

Atlas Mining & Reclamation, LLC
19911 Highway 550
Montrose, CO 81403

November 22, 2021

Division of Reclamation Mining & Safety
Attn. Lucas West, Environmental Protection Specialist
1313 Sherman Street, Room 215
Denver, CO 80203

RE: Von Doose Mine, Permit No. M-2019-031, Technical Revision No. 1

Dear Mr. West,

This letter along with the enclosed map and lab report comprise Atlas Mining & Reclamation LLC's (AMR's) Technical Revision (TR) to the Von Doose Mine Permit No. M-2019-031. This TR specifies the addition of a small mobile crushing unit to the surface of the mining operation beginning in spring/summer 2022, geochemical characterization of the inert waste rock to be crushed, and notification, that if approved, the crushed waste rock will be sold and/or used offsite for aggregate. No revisions to the surface disturbance, reclamation plan or financial warranty are proposed.

The small jaw crusher unit is skid mounted, 14 feet by 5 feet (including the conveyor belt), weighs approximately 2.4 tons, has a 15HP diesel engine, and operates at 3 to 10 tons per hour. It is designed to be mobile and will be operated infrequently either from the top of the waste rock dump or at the laydown yard. Long term storage of the crusher will be at the laydown yard as depicted in the enclosed map.

The intended material to be crushed is from the waste rock dump which consists of inert waste rock currently being produced from the underground mining operations. A representative composite sample of the waste rock dump was collected by AMR on August 3, 2021 and analyzed by ACZ Laboratories for the same suite of Acid-Base-Accounting (ABA) and SPLP analytes as the topsoil and bedrock samples from the 2019 110(1) permit application. Compared to the 2019 results, the waste rock has a higher paste pH of 8.1 (versus pH of 5.3 for topsoil and 6.1 for bedrock in 2019) and higher Net Neutralizing Potential value of 94.9 (versus 1.3 for Topsoil and -3.1 for Bedrock in 2019). SPLP results for the waste rock are similar to the 2019 results and do not indicate any leaching issues of concern. These results are consistent with current visual observations of the rock and are typical for propylitically altered andesite common throughout the region. The complete lab results of the waste rock are enclosed with this letter.

These results are representative of the entirety of the waste rock produced to date, which is approximately the equivalent of 220 feet of advance, and per the approved permit AMR will analyze the rock every 300 feet of advance for the same ABA and SPLP parameters.

Due to the small size of the crusher and relatively small volume of source material, the maximum amount of material to be crushed is estimated to be 20 to 25 tons per day which will be transported off site using trucks/trailers already present at the mine. Following the Division's approval of this TR, the crushed rock is intended be sold or donated for use as aggregate off site.

Please let me know if you have any questions and I look forward to your response.

Sincerely,



Eli Doose
970-901-9924
elidoose@mac.com

Enclosures: TR-1 Mine Plan Map depicting location of mobile crusher (1 sheet)
ACZ Laboratories Acid-Base-Accounting and SPLP Analysis of Waste Rock (26 pages)

August 30, 2021

Report to:

Mike Thompson
Reardon Steel LLC
4 River Street
Silverton, CO 81433

Bill to:

Mike Thompson
Reardon Steel LLC
4 River Street
Silverton, CO 81433

cc: Eli Doose

Project ID:

ACZ Project ID: L67776

Mike Thompson:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on August 12, 2021. This project has been assigned to ACZ's project number, L67776. 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 L67776. 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 September 29, 2021. 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.



Sue Webber has reviewed and
approved this report.



Reardon Steel LLC

Project ID:

Sample ID: 20210803-01

ACZ Sample ID: **L67776-01**

Date Sampled: 08/09/21 15:44

Date Received: 08/12/21

Sample Matrix: Soil

Inorganic Prep

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Total Hot Plate Digestion (1312)	M3010A ICP-MS								08/20/21 9:00	mfm
Total Hot Plate Digestion (1312)	M3010A ICP								08/19/21 13:15	jlw

Reardon Steel LLC

Project ID:

Sample ID: 20210803-01

ACZ Sample ID: **L67776-01**

Date Sampled: 08/09/21 15:44

Date Received: 08/12/21

Sample Matrix: Soil

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum (1312)	M6010D ICP	1	0.316		*	mg/L	0.05	0.25	08/20/21 17:28	jlw
Aluminum, total (3050)	M6010D ICP	101	20000		*	mg/Kg	5.05	25.3	08/18/21 14:38	jlw
Antimony (1312)	M6020B ICP-MS	1	0.00069	B	*	mg/L	0.0004	0.002	08/24/21 16:22	bsu
Antimony, total (3050)	M6020B ICP-MS	505	0.400	B	*	mg/Kg	0.202	1.01	08/18/21 14:28	bsu
Arsenic (1312)	M6020B ICP-MS	1	0.00132		*	mg/L	0.0002	0.001	08/24/21 16:22	bsu
Arsenic, total (3050)	M6020B ICP-MS	505	4.64			mg/Kg	0.101	0.505	08/18/21 14:28	bsu
Barium (1312)	M6010D ICP	1	0.327			mg/L	0.007	0.035	08/20/21 17:28	jlw
Barium, total (3050)	M6010D ICP	101	1310		*	mg/Kg	0.707	3.54	08/18/21 14:38	jlw
Beryllium (1312)	M6010D ICP	1	<0.01	U	*	mg/L	0.01	0.05	08/20/21 17:28	jlw
Beryllium, total (3050)	M6010D ICP	101	1.39	B		mg/Kg	1.01	5.05	08/18/21 14:38	jlw
Cadmium (1312)	M6010D ICP	1	<0.008	U	*	mg/L	0.008	0.025	08/20/21 17:28	jlw
Cadmium, total (3050)	M6010D ICP	101	<0.808	U	*	mg/Kg	0.808	2.53	08/18/21 14:38	jlw
Calcium (1312)	M6010D ICP	1	8.76			mg/L	0.1	0.5	08/20/21 17:28	jlw
Calcium, total (3050)	M6010D ICP	101	32600		*	mg/Kg	10.1	50.5	08/18/21 14:38	jlw
Chromium (1312)	M6010D ICP	1	<0.02	U	*	mg/L	0.02	0.05	08/20/21 17:28	jlw
Chromium, total (3050)	M6010D ICP	101	7.53			mg/Kg	2.02	5.05	08/18/21 14:38	jlw
Cobalt (1312)	M6010D ICP	1	<0.02	U	*	mg/L	0.02	0.05	08/20/21 17:28	jlw
Cobalt, total (3050)	M6010D ICP	101	14.8			mg/Kg	2.02	5.05	08/18/21 14:38	jlw
Copper (1312)	M6010D ICP	1	<0.01	U	*	mg/L	0.01	0.05	08/20/21 17:28	jlw
Copper, total (3050)	M6010D ICP	101	48.9			mg/Kg	1.01	5.05	08/18/21 14:38	jlw
Iron (1312)	M6010D ICP	1	<0.06	U	*	mg/L	0.06	0.15	08/20/21 17:28	jlw
Iron, total (3050)	M6010D ICP	101	30200		*	mg/Kg	6.06	15.2	08/18/21 14:38	jlw
Lead (1312)	M6020B ICP-MS	1	<0.0001	U	*	mg/L	0.0001	0.0005	08/24/21 16:22	bsu
Lead, total (3050)	M6020B ICP-MS	505	29.6			mg/Kg	0.0505	0.253	08/18/21 14:28	bsu
Magnesium (1312)	M6010D ICP	1	0.87	B	*	mg/L	0.2	1	08/20/21 17:28	jlw
Magnesium, total (3050)	M6010D ICP	101	10200			mg/Kg	20.2	101	08/18/21 14:38	jlw
Manganese (1312)	M6010D ICP	1	<0.01	U	*	mg/L	0.01	0.05	08/20/21 17:28	jlw
Manganese, total (3050)	M6010D ICP	101	927		*	mg/Kg	1.01	5.05	08/18/21 14:38	jlw
Mercury (1312)	M7470A CVAA	1	<0.0002	U	*	mg/L	0.0002	0.001	08/20/21 15:33	mlh
Mercury, total	M7471A CVAA	180	<0.036	U	*	mg/Kg	0.036	0.18	08/19/21 14:50	mlh
Nickel (1312)	M6010D ICP	1	<0.008	U	*	mg/L	0.008	0.04	08/20/21 17:28	jlw
Nickel, total (3050)	M6010D ICP	101	7.34			mg/Kg	0.808	4.04	08/18/21 14:38	jlw
Potassium (1312)	M6010D ICP	1	3.88			mg/L	0.2	1	08/20/21 17:28	jlw
Potassium, total (3050)	M6010D ICP	101	6190			mg/Kg	20.2	101	08/18/21 14:38	jlw
Selenium (1312)	M6020B ICP-MS	1	0.00058		*	mg/L	0.0001	0.00025	08/24/21 16:22	bsu
Selenium, total (3050)	M6020B ICP-MS	505	1.32			mg/Kg	0.0505	0.126	08/18/21 14:28	bsu
Silver (1312)	M6010D ICP	1	<0.01	U	*	mg/L	0.01	0.025	08/20/21 17:28	jlw
Silver, total (3050)	M6010D ICP	101	<1.01	U	*	mg/Kg	1.01	2.53	08/18/21 14:38	jlw
Sodium (1312)	M6010D ICP	1	<0.2	U	*	mg/L	0.2	1	08/20/21 17:28	jlw
Sodium, total (3050)	M6010D ICP	101	49.2	B		mg/Kg	20.2	101	08/18/21 14:38	jlw
Thallium (1312)	M6020B ICP-MS	1	<0.0001	U	*	mg/L	0.0001	0.0005	08/24/21 16:22	bsu

Reardon Steel LLC

Project ID:

Sample ID: 20210803-01

ACZ Sample ID: **L67776-01**

Date Sampled: 08/09/21 15:44

Date Received: 08/12/21

Sample Matrix: Soil

Thallium, total (3050)	M6020B ICP-MS	505	0.363			mg/Kg	0.0505	0.253	08/18/21 14:28	bsu
Vanadium (1312)	M6010D ICP	1	<0.01	U	*	mg/L	0.01	0.025	08/20/21 17:28	jlw
Vanadium, total (3050)	M6010D ICP	101	39.2			mg/Kg	1.01	2.53	08/18/21 14:38	jlw
Zinc (1312)	M6010D ICP	1	<0.02	U	*	mg/L	0.02	0.05	08/20/21 17:28	jlw
Zinc, total (3050)	M6010D ICP	101	101			mg/Kg	2.02	5.05	08/18/21 14:38	jlw

Soil Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Acid Generation Potential (calc on Sulfur total)	M600/2-78-054 3.2.4		23.1			t CaCO3/Kt	0.31	3.1	08/30/21 0:00	calc
Acid Neutralization Potential (calc)	M600/2-78-054 1.3		118			t CaCO3/Kt	1	5	08/30/21 0:00	calc
Acid-Base Potential (calc on Sulfur total)	M600/2-78-054 1.3		94.9			t CaCO3/Kt			08/30/21 0:00	calc
Neutralization Potential as CaCO3	M600/2-78-054 3.2.3	1	11.8		*	%	0.1	0.5	08/19/21 13:20	jpb
pH, Saturated Paste	EPA 600/2-78-054 section 3.2.2									
Max Particle Size		1	250		*	um			08/20/21 0:00	zln
pH		1	8.1		*	units	0.1	0.1	08/20/21 0:00	zln
Solids, Percent	D2216-80	1	99.2		*	%	0.1	0.5	08/16/21 15:00	jpb
Sulfur Forms	M600/2-78-054 3.2.4									
Sulfur Organic Residual		1	0.07	B	*	%	0.01	0.1	08/25/21 0:00	jpb
Sulfur Pyritic Sulfide		1	0.59			%	0.01	0.1	08/25/21 0:00	jpb
Sulfur Sulfate		1	0.08	B	*	%	0.01	0.1	08/25/21 0:00	jpb
Sulfur Total		1	0.74		*	%	0.01	0.1	08/25/21 0:00	jpb
Total Sulfur minus Sulfate		1	0.66			%	0.01	0.1	08/25/21 0:00	jpb

