control limit, which is attributable to the non-homogeneity of the sample.
	WG586467	Fluoride (1312 DI)	SM 4500-F C-2011	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).
	WG586499	Hydroxide as CaCO3	SM 2320 B-2011	Q6	Sample was received above recommended temperature.
	WG586211	Iron (1312)	EPA 6010D	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).
		Lithium (1312)	EPA 6010D	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).
		Magnesium (1312)	EPA 6010D	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).
	WG586206	Mercury (1312)	EPA 7470A	Q6	Sample was received above recommended temperature.
			EPA 7470A	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated

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					sample is too low for accurate evaluation (< 10x MDL).
	WG586576	Molybdenum (1312)	EPA 6020B	RD	For a solid matrix, the duplicate RPD (spike or matrix) exceeded the control limit, which is attributable to the non-homogeneity of the sample.
		Nickel (1312)	EPA 6020B	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).
	WG586123	Nitrate/Nitrite as N (1312-DI)	EPA 353.2	HD	Analysis is outside the intended scope of the method, which does not provide hold time information for soil extracts. No hold time is observed for collection to extraction. The referenced method hold time is observed for extraction-to-analysis.
			EPA 353.2	Q6	Sample was received above recommended temperature.
		Nitrite as N (1312-DI)	EPA 353.2	HD	Analysis is outside the intended scope of the method, which does not provide hold time information for soil extracts. No hold time is observed for collection to extraction. The referenced method hold time is observed for extraction-to-analysis.
			EPA 353.2	Q6	Sample was received above recommended temperature.
			EPA 353.2	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).
	WG586679	Nitrogen, ammonia (1312-DI)	EPA 350.1	Q6	Sample was received above recommended temperature.
			EPA 350.1	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).
	WG586125	Phosphorus, ortho dissolved (1312-DI)	EPA 365.1	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).
	WG586398	Phosphorus, Total (1312-DI)	EPA 365.1	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).
	WG586211	Potassium (1312)	EPA 6010D	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).
	WG586253	Residue, Filterable (TDS) @180C (1312)	SM 2540 C-2011	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).
	WG586424	Residue, Non-Filter (TSS) @180C (1312-DI)	SM 2540 D-2011/2015	BF	Target analyte in prep / method blank at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
			SM 2540 D-2011/2015	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).
			SM 2540 D-2011/2015	Z3	Sample volume yielded a residue less than 2.5 mg
	WG586576	Selenium (1312)	EPA 6020B	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).
		Silver (1312)	EPA 6020B	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).
	WG586211	Sodium (1312)	EPA 6010D	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).
		Strontium (1312)	EPA 6010D	ZG	The ICP or ICP-MS Serial Dilution was not used for data validation because the sample concentration was less than 50 times the MDL.
	WG586304	Sulfate (1312-DI)	EPA 300.0	HD	Analysis is outside the intended scope of the method, which does not provide hold time information for soil extracts. No hold time is observed for collection to extraction. The referenced method hold time is observed for extraction-to-analysis.
	WG593362	Sulfur HNO3 Residue	EPA 600/2-78-054 3.2.4 Modified	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).
		Sulfur Organic Residual	EPA 600/2-78-054 3.2.4 Modified	RA	Relative Percent Difference (RPD) was not used for data

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
					validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Sulfur Sulfate	EPA 600/2-78-054 3.2.4 Modified	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).
	WG586576	Thallium (1312)	EPA 6020B	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).
	WG586211	Tin (1312)	EPA 6010D	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).
	WG586499	Total Alkalinity	SM 2320 B-2011	Q6	Sample was received above recommended temperature.
	WG586576	Uranium (1312)	EPA 6020B	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).
		Vanadium (1312)	EPA 6020B	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).
		Zinc (1312)	EPA 6020B	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).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L86570-02	WG586211	Aluminum (1312)	EPA 6010D	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).
			EPA 6010D	ZG	The ICP or ICP-MS Serial Dilution was not used for data validation because the sample concentration was less than 50 times the MDL.
	WG586646	Beryllium (1312)	EPA 6020B	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).
	WG586499	Bicarbonate as CaCO3	SM 2320 B-2011	Q6	Sample was received above recommended temperature.
	WG586211	Boron (1312)	EPA 6010D	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).
	WG586304	Bromide (1312-DI)	EPA 300.0	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			EPA 300.0	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).
	WG586576	Cadmium (1312)	EPA 6020B	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).
	WG586623	Carbon, total organic (TOC) (1312-DI)	SM 5310 B-2011/2014	HD	Analysis is outside the intended scope of the method, which does not provide hold time information for soil extracts. No hold time is observed for collection to extraction. The referenced method hold time is observed for extraction-to-analysis.
			SM 5310 B-2011/2014	Q6	Sample was received above recommended temperature.
			SM 5310 B-2011/2014	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).
	WG586499	Carbonate as CaCO3	SM 2320 B-2011	Q6	Sample was received above recommended temperature.
	WG586304	Chloride (1312-DI)	EPA 300.0	HD	Analysis is outside the intended scope of the method, which does not provide hold time information for soil extracts. No hold time is observed for collection to extraction. The referenced method hold time is observed for extraction-to-analysis.
			EPA 300.0	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).
	WG586576	Chromium (1312)	EPA 6020B	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).
		Cobalt (1312)	EPA 6020B	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).
	WG586499	Conductivity @25C (1312-DI)	SM 2510 B-2011	Q6	Sample was received above recommended temperature.
	WG586646	Copper (1312)	EPA 6020B	RD	For a solid matrix, the duplicate RPD (spike or matrix) exceeded the control limit, which is attributable to the non-homogeneity of the sample.
	WG586467	Fluoride (1312 DI)	SM 4500-F C-2011	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).
	WG586499	Hydroxide as CaCO3	SM 2320 B-2011	Q6	Sample was received above recommended temperature.
	WG586211	Iron (1312)	EPA 6010D	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).
		Lithium (1312)	EPA 6010D	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).
		Magnesium (1312)	EPA 6010D	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).
	WG586206	Mercury (1312)	EPA 7470A	Q6	Sample was received above recommended temperature.
			EPA 7470A	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
					sample is too low for accurate evaluation (< 10x MDL).
	WG586576	Molybdenum (1312)	EPA 6020B	RD	For a solid matrix, the duplicate RPD (spike or matrix) exceeded the control limit, which is attributable to the non-homogeneity of the sample.
		Nickel (1312)	EPA 6020B	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).
	WG586123	Nitrate/Nitrite as N (1312-DI)	EPA 353.2	HD	Analysis is outside the intended scope of the method, which does not provide hold time information for soil extracts. No hold time is observed for collection to extraction. The referenced method hold time is observed for extraction-to-analysis.
			EPA 353.2	Q6	Sample was received above recommended temperature.
		Nitrite as N (1312-DI)	EPA 353.2	HD	Analysis is outside the intended scope of the method, which does not provide hold time information for soil extracts. No hold time is observed for collection to extraction. The referenced method hold time is observed for extraction-to-analysis.
			EPA 353.2	Q6	Sample was received above recommended temperature.
			EPA 353.2	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).
	WG586679	Nitrogen, ammonia (1312-DI)	EPA 350.1	Q6	Sample was received above recommended temperature.
			EPA 350.1	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).