Soil Preparation

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Air Dry at 34 Degrees C	USDA No. 1, 1972								08/16/21 16:00	jpb
Crush and Pulverize	EPA-600/2-78-054 3.1.3								08/16/21 16:00	jpb
Digestion - Hot Plate	M3050B ICP-MS								08/17/21 15:34	mep
Digestion - Hot Plate	M3050B ICP								08/17/21 15:34	mep
Saturated Paste Extraction	USDA No. 60 (2)								08/19/21 10:00	zln
Sieve-250 um (60 mesh)	ASA No.9, 15-4.2.2								08/17/21 9:00	jpb
Synthetic Precip. Leaching Procedure	M1312								08/18/21 1:27	zln
Synthetic Precip. Leaching Procedure	M1312, DI Water								08/18/21 5:05	zln

Reardon Steel LLC

Project ID:

Sample ID: 20210803-01

ACZ Sample ID: **L67776-01**

Date Sampled: 08/09/21 15:44

Date Received: 08/12/21

Sample Matrix: Soil

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity (1312 DI)	SM2320B - Titration									
Bicarbonate as CaCO ₃		1	20.4		*	mg/L	2	20	08/21/21 0:00	eep
Carbonate as CaCO ₃		1	<2	U	*	mg/L	2	20	08/21/21 0:00	eep
Hydroxide as CaCO ₃		1	<2	U	*	mg/L	2	20	08/21/21 0:00	eep
Total Alkalinity		1	20.7		*	mg/L	2	20	08/21/21 0:00	eep
Chloride (1312 DI)	SM4500Cl-E	1	1.67	B	*	mg/L	0.5	2	08/27/21 15:45	md
Conductivity @25C (1312-DI)	SM2510B	1	61		*	umhos/cm	1	10	08/21/21 11:47	eep
Sulfate (1312 DI)	D516-07 - Turbidimetric	1	5.1		*	mg/L	1	5	08/27/21 13:07	wtc

Report Header Explanations

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

QC Sample Types

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

QC Sample Type Explanations

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

ACZ Qualifiers (Qual)

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

Method References

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

Comments

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

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

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

Reardon Steel LLC

ACZ Project ID: **L67776**

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
WG525721													
WG525721PBW	PBW	08/21/21 11:15				U	mg/L		-20	20			
WG525721LCSW2	LCSW	08/21/21 11:30	WC210806-1	820.0001		811	mg/L	99	90	110			
WG525408PBS	PBS	08/21/21 11:37				U	mg/L		-20	20			
L67776-01DUP	DUP	08/21/21 11:56			20.7	23.1	mg/L				11	20	
WG525721LCSW4	LCSW	08/21/21 12:11	WC210806-1	820.0001		813.6	mg/L	99	90	110			

Aluminum (1312)

M6010D ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525667													
WG525667ICV	ICV	08/20/21 16:52	II210801-1	2		1.988	mg/L	99	90	110			
WG525667ICB	ICB	08/20/21 16:56				U	mg/L		-0.15	0.15			
WG525407PBS	PBS	08/20/21 17:20				U	mg/L		-0.15	0.15			
WG525407LFB1	LFB	08/20/21 17:24	II210810-2	1.0008		.996	mg/L	100	80	120			
L67776-01MS2	MS	08/20/21 17:36	II210810-2	1.0008	.316	1.305	mg/L	99	75	125			
L67776-01MSD2	MSD	08/20/21 17:40	II210810-2	1.0008	.316	1.313	mg/L	100	75	125	1	20	
L67776-01DUP	DUP	08/20/21 17:43			.316	.339	mg/L				7	20	RA

Aluminum, total (3050)

M6010D ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525503													
WG525503ICV	ICV	08/18/21 13:24	II210801-1	2		1.945	mg/L	97	90	110			
WG525503ICB	ICB	08/18/21 13:27				U	mg/L		-0.15	0.15			
WG525379PBS	PBS	08/18/21 13:52				U	mg/Kg		-15	15			
WG525379LCSS	LCSS	08/18/21 13:56	PCN63759	8130		7991	mg/Kg		3920	12300			
WG525379LCSSD	LCSSD	08/18/21 13:59	PCN63759	8130		8324	mg/Kg		3920	12300	4	20	
L67564-01MS	MS	08/18/21 14:07	II210810-2	101.0808	13200	20301	mg/Kg	7025	75	125			M3
L67564-01MSD	MSD	08/18/21 14:11	II210810-2	101.0808	13200	19725.3	mg/Kg	6456	75	125	3	20	M3

Antimony (1312)

M6020B ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525853													
WG525853ICV	ICV	08/24/21 16:04	MS210727-2	.0201		.01858	mg/L	92	90	110			
WG525853ICB	ICB	08/24/21 16:06				U	mg/L		-0.0012	0.0012			
WG525407PBS	PBS	08/24/21 16:19				U	mg/L		-0.0012	0.0012			
WG525407LFB2	LFB	08/24/21 16:20	MS210727-5	.01		.01005	mg/L	101	80	120			
L67776-01MS1	MS	08/24/21 16:26	MS210727-5	.01	.00069	.01078	mg/L	101	75	125			
L67776-01MSD1	MSD	08/24/21 16:28	MS210727-5	.01	.00069	.01091	mg/L	102	75	125	1	20	
L67776-01DUP	DUP	08/24/21 16:29			.00069	.0008	mg/L				15	20	RA

Reardon Steel LLC

ACZ Project ID: **L67776**

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

Antimony, total (3050)

M6020B ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525511													
WG525511ICV	ICV	08/18/21 14:07	MS210727-2	.0201		.01972	mg/L	98	90	110			
WG525511ICB	ICB	08/18/21 14:09				U	mg/L		-0.0012	0.0012			
WG525379LCSS	LCSS	08/18/21 14:21	PCN63759	134		83.03821	mg/Kg		4.56	264			
WG525379LCSSD	LCSSD	08/18/21 14:23	PCN63759	134		82.99824	mg/Kg		4.56	264	0	20	
L67776-01MS	MS	08/18/21 14:30	MS210521-6	5.05	.4	.99209	mg/Kg	12	75	125			M2
L67776-01MSD	MSD	08/18/21 14:35	MS210521-6	5.05	.4	1.04504	mg/Kg	13	75	125	5	20	M2
WG525379PBS	PBS	08/18/21 14:37				U	mg/Kg		-0.6	0.6			

Arsenic (1312)