	WG586125	Phosphorus, ortho dissolved (1312-DI)	EPA 365.1	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).
	WG586398	Phosphorus, Total (1312-DI)	EPA 365.1	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).
	WG586211	Potassium (1312)	EPA 6010D	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).
	WG586253	Residue, Filterable (TDS) @180C (1312)	SM 2540 C-2011	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).
	WG586424	Residue, Non-Filter (TSS) @180C (1312-DI)	SM 2540 D-2011/2015	BF	Target analyte in prep / method blank at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
			SM 2540 D-2011/2015	DJ	Sample dilution required due to insufficient sample.
			SM 2540 D-2011/2015	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).
			SM 2540 D-2011/2015	Z3	Sample volume yielded a residue less than 2.5 mg
	WG586576	Selenium (1312)	EPA 6020B	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).
		Silver (1312)	EPA 6020B	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).
	WG586211	Sodium (1312)	EPA 6010D	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).
		Strontium (1312)	EPA 6010D	ZG	The ICP or ICP-MS Serial Dilution was not used for data validation because the sample concentration was less than 50 times the MDL.
	WG586304	Sulfate (1312-DI)	EPA 300.0	HD	Analysis is outside the intended scope of the method, which does not provide hold time information for soil extracts. No hold time is observed for collection to extraction. The referenced method hold time is observed for extraction-to-analysis.
	WG593362	Sulfur HNO3 Residue	EPA 600/2-78-054 3.2.4 Modified	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).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
		Sulfur Organic Residual	EPA 600/2-78-054 3.2.4 Modified	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).
		Sulfur Sulfate	EPA 600/2-78-054 3.2.4 Modified	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).
	WG586576	Thallium (1312)	EPA 6020B	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).
	WG586211	Tin (1312)	EPA 6010D	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).
	WG586499	Total Alkalinity	SM 2320 B-2011	Q6	Sample was received above recommended temperature.
	WG586576	Uranium (1312)	EPA 6020B	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).
		Vanadium (1312)	EPA 6020B	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).
		Zinc (1312)	EPA 6020B	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).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L86570-03	WG586211	Aluminum (1312)	EPA 6010D	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).
			EPA 6010D	ZG	The ICP or ICP-MS Serial Dilution was not used for data validation because the sample concentration was less than 50 times the MDL.
	WG586646	Beryllium (1312)	EPA 6020B	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).
	WG586499	Bicarbonate as CaCO3	SM 2320 B-2011	Q6	Sample was received above recommended temperature.
	WG586211	Boron (1312)	EPA 6010D	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).
	WG586304	Bromide (1312-DI)	EPA 300.0	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			EPA 300.0	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).
	WG586576	Cadmium (1312)	EPA 6020B	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).
	WG586623	Carbon, total organic (TOC) (1312-DI)	SM 5310 B-2011/2014	HD	Analysis is outside the intended scope of the method, which does not provide hold time information for soil extracts. No hold time is observed for collection to extraction. The referenced method hold time is observed for extraction-to-analysis.
			SM 5310 B-2011/2014	Q6	Sample was received above recommended temperature.
			SM 5310 B-2011/2014	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).
	WG586499	Carbonate as CaCO3	SM 2320 B-2011	Q6	Sample was received above recommended temperature.
	WG586304	Chloride (1312-DI)	EPA 300.0	HD	Analysis is outside the intended scope of the method, which does not provide hold time information for soil extracts. No hold time is observed for collection to extraction. The referenced method hold time is observed for extraction-to-analysis.
			EPA 300.0	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).
	WG586576	Chromium (1312)	EPA 6020B	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).
		Cobalt (1312)	EPA 6020B	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).
	WG586499	Conductivity @25C (1312-DI)	SM 2510 B-2011	Q6	Sample was received above recommended temperature.
	WG586646	Copper (1312)	EPA 6020B	RD	For a solid matrix, the duplicate RPD (spike or matrix) exceeded the control limit, which is attributable to the non-homogeneity of the sample.
	WG586467	Fluoride (1312 DI)	SM 4500-F C-2011	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).
	WG586499	Hydroxide as CaCO3	SM 2320 B-2011	Q6	Sample was received above recommended temperature.
	WG586211	Iron (1312)	EPA 6010D	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).