M6020B ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525853													
WG525853ICV	ICV	08/24/21 16:04	MS210727-2	.05		.04889	mg/L	98	90	110			
WG525853ICB	ICB	08/24/21 16:06				U	mg/L		-0.0006	0.0006			
WG525407PBS	PBS	08/24/21 16:19				U	mg/L		-0.0006	0.0006			
WG525407LFB2	LFB	08/24/21 16:20	MS210727-5	.05005		.04538	mg/L	91	80	120			
L67776-01MS1	MS	08/24/21 16:26	MS210727-5	.05005	.00132	.04814	mg/L	94	75	125			
L67776-01MSD1	MSD	08/24/21 16:28	MS210727-5	.05005	.00132	.04841	mg/L	94	75	125	1	20	
L67776-01DUP	DUP	08/24/21 16:29			.00132	.00131	mg/L				1	20	RA

Arsenic, total (3050)

M6020B ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525511													
WG525511ICV	ICV	08/18/21 14:07	MS210727-2	.05		.05172	mg/L	103	90	110			
WG525511ICB	ICB	08/18/21 14:09				U	mg/L		-0.0006	0.0006			
WG525379LCSS	LCSS	08/18/21 14:21	PCN63759	156		137.71867	mg/Kg		129	183			
WG525379LCSSD	LCSSD	08/18/21 14:23	PCN63759	156		142.12111	mg/Kg		129	183	3	20	
L67776-01MS	MS	08/18/21 14:30	MS210521-6	25.27525	4.64	27.85562	mg/Kg	92	75	125			
L67776-01MSD	MSD	08/18/21 14:35	MS210521-6	25.27525	4.64	28.21568	mg/Kg	93	75	125	1	20	
WG525379PBS	PBS	08/18/21 14:37				U	mg/Kg		-0.3	0.3			

Barium (1312)

M6010D ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525667													
WG525667ICV	ICV	08/20/21 16:52	II210801-1	2		1.998	mg/L	100	90	110			
WG525667ICB	ICB	08/20/21 16:56				U	mg/L		-0.021	0.021			
WG525407PBS	PBS	08/20/21 17:20				U	mg/L		-0.021	0.021			
WG525407LFB1	LFB	08/20/21 17:24	II210810-2	.5		.4823	mg/L	96	80	120			
L67776-01MS2	MS	08/20/21 17:36	II210810-2	.5	.327	.8144	mg/L	97	75	125			
L67776-01MSD2	MSD	08/20/21 17:40	II210810-2	.5	.327	.8117	mg/L	97	75	125	0	20	
L67776-01DUP	DUP	08/20/21 17:43			.327	.3372	mg/L				3	20	

Reardon Steel LLC

ACZ Project ID: **L67776**

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, total (3050)

M6010D ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525503													
WG525503ICV	ICV	08/18/21 13:24	II210801-1	2		1.964	mg/L	98	90	110			
WG525503ICB	ICB	08/18/21 13:27				U	mg/L		-0.021	0.021			
WG525379PBS	PBS	08/18/21 13:52				U	mg/Kg		-2.1	2.1			
WG525379LCSS	LCSS	08/18/21 13:56	PCN63759	239		222.6	mg/Kg		197	280			
WG525379LCSSD	LCSSD	08/18/21 13:59	PCN63759	239		224.8	mg/Kg		197	280	1	20	
L67564-01MS	MS	08/18/21 14:07	II210810-2	50.5	302	378.548	mg/Kg	152	75	125			M3
L67564-01MSD	MSD	08/18/21 14:11	II210810-2	50.5	302	369.155	mg/Kg	133	75	125	3	20	M3

Beryllium (1312)

M6010D ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525667													
WG525667ICV	ICV	08/20/21 16:52	II210801-1	2		1.983	mg/L	99	90	110			
WG525667ICB	ICB	08/20/21 16:56				U	mg/L		-0.03	0.03			
WG525407PBS	PBS	08/20/21 17:20				U	mg/L		-0.03	0.03			
WG525407LFB1	LFB	08/20/21 17:24	II210810-2	.5		.487	mg/L	97	80	120			
L67776-01MS2	MS	08/20/21 17:36	II210810-2	.5	U	.49	mg/L	98	75	125			
L67776-01MSD2	MSD	08/20/21 17:40	II210810-2	.5	U	.489	mg/L	98	75	125	0	20	
L67776-01DUP	DUP	08/20/21 17:43			U	U	mg/L				0	20	RA

Beryllium, total (3050)

M6010D ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525503													
WG525503ICV	ICV	08/18/21 13:24	II210801-1	2		1.949	mg/L	97	90	110			
WG525503ICB	ICB	08/18/21 13:27				U	mg/L		-0.03	0.03			
WG525379PBS	PBS	08/18/21 13:52				U	mg/Kg		-3	3			
WG525379LCSS	LCSS	08/18/21 13:56	PCN63759	169		157.2	mg/Kg		141	198			
WG525379LCSSD	LCSSD	08/18/21 13:59	PCN63759	169		154.1	mg/Kg		141	198	2	20	
L67564-01MS	MS	08/18/21 14:07	II210810-2	50.5	U	50.096	mg/Kg	99	75	125			
L67564-01MSD	MSD	08/18/21 14:11	II210810-2	50.5	U	49.157	mg/Kg	97	75	125	2	20	

Cadmium (1312)

M6010D ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525667													
WG525667ICV	ICV	08/20/21 16:52	II210801-1	2		1.953	mg/L	98	90	110			
WG525667ICB	ICB	08/20/21 16:56				U	mg/L		-0.024	0.024			
WG525407PBS	PBS	08/20/21 17:20				U	mg/L		-0.024	0.024			
WG525407LFB1	LFB	08/20/21 17:24	II210810-2	.5025		.4934	mg/L	98	80	120			
L67776-01MS2	MS	08/20/21 17:36	II210810-2	.5025	U	.4947	mg/L	98	75	125			
L67776-01MSD2	MSD	08/20/21 17:40	II210810-2	.5025	U	.4898	mg/L	97	75	125	1	20	
L67776-01DUP	DUP	08/20/21 17:43			U	U	mg/L				0	20	RA

Reardon Steel LLC

ACZ Project ID: **L67776**

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.

Cadmium, total (3050)

M6010D ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525503													
WG525503ICV	ICV	08/18/21 13:24	II210801-1	2		1.924	mg/L	96	90	110			
WG525503ICB	ICB	08/18/21 13:27				U	mg/L		-0.024	0.024			
WG525379PBS	PBS	08/18/21 13:52				U	mg/Kg		-2.4	2.4			
WG525379LCSS	LCSS	08/18/21 13:56	PCN63759	137		129.9	mg/Kg		113	160			
WG525379LCSSD	LCSSD	08/18/21 13:59	PCN63759	137		121.6	mg/Kg		113	160	7	20	
L67564-01MS	MS	08/18/21 14:07	II210810-2	50.7525	U	49.7627	mg/Kg	98	75	125			
L67564-01MSD	MSD	08/18/21 14:11	II210810-2	50.7525	U	49.2981	mg/Kg	97	75	125	1	20	

Calcium (1312)

M6010D ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525667													
WG525667ICV	ICV	08/20/21 16:52	II210801-1	100		99.68	mg/L	100	90	110			
WG525667ICB	ICB	08/20/21 16:56				U	mg/L		-0.3	0.3			
WG525407PBS	PBS	08/20/21 17:20				U	mg/L		-0.3	0.3			
WG525407LFB1	LFB	08/20/21 17:24	II210810-2	67.99734		67.65	mg/L	99	80	120			
L67776-01MS2	MS	08/20/21 17:36	II210810-2	67.99734	8.76	75.62	mg/L	98	75	125			
L67776-01MSD2	MSD	08/20/21 17:40	II210810-2	67.99734	8.76	75.92	mg/L	99	75	125	0	20	
L67776-01DUP	DUP	08/20/21 17:43			8.76	8.86	mg/L				1	20	

Calcium, total (3050)

M6010D ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525503													
WG525503ICV	ICV	08/18/21 13:24	II210801-1	100		98.84	mg/L	99	90	110			
WG525503ICB	ICB	08/18/21 13:27				U	mg/L		-0.3	0.3			
WG525379PBS	PBS	08/18/21 13:52				U	mg/Kg		-30	30			
WG525379LCSS	LCSS	08/18/21 13:56	PCN63759	4760		4448	mg/Kg		3890	5640			
WG525379LCSSD	LCSSD	08/18/21 13:59	PCN63759	4760		4412	mg/Kg		3890	5640	1	20	
L67564-01MS	MS	08/18/21 14:07	II210810-2	6867.73134	3040	10655.5	mg/Kg	111	75	125			
L67564-01MSD	MSD	08/18/21 14:11	II210810-2	6867.73134	3040	10493.9	mg/Kg	109	75	125	2	20	

Chloride (1312 DI)

SM4500CI-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG526081													
WG526081ICV	ICV	08/27/21 15:43	WI210503-1	54.89		52.84	mg/L	96	90	110			
WG526081ICB	ICB	08/27/21 15:44				U	mg/L		-1.5	1.5			
WG526081LFB	LFB	08/27/21 15:44	WI200327-3	30.03		30.87	mg/L	103	90	110			
WG525408PBS	PBS	08/27/21 15:45				U	mg/L		-1.5	1.5			
L67776-01DUP	DUP	08/27/21 15:46			1.67	1.95	mg/L				15	20	RA

Reardon Steel LLC

ACZ Project ID: **L67776**

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

Chromium (1312) M6010D ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525667													
WG525667ICV	ICV	08/20/21 16:52	II210801-1	2		1.963	mg/L	98	90	110			
WG525667ICB	ICB	08/20/21 16:56				U	mg/L		-0.06	0.06			
WG525407PBS	PBS	08/20/21 17:20				U	mg/L		-0.06	0.06			
WG525407LFB1	LFB	08/20/21 17:24	II210810-2	.502		.49	mg/L	98	80	120			
L67776-01MS2	MS	08/20/21 17:36	II210810-2	.502	U	.491	mg/L	98	75	125			
L67776-01MSD2	MSD	08/20/21 17:40	II210810-2	.502	U	.489	mg/L	97	75	125	0	20	
L67776-01DUP	DUP	08/20/21 17:43			U	U	mg/L				0	20	RA

Chromium, total (3050) M6010D ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525503													
WG525503ICV	ICV	08/18/21 13:24	II210801-1	2		1.934	mg/L	97	90	110			
WG525503ICB	ICB	08/18/21 13:27				U	mg/L		-0.06	0.06			
WG525379PBS	PBS	08/18/21 13:52				U	mg/Kg		-6	6			
WG525379LCSS	LCSS	08/18/21 13:56	PCN63759	154		139.9	mg/Kg		126	181			
WG525379LCSSD	LCSSD	08/18/21 13:59	PCN63759	154		137.8	mg/Kg		126	181	2	20	
L67564-01MS	MS	08/18/21 14:07	II210810-2	50.702	U	52.237	mg/Kg	103	75	125			
L67564-01MSD	MSD	08/18/21 14:11	II210810-2	50.702	U	51.409	mg/Kg	101	75	125	2	20	

Cobalt (1312) M6010D ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525667													
WG525667ICV	ICV	08/20/21 16:52	II210801-1	2.004		2.007	mg/L	100	90	110			
WG525667ICB	ICB	08/20/21 16:56				U	mg/L		-0.06	0.06			
WG525407PBS	PBS	08/20/21 17:20				U	mg/L		-0.06	0.06			
WG525407LFB1	LFB	08/20/21 17:24	II210810-2	.5005		.479	mg/L	96	80	120			
L67776-01MS2	MS	08/20/21 17:36	II210810-2	.5005	U	.479	mg/L	96	75	125			
L67776-01MSD2	MSD	08/20/21 17:40	II210810-2	.5005	U	.474	mg/L	95	75	125	1	20	
L67776-01DUP	DUP	08/20/21 17:43			U	U	mg/L				0	20	RA

Cobalt, total (3050) M6010D ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525503													
WG525503ICV	ICV	08/18/21 13:24	II210801-1	2.004		1.977	mg/L	99	90	110			
WG525503ICB	ICB	08/18/21 13:27				U	mg/L		-0.06	0.06			
WG525379PBS	PBS	08/18/21 13:52				U	mg/Kg		-6	6			
WG525379LCSS	LCSS	08/18/21 13:56	PCN63759	121		114	mg/Kg		101	141			
WG525379LCSSD	LCSSD	08/18/21 13:59	PCN63759	121		106.4	mg/Kg		101	141	7	20	
L67564-01MS	MS	08/18/21 14:07	II210810-2	50.5505	29.9	77.406	mg/Kg	94	75	125			
L67564-01MSD	MSD	08/18/21 14:11	II210810-2	50.5505	29.9	76.72	mg/Kg	93	75	125	1	20	