		Lithium (1312)	EPA 6010D	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).
		Magnesium (1312)	EPA 6010D	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).
	WG586206	Mercury (1312)	EPA 7470A	Q6	Sample was received above recommended temperature.
			EPA 7470A	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
					sample is too low for accurate evaluation (< 10x MDL).
	WG586576	Molybdenum (1312)	EPA 6020B	RD	For a solid matrix, the duplicate RPD (spike or matrix) exceeded the control limit, which is attributable to the non-homogeneity of the sample.
		Nickel (1312)	EPA 6020B	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).
	WG586123	Nitrate/Nitrite as N (1312-DI)	EPA 353.2	HD	Analysis is outside the intended scope of the method, which does not provide hold time information for soil extracts. No hold time is observed for collection to extraction. The referenced method hold time is observed for extraction-to-analysis.
			EPA 353.2	Q6	Sample was received above recommended temperature.
		Nitrite as N (1312-DI)	EPA 353.2	HD	Analysis is outside the intended scope of the method, which does not provide hold time information for soil extracts. No hold time is observed for collection to extraction. The referenced method hold time is observed for extraction-to-analysis.
			EPA 353.2	Q6	Sample was received above recommended temperature.
			EPA 353.2	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).
	WG586679	Nitrogen, ammonia (1312-DI)	EPA 350.1	Q6	Sample was received above recommended temperature.
			EPA 350.1	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).
	WG586125	Phosphorus, ortho dissolved (1312-DI)	EPA 365.1	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).
	WG586398	Phosphorus, Total (1312-DI)	EPA 365.1	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).
	WG586211	Potassium (1312)	EPA 6010D	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).
	WG586253	Residue, Filterable (TDS) @180C (1312)	SM 2540 C-2011	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).
			SM 2540 C-2011	Z3	Sample volume yielded a residue less than 2.5 mg
	WG586424	Residue, Non-Filter (TSS) @180C (1312-DI)	SM 2540 D-2011/2015	BF	Target analyte in prep / method blank at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
			SM 2540 D-2011/2015	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).
			SM 2540 D-2011/2015	Z3	Sample volume yielded a residue less than 2.5 mg
	WG586576	Selenium (1312)	EPA 6020B	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).
		Silver (1312)	EPA 6020B	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).
	WG586211	Sodium (1312)	EPA 6010D	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).
		Strontium (1312)	EPA 6010D	ZG	The ICP or ICP-MS Serial Dilution was not used for data validation because the sample concentration was less than 50 times the MDL.
	WG586304	Sulfate (1312-DI)	EPA 300.0	HD	Analysis is outside the intended scope of the method, which does not provide hold time information for soil extracts. No hold time is observed for collection to extraction. The referenced method hold time is observed for extraction-to-analysis.
	WG593362	Sulfur HNO3 Residue	EPA 600/2-78-054 3.2.4 Modified	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).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
		Sulfur Organic Residual	EPA 600/2-78-054 3.2.4 Modified	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).
		Sulfur Sulfate	EPA 600/2-78-054 3.2.4 Modified	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).
	WG586576	Thallium (1312)	EPA 6020B	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).
	WG586211	Tin (1312)	EPA 6010D	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).
	WG586499	Total Alkalinity	SM 2320 B-2011	Q6	Sample was received above recommended temperature.
	WG586576	Uranium (1312)	EPA 6020B	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).
		Vanadium (1312)	EPA 6020B	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).
		Zinc (1312)	EPA 6020B	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).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L86570-04	WG586211	Aluminum (1312)	EPA 6010D	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).
			EPA 6010D	ZG	The ICP or ICP-MS Serial Dilution was not used for data validation because the sample concentration was less than 50 times the MDL.
	WG586646	Beryllium (1312)	EPA 6020B	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).
	WG586499	Bicarbonate as CaCO3	SM 2320 B-2011	Q6	Sample was received above recommended temperature.
	WG586211	Boron (1312)	EPA 6010D	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).
	WG586304	Bromide (1312-DI)	EPA 300.0	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			EPA 300.0	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).
	WG586576	Cadmium (1312)	EPA 6020B	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).