Reardon Steel LLC

ACZ Project ID: **L67776**

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)

SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525721													
WG525721PBW	PBW	08/21/21 11:15				U	umhos/cm		-10	10			
WG525721LCSW1	LCSW	08/21/21 11:17	PCN63140	1408		1387	umhos/cm	99	90	110			
WG525408PBS	PBS	08/21/21 11:37				U	umhos/cm		-4	4			
L67776-01DUP	DUP	08/21/21 11:56			61	66	umhos/cm				8	20	
WG525721LCSW3	LCSW	08/21/21 11:58	PCN63140	1408		1372	umhos/cm	97	90	110			

Copper (1312)

M6010D ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525667													
WG525667ICV	ICV	08/20/21 16:52	II210801-1	2		1.934	mg/L	97	90	110			
WG525667ICB	ICB	08/20/21 16:56				U	mg/L		-0.03	0.03			
WG525407PBS	PBS	08/20/21 17:20				U	mg/L		-0.03	0.03			
WG525407LFB1	LFB	08/20/21 17:24	II210810-2	.5		.482	mg/L	96	80	120			
L67776-01MS2	MS	08/20/21 17:36	II210810-2	.5	U	.484	mg/L	97	75	125			
L67776-01MSD2	MSD	08/20/21 17:40	II210810-2	.5	U	.483	mg/L	97	75	125	0	20	
L67776-01DUP	DUP	08/20/21 17:43			U	U	mg/L				0	20	RA

Copper, total (3050)

M6010D ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525503													
WG525503ICV	ICV	08/18/21 13:24	II210801-1	2		1.899	mg/L	95	90	110			
WG525503ICB	ICB	08/18/21 13:27				U	mg/L		-0.03	0.03			
WG525379PBS	PBS	08/18/21 13:52				U	mg/Kg		-3	3			
WG525379LCSS	LCSS	08/18/21 13:56	PCN63759	54.9		47.86	mg/Kg		46.1	63.6			
WG525379LCSSD	LCSSD	08/18/21 13:59	PCN63759	54.9		48.96	mg/Kg		46.1	63.6	2	20	
L67564-01MS	MS	08/18/21 14:07	II210810-2	50.5	151	196.344	mg/Kg	90	75	125			
L67564-01MSD	MSD	08/18/21 14:11	II210810-2	50.5	151	192.91	mg/Kg	83	75	125	2	20	

Iron (1312)

M6010D ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525667													
WG525667ICV	ICV	08/20/21 16:52	II210801-1	2		1.993	mg/L	100	90	110			
WG525667ICB	ICB	08/20/21 16:56				U	mg/L		-0.18	0.18			
WG525407PBS	PBS	08/20/21 17:20				U	mg/L		-0.18	0.18			
WG525407LFB1	LFB	08/20/21 17:24	II210810-2	1.0001		1.012	mg/L	101	80	120			
L67776-01MS2	MS	08/20/21 17:36	II210810-2	1.0001	U	.994	mg/L	99	75	125			
L67776-01MSD2	MSD	08/20/21 17:40	II210810-2	1.0001	U	.987	mg/L	99	75	125	1	20	
L67776-01DUP	DUP	08/20/21 17:43			U	U	mg/L				0	20	RA

Reardon Steel LLC

ACZ Project ID: **L67776**

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.

Iron, total (3050)

M6010D ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525503													
WG525503ICV	ICV	08/18/21 13:24	II210801-1	2		1.955	mg/L	98	90	110			
WG525503ICB	ICB	08/18/21 13:27				U	mg/L		-0.18	0.18			
WG525379PBS	PBS	08/18/21 13:52				U	mg/Kg		-18	18			
WG525379LCSS	LCSS	08/18/21 13:56	PCN63759	14100		13620	mg/Kg		8470	19700			
WG525379LCSSD	LCSSD	08/18/21 13:59	PCN63759	14100		14070	mg/Kg		8470	19700	3	20	
L67564-01MS	MS	08/18/21 14:07	II210810-2	101.0101	31900	31895.8	mg/Kg	-4	75	125			M3
L67564-01MSD	MSD	08/18/21 14:11	II210810-2	101.0101	31900	31512	mg/Kg	-384	75	125	1	20	M3

Lead (1312)

M6020B ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525853													
WG525853ICV	ICV	08/24/21 16:04	MS210727-2	.05		.04869	mg/L	97	90	110			
WG525853ICB	ICB	08/24/21 16:06				U	mg/L		-0.0003	0.0003			
WG525407PBS	PBS	08/24/21 16:19				U	mg/L		-0.0003	0.0003			
WG525407LFB2	LFB	08/24/21 16:20	MS210727-5	.05005		.04813	mg/L	96	80	120			
L67776-01MS1	MS	08/24/21 16:26	MS210727-5	.05005	U	.04777	mg/L	95	75	125			
L67776-01MSD1	MSD	08/24/21 16:28	MS210727-5	.05005	U	.04831	mg/L	97	75	125	1	20	
L67776-01DUP	DUP	08/24/21 16:29			U	U	mg/L				0	20	RA

Lead, total (3050)

M6020B ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525511													
WG525511ICV	ICV	08/18/21 14:07	MS210727-2	.05		.05152	mg/L	103	90	110			
WG525511ICB	ICB	08/18/21 14:09				U	mg/L		-0.0003	0.0003			
WG525379LCSS	LCSS	08/18/21 14:21	PCN63759	130		114.78863	mg/Kg		107	152			
WG525379LCSSD	LCSSD	08/18/21 14:23	PCN63759	130		118.85164	mg/Kg		107	152	3	20	
L67776-01MS	MS	08/18/21 14:30	MS210521-6	25.27525	29.6	54.35111	mg/Kg	98	75	125			
L67776-01MSD	MSD	08/18/21 14:35	MS210521-6	25.27525	29.6	55.61676	mg/Kg	103	75	125	2	20	
WG525379PBS	PBS	08/18/21 14:37				U	mg/Kg		-0.15	0.15			