	WG586623	Carbon, total organic (TOC) (1312-DI)	SM 5310 B-2011/2014	HD	Analysis is outside the intended scope of the method, which does not provide hold time information for soil extracts. No hold time is observed for collection to extraction. The referenced method hold time is observed for extraction-to-analysis.
			SM 5310 B-2011/2014	Q6	Sample was received above recommended temperature.
			SM 5310 B-2011/2014	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).
	WG586499	Carbonate as CaCO3	SM 2320 B-2011	Q6	Sample was received above recommended temperature.
	WG586304	Chloride (1312-DI)	EPA 300.0	HD	Analysis is outside the intended scope of the method, which does not provide hold time information for soil extracts. No hold time is observed for collection to extraction. The referenced method hold time is observed for extraction-to-analysis.
			EPA 300.0	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).
	WG586576	Chromium (1312)	EPA 6020B	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).
		Cobalt (1312)	EPA 6020B	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).
	WG586499	Conductivity @25C (1312-DI)	SM 2510 B-2011	Q6	Sample was received above recommended temperature.
	WG586646	Copper (1312)	EPA 6020B	RD	For a solid matrix, the duplicate RPD (spike or matrix) exceeded the control limit, which is attributable to the non-homogeneity of the sample.
	WG586467	Fluoride (1312 DI)	SM 4500-F C-2011	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).
	WG586499	Hydroxide as CaCO3	SM 2320 B-2011	Q6	Sample was received above recommended temperature.
	WG586211	Iron (1312)	EPA 6010D	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).
		Lithium (1312)	EPA 6010D	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).
		Magnesium (1312)	EPA 6010D	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).
	WG586206	Mercury (1312)	EPA 7470A	Q6	Sample was received above recommended temperature.
			EPA 7470A	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
					sample is too low for accurate evaluation (< 10x MDL).
	WG586576	Molybdenum (1312)	EPA 6020B	RD	For a solid matrix, the duplicate RPD (spike or matrix) exceeded the control limit, which is attributable to the non-homogeneity of the sample.
		Nickel (1312)	EPA 6020B	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).
	WG586123	Nitrate/Nitrite as N (1312-DI)	EPA 353.2	HD	Analysis is outside the intended scope of the method, which does not provide hold time information for soil extracts. No hold time is observed for collection to extraction. The referenced method hold time is observed for extraction-to-analysis.
			EPA 353.2	Q6	Sample was received above recommended temperature.
		Nitrite as N (1312-DI)	EPA 353.2	HD	Analysis is outside the intended scope of the method, which does not provide hold time information for soil extracts. No hold time is observed for collection to extraction. The referenced method hold time is observed for extraction-to-analysis.
			EPA 353.2	Q6	Sample was received above recommended temperature.
			EPA 353.2	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).
	WG586679	Nitrogen, ammonia (1312-DI)	EPA 350.1	Q6	Sample was received above recommended temperature.
			EPA 350.1	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).
	WG586125	Phosphorus, ortho dissolved (1312-DI)	EPA 365.1	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).
	WG586398	Phosphorus, Total (1312-DI)	EPA 365.1	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).
	WG586211	Potassium (1312)	EPA 6010D	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).
	WG586253	Residue, Filterable (TDS) @180C (1312)	SM 2540 C-2011	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).
			SM 2540 C-2011	Z3	Sample volume yielded a residue less than 2.5 mg
	WG586424	Residue, Non-Filter (TSS) @180C (1312-DI)	SM 2540 D-2011/2015	BF	Target analyte in prep / method blank at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
			SM 2540 D-2011/2015	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).
			SM 2540 D-2011/2015	Z3	Sample volume yielded a residue less than 2.5 mg
	WG586576	Selenium (1312)	EPA 6020B	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).
		Silver (1312)	EPA 6020B	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).
	WG586211	Sodium (1312)	EPA 6010D	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).
		Strontium (1312)	EPA 6010D	ZG	The ICP or ICP-MS Serial Dilution was not used for data validation because the sample concentration was less than 50 times the MDL.
	WG586304	Sulfate (1312-DI)	EPA 300.0	HD	Analysis is outside the intended scope of the method, which does not provide hold time information for soil extracts. No hold time is observed for collection to extraction. The referenced method hold time is observed for extraction-to-analysis.
	WG593362	Sulfur HNO3 Residue	EPA 600/2-78-054 3.2.4 Modified	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).