Magnesium (1312)

M6010D ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525667													
WG525667ICV	ICV	08/20/21 16:52	II210801-1	100		96.6	mg/L	97	90	110			
WG525667ICB	ICB	08/20/21 16:56				U	mg/L		-0.6	0.6			
WG525407PBS	PBS	08/20/21 17:20				U	mg/L		-0.6	0.6			
WG525407LFB1	LFB	08/20/21 17:24	II210810-2	50.00074		47.97	mg/L	96	80	120			
L67776-01MS2	MS	08/20/21 17:36	II210810-2	50.00074	.87	48.2	mg/L	95	75	125			
L67776-01MSD2	MSD	08/20/21 17:40	II210810-2	50.00074	.87	48.34	mg/L	95	75	125	0	20	
L67776-01DUP	DUP	08/20/21 17:43			.87	.86	mg/L				1	20	RA

Reardon Steel LLC

ACZ Project ID: **L67776**

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

Magnesium, total (3050)

M6010D ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525503													
WG525503ICV	ICV	08/18/21 13:24	II210801-1	100		95.87	mg/L	96	90	110			
WG525503ICB	ICB	08/18/21 13:27				U	mg/L		-0.6	0.6			
WG525379PBS	PBS	08/18/21 13:52				U	mg/Kg		-60	60			
WG525379LCSS	LCSS	08/18/21 13:56	PCN63759	2320		2167	mg/Kg		1760	2880			
WG525379LCSSD	LCSSD	08/18/21 13:59	PCN63759	2320		2219	mg/Kg		1760	2880	2	20	
L67564-01MS	MS	08/18/21 14:07	II210810-2	5050.07474	3040	8181	mg/Kg	102	75	125			
L67564-01MSD	MSD	08/18/21 14:11	II210810-2	5050.07474	3040	8069.9	mg/Kg	100	75	125	1	20	

Manganese (1312)

M6010D ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525667													
WG525667ICV	ICV	08/20/21 16:52	II210801-1	2		1.964	mg/L	98	90	110			
WG525667ICB	ICB	08/20/21 16:56				U	mg/L		-0.03	0.03			
WG525407PBS	PBS	08/20/21 17:20				U	mg/L		-0.03	0.03			
WG525407LFB1	LFB	08/20/21 17:24	II210810-2	.5005		.493	mg/L	99	80	120			
L67776-01MS2	MS	08/20/21 17:36	II210810-2	.5005	U	.495	mg/L	99	75	125			
L67776-01MSD2	MSD	08/20/21 17:40	II210810-2	.5005	U	.493	mg/L	99	75	125	0	20	
L67776-01DUP	DUP	08/20/21 17:43			U	U	mg/L				0	20	RA

Manganese, total (3050)

M6010D ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525503													
WG525503ICV	ICV	08/18/21 13:24	II210801-1	2		1.927	mg/L	96	90	110			
WG525503ICB	ICB	08/18/21 13:27				U	mg/L		-0.03	0.03			
WG525379PBS	PBS	08/18/21 13:52				U	mg/Kg		-3	3			
WG525379LCSS	LCSS	08/18/21 13:56	PCN63759	269		252.5	mg/Kg		221	317			
WG525379LCSSD	LCSSD	08/18/21 13:59	PCN63759	269		250.5	mg/Kg		221	317	1	20	
L67564-01MS	MS	08/18/21 14:07	II210810-2	50.5505	2080	2134.13	mg/Kg	107	75	125			
L67564-01MSD	MSD	08/18/21 14:11	II210810-2	50.5505	2080	2093.73	mg/Kg	27	75	125	2	20	M3

Mercury (1312)

M7470A CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525659													
WG525659ICV	ICV	08/20/21 14:53	HG210817-3	.00501		.005	mg/L	100	95	105			
WG525659ICB	ICB	08/20/21 14:54				U	mg/L		-0.0002	0.0002			
WG525657													
WG525657LFB	LFB	08/20/21 15:31	HG210817-6	.002002		.00198	mg/L	99	85	115			
WG525407PBS	PBS	08/20/21 15:31				U	mg/L		-0.0006	0.0006			
WG525407LFB1	LFB	08/20/21 15:32	HG210817-6	.002002		.00189	mg/L	94	85	115			
L67776-01MS2	MS	08/20/21 15:34	HG210817-6	.002002	U	.00188	mg/L	94	85	115			
L67776-01MSD2	MSD	08/20/21 15:35	HG210817-6	.002002	U	.00199	mg/L	99	85	115	6	20	
L67776-01DUP	DUP	08/20/21 15:36			U	U	mg/L				0	20	RA

Reardon Steel LLC

ACZ Project ID: **L67776**

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, total

M7471A CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525574													
WG525574ICV	ICV	08/19/21 14:38	HG210806-3	.01002		.00973	mg/L	97	90	110			
WG525574ICB	ICB	08/19/21 14:41				U	mg/L		-0.0006	0.0006			
WG525574PBS	PBS	08/19/21 14:42				U	mg/Kg		-0.114	0.114			
WG525574LCSS	LCSS	08/19/21 14:43	PCN61732	15.4		15.4048	mg/Kg		9.89	23.1			
WG525574LCSSD	LCSSD	08/19/21 14:45	PCN61732	15.4		13.4969	mg/Kg		9.89	23.1	13	20	
L67776-01MS	MS	08/19/21 14:50	HG210806-5	1.001	U	.894	mg/Kg	89	85	115			
L67776-01MSD	MSD	08/19/21 14:51	HG210806-5	.855855	U	.78831	mg/Kg	92	85	115	13	20	

Neutralization Potential as CaCO3

M600/2-78-054 3.2.3

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525557													
WG525557PBS	PBS	08/19/21 11:53				.1	%		-0.2	0.2			
WG525557LCSS	LCSS	08/19/21 12:36	PCN59475	99.9		105	%	105	80	120			
L67776-01MS	MS	08/19/21 14:03	SI190303-2	3	11.8	15	%	107	70	130			
L67776-01DUP	DUP	08/19/21 14:46			11.8	12.1	%				3	20	

Nickel (1312)