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ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
		Sulfur Organic Residual	EPA 600/2-78-054 3.2.4 Modified	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).
		Sulfur Sulfate	EPA 600/2-78-054 3.2.4 Modified	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).
	WG586576	Thallium (1312)	EPA 6020B	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).
	WG586211	Tin (1312)	EPA 6010D	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).
	WG586499	Total Alkalinity	SM 2320 B-2011	Q6	Sample was received above recommended temperature.
	WG586576	Uranium (1312)	EPA 6020B	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).
		Vanadium (1312)	EPA 6020B	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).
		Zinc (1312)	EPA 6020B	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).

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Metals Analysis

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

Silver (1312)	EPA 6020B

Soil Analysis

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

Neutralization Potential as CaCO3	EPA 600/2-78-054 3.2.3
Sulfur HCl Residue	EPA 600/2-78-054 3.2.4 Modified
Sulfur HNO3 Residue	EPA 600/2-78-054 3.2.4 Modified
Sulfur Total	EPA 600/2-78-054 3.2.4 Modified

Wet Chemistry

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

Bicarbonate as CaCO3	SM 2320 B-2011
Bromide (1312-DI)	EPA 300.0
Carbonate as CaCO3	SM 2320 B-2011
Chloride (1312-DI)	EPA 300.0
Conductivity @25C (1312-DI)	SM 2510 B-2011
Fluoride (1312 DI)	SM 4500-F C-2011
Hydroxide as CaCO3	SM 2320 B-2011
Nitrate/Nitrite as N (1312-DI)	EPA 353.2
Nitrite as N (1312-DI)	EPA 353.2
Nitrogen, ammonia (1312-DI)	EPA 350.1
Phosphorus, ortho dissolved (1312-DI)	EPA 365.1
Phosphorus, Total (1312-DI)	EPA 365.1
Residue, Filterable (TDS) @180C (1312)	SM 2540 C-2011
Residue, Non-Filter (TSS) @180C (1312-DI)	SM 2540 D-2011/2015
Sulfate (1312-DI)	EPA 300.0
Total Alkalinity	SM 2320 B-2011

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Thorin Resources

ACZ Project ID: L86570
Date Received: 03/13/2024 15:43
Received By:
Date Printed: 3/20/2024

Receipt Verification

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

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?	X		
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?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

NA indicates Not Applicable

Chain of Custody Related Remarks

Client Contact Remarks

Sx ID's were entered per labels on bags

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA41420	12.1	NA	15	N/A

Was ice present in the shipment container(s)?

No - Wet or gel ice was not 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.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Thorin Resources

ACZ Project ID:	L86570
Date Received:	03/13/2024 15:43
Received By:	
Date Printed:	3/20/2024

[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).

ACZ LABORATORIES | Accredited Environmental Testing | 2773 Downhill Drive, Steamboat Springs, CO 80487, (970) 879-6590 | 186570

CHAIN of CUSTODY

Report to:

Name: CJ Dickerson	Address: 1900 Main St Unit 1
Company: Thorin Resources	Ouray, Co 81427
E-mail: cjdickerson@thorinresources.com	Telephone: 6027931321

Copy of Report to:

Name:	E-mail:
Company:	Telephone:

Invoice to:

Name: CJ Dickerson	Address:
Company:	
E-mail: cjdickerson@thorinresources.com	Telephone:

Copy of Invoice to:

Name:	Address:
Company:	
E-mail:	Telephone:

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: CJ Dickerson **Sampler's Site Information** **State** CO **Zip code** 81427 **Time Zone** mst

***Sampler's Signature:** CJ Dickerson Digitally signed by CJ Dickerson Date: 2024.03.13 09:37:22 -06'00'

*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

Quote #: SPLP/ABA

PO#:

Reporting state for compliance testing:

Check box if samples include NRC licensed material? ☐

ANALYSES REQUESTED (attach list or use quote number)

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	ABA	SPLP						
RV HGW Heads	3/4/2024 09:40		1	✓	✓						
RV HGW Tails	3/4/2024 09:40		1	✓	✓						
CB Heads	3/4/2024 09:40		1	✓	✓						
CB Tails	3/4/2024 09:40		1	✓	✓						

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

REMARKS

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
CJ Dickerson Digitally signed by CJ Dickerson Date: 2024.03.13 09:54:37 -06'00'	3/7/2024 5:10 pm		3/9/24 15:43

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

L86570 Chain of Custod

CALDERA
Mineral Resources

Attachment C – Special Use Permit – Hauling Material: Camp Bird to Revenue

RIGHT-OF-WAY PERMIT APPLICATION

Road & Bridge Department
970.626.5391
Physical Address: 111 Mall Road, Ridgway CO
Mailing Address: PO Box 28, Ridgway CO 81432

The Right-of-Way Permit is for construction in or improvement to Ouray County rights-of-way. A permit is required to construct driveways, install telephone, electric, gas, sewer, water and other utility wires, pipelines, or the like, along, across, upon and under any road right-of-way which is owned or controlled by Ouray County.

Permittee
Name Chris Skerik
Company Thorin Resources, LLC
Address 1900 Main St, Unit 1, PO Box 1030
City Ouray State CO Zip 81427
Business Phone 970-316-2294
Fax No. _____
Email cskerik@thorinresources.com
Insurance Carrier Imperium Insurance Company Limits: $2,000,000 / $5,000,000

Contractor
Name _____
Company _____
Address _____
City _____ State ___ Zip _____
Business Phone _____
Fax No. _____
Email _____

Location/Description of Construction:
CR 361 and 26 at the following locations: Camp Bird and Revenue Mine sites
_____
Address 4936 CR-361, Ouray, CO 81427 Subdivision _____ Legal Desc. _____

HOW MANY FEET ARE YOU DISTURBING IN THE RIGHT-OF-WAY: No disturbance required
PLANS REQUIRED WITH APPLICATION

Type of Work:

☐ **TV Cable**	☐ Main	☐ Service		☐ **Phone**	☐ Main	☐ Service
☐ **Gas**	☐ Main	☐ Service		☐ **Water**	☐ Main	☐ Service
☐ **Electric**	☐ Main	☐ Service	☐ Set Pole	☐ **Sewer**	☐ Main	☐ Service

☐ **Culvert** _____inch by _____ foot long corrugated pipe (0.16 gauge) with annular ends.
6" cover – ¾ "compacted road base.

☒ **Other** Request access to haul material from Camp Bird to Revenue Mine, from 6:00AM to 9:30AM, Monday through Friday.

☐ **Cut Pavement** (Repair must be completed in 15 days) _____

☐ **Include sketch showing excavation(s) with dashed line in relation to road, house and driveway**

Construction Schedule and Submittal Questions – All permit holders must request inspection 24 hours in advance of work commencing. Please call 970.626.5391 for inspection request.

Planned Start Date TO BE DETERMINED Daily Work Hours 6:00AM to 9:30AM
Planned Finish Date OPEN-ENDED, INDEFINITE Weekend Work Hours NOT APPLICABLE
Does project disturb more than _____ acre? Yes No NO DISTURBANCE
If yes, a Revegetation and Weed Control Plan needs to be submitted with application

READ CAREFULLY

Job must be finished and right-of-way restored to its original condition by expiration date. Failure to do so is a violation of state and local regulations and new permits may not be issued until the job is complete. Permit extensions may be granted by calling the road inspector.

Applicant shall be responsible for confirming all utility locations within public rights-of-way prior to any excavation. Call UNCC: 1.800.922.1987.

A minimum of three working days is required to process this application.

The owner of the private improvements under this permit shall promptly relocate or remove such improvements from the Ouray County right-of-way at his own expense upon written request from Ouray County. By requiring or approving this permit, Ouray County makes no warranty of title or interest in any property or right-of-way. By submitting this application, applicant agrees to indemnify Ouray County for all claims against Ouray County arising out of, caused by or related to the work contemplated by this application, including all reasonable attorney's fees. Nothing herein shall be construed as a waiver of any right by Ouray County or an admission that any use in the right-of-way is adverse.

APPLICANT GUARANTEES ALL WORK FOR TWO YEARS FROM FINAL INSPECTION DATE

By accepting this permit, the undersigned Permittee or agent, under penalty of perjury, verifies that they have received all pages of the permit application; they have read and understood all of the permit requirements and provisions set forth on all pages; that they have the authority to sign for and bind the Permittee; and that by virtue of their signature, the Permittee is bound by and agrees to comply with all said permit requirements and provisions, all Ouray County regulations, ordinances or state laws regarding facilities construction.

Chris Skrik _____ Date July 30th, 2024

Permittee or agent signature

Office Use Only:

- **THIS PERMIT EXPIRES SIX MONTHS AFTER DATE APPROVED. MAY BE REISSUED.**
- **FEES WAIVED.**
- **WORK IN THE RIGHT-OF-WAY IS ONLY ALLOWED BETWEEN 6:00AM AND 9:30AM. WORK MAY NOT BE SCHEDULED DURING WEEKENDS (SATURDAY OR SUNDAY), STATE HOLIDAYS, OR WITHIN TWO DAYS OF A STATE HOLIDAY.**
- **PILOT CAR AND FLAGGERS REQUIRED FOR ALL MOVEMENTS.**
- **ANY MODIFICATIONS TO THE DESCRIBED ACTIVITY MUST BE COORDINATED IN ADVANCE WITH THE OURAY COUNTY ROAD & BRIDGE SUPERINTENDENT.**

T. L. BARGER 7/30/2024

Permit Approved – Ouray County Date

Final Inspection Approval Date

Approved for Construction Date

1. **Cost to Ouray County**. Permittee fully understands that all line installation and/or construction will be performed at no expense whatsoever to Ouray County.
2. **Stop Work**. Ouray County shall have the right to order Permittee to stop work anytime Ouray County believes that a violation of this permit has occurred or if there is a danger to the public safety if the work continues.
3. **Revocability.** Ouray County reserves the right to revoke this permit at any time should Permittee fail to comply with any of the requirements of this permit. Should this permit be revoked, Permittee must obtain a new permit and pay all required fees in order to continue with the project contemplated herein. Any lines or materials installed by Permittee prior to the revocation of the permit remain the responsibility of Permittee and shall be maintained or removed by Permittee at the discretion of Ouray County.
4. **Warranty of Right-of-Way**. Ouray County does not warrant the right-of-way by the issuance of this permit. Permittee is responsible for determining the ownership of properties traversed by its lines, the location of all property boundary lines, and the ownership of all rights-of way.
5. Commencement of construction prior to payment of fees and granting of approvals will result in applicable fees being doubled. Construction without inspection is subject to rejection.
6. Traffic shall be maintained on all rights-of-way. Flaggers shall be provided at any locations where the orderly flow of traffic is interrupted.
7. Permittee shall provide all necessary signs and barricades in accordance with the Manual on Uniform Traffic Control Devices and its latest Colorado Supplement in order to warn oncoming motorists of any installation or construction work.
8. In the event any changes are made in the future to the roadway or its appurtenances within the right-of-way contemplated herein that would necessitate removal or relocation of the lines installed or constructed herein, Permittee shall do so promptly at its own expense upon the written request from Ouray County, Colorado.
9. A copy of this permit shall be maintained on-site at all times until the work has been completed and inspected.
10. Permittee shall furnish all labor and materials, perform all work, and pay all costs in connection with the construction of the driveway(s) and its appurtenances on the right-of-way. All work shall be completed in an expeditious and safe manner and shall be finished within three months of the permit date.
11. This permit does not allow any damage to occur on the existing County right-of-way. If Permittee causes damage to the County road, Permittee shall repair road to the County's satisfaction.
12. This permit is valid only for the work described on page one. Any additional work shall require a separate application and permit.

CALDERA
Mineral Resources

Attachment D – Camp Bird Sample Locations