M6010D ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525667													
WG525667ICV	ICV	08/20/21 16:52	II210801-1	2		1.996	mg/L	100	90	110			
WG525667ICB	ICB	08/20/21 16:56				U	mg/L		-0.024	0.024			
WG525407PBS	PBS	08/20/21 17:20				U	mg/L		-0.024	0.024			
WG525407LFB1	LFB	08/20/21 17:24	II210810-2	.5		.487	mg/L	97	80	120			
L67776-01MS2	MS	08/20/21 17:36	II210810-2	.5	U	.4913	mg/L	98	75	125			
L67776-01MSD2	MSD	08/20/21 17:40	II210810-2	.5	U	.4829	mg/L	97	75	125	2	20	
L67776-01DUP	DUP	08/20/21 17:43			U	U	mg/L				0	20	RA

Nickel, total (3050)

M6010D ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525503													
WG525503ICV	ICV	08/18/21 13:24	II210801-1	2		1.975	mg/L	99	90	110			
WG525503ICB	ICB	08/18/21 13:27				U	mg/L		-0.024	0.024			
WG525379PBS	PBS	08/18/21 13:52				U	mg/Kg		-2.4	2.4			
WG525379LCSS	LCSS	08/18/21 13:56	PCN63759	53.9		51.79	mg/Kg		44.5	63.3			
WG525379LCSSD	LCSSD	08/18/21 13:59	PCN63759	53.9		49.3	mg/Kg		44.5	63.3	5	20	
L67564-01MS	MS	08/18/21 14:07	II210810-2	50.5	1.54	51.3484	mg/Kg	99	75	125			
L67564-01MSD	MSD	08/18/21 14:11	II210810-2	50.5	1.54	50.8838	mg/Kg	98	75	125	1	20	

pH, Saturated Paste

EPA 600/2-78-054 section 3.2.2

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525765													
WG525765ICV	ICV	08/19/21 21:17	PCN63115	4.01		4	units	100	3.9	4.1			
L67776-01DUP	DUP	08/20/21 7:34			8.1	8.04	units				1	20	

Reardon Steel LLC

ACZ Project ID: **L67776**

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

Potassium (1312) M6010D ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525667													
WG525667ICV	ICV	08/20/21 16:52	II210801-1	20		19.79	mg/L	99	90	110			
WG525667ICB	ICB	08/20/21 16:56				U	mg/L		-0.6	0.6			
WG525407PBS	PBS	08/20/21 17:20				U	mg/L		-0.6	0.6			
WG525407LFB1	LFB	08/20/21 17:24	II210810-2	99.99574		97.16	mg/L	97	80	120			
L67776-01MS2	MS	08/20/21 17:36	II210810-2	99.99574	3.88	100.3	mg/L	96	75	125			
L67776-01MSD2	MSD	08/20/21 17:40	II210810-2	99.99574	3.88	100.8	mg/L	97	75	125	0	20	
L67776-01DUP	DUP	08/20/21 17:43			3.88	3.91	mg/L				1	20	

Potassium, total (3050) M6010D ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525503													
WG525503ICV	ICV	08/18/21 13:24	II210801-1	20		19.52	mg/L	98	90	110			
WG525503ICB	ICB	08/18/21 13:27				U	mg/L		-0.6	0.6			
WG525379PBS	PBS	08/18/21 13:52				U	mg/Kg		-60	60			
WG525379LCSS	LCSS	08/18/21 13:56	PCN63759	2020		1984	mg/Kg		1410	2630			
WG525379LCSSD	LCSSD	08/18/21 13:59	PCN63759	2020		2062	mg/Kg		1410	2630	4	20	
L67564-01MS	MS	08/18/21 14:07	II210810-2	10099.56974	5450	17826.5	mg/Kg	123	75	125			
L67564-01MSD	MSD	08/18/21 14:11	II210810-2	10099.56974	5450	17483.1	mg/Kg	119	75	125	2	20	

Selenium (1312) M6020B ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525853													
WG525853ICV	ICV	08/24/21 16:04	MS210727-2	.05		.04935	mg/L	99	90	110			
WG525853ICB	ICB	08/24/21 16:06				.00012	mg/L		-0.0003	0.0003			
WG525407PBS	PBS	08/24/21 16:19				U	mg/L		-0.0003	0.0003			
WG525407LFB2	LFB	08/24/21 16:20	MS210727-5	.05		.04544	mg/L	91	80	120			
L67776-01MS1	MS	08/24/21 16:26	MS210727-5	.05	.00058	.0467	mg/L	92	75	125			
L67776-01MSD1	MSD	08/24/21 16:28	MS210727-5	.05	.00058	.04684	mg/L	93	75	125	0	20	
L67776-01DUP	DUP	08/24/21 16:29			.00058	.00062	mg/L				7	20	RA

Selenium, total (3050) M6020B ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525511													
WG525511ICV	ICV	08/18/21 14:07	MS210727-2	.05		.05067	mg/L	101	90	110			
WG525511ICB	ICB	08/18/21 14:09				.00015	mg/L		-0.0003	0.0003			
WG525379LCSS	LCSS	08/18/21 14:21	PCN63759	167		150.14233	mg/Kg		132	201			
WG525379LCSSD	LCSSD	08/18/21 14:23	PCN63759	167		150.48535	mg/Kg		132	201	0	20	
L67776-01MS	MS	08/18/21 14:30	MS210521-6	12.625	1.32	12.34689	mg/Kg	87	75	125			
L67776-01MSD	MSD	08/18/21 14:35	MS210521-6	12.625	1.32	12.62721	mg/Kg	90	75	125	2	20	
WG525379PBS	PBS	08/18/21 14:37				U	mg/Kg		-0.15	0.15			

Reardon Steel LLC

ACZ Project ID: **L67776**

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.

Silver (1312)

M6010D ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525667													
WG525667ICV	ICV	08/20/21 16:52	II210801-1	1		1.006	mg/L	101	90	110			
WG525667ICB	ICB	08/20/21 16:56				U	mg/L		-0.03	0.03			
WG525407PBS	PBS	08/20/21 17:20				U	mg/L		-0.03	0.03			
WG525407LFB1	LFB	08/20/21 17:24	II210810-2	.502		.492	mg/L	98	80	120			
L67776-01MS2	MS	08/20/21 17:36	II210810-2	.502	U	.489	mg/L	97	75	125			
L67776-01MSD2	MSD	08/20/21 17:40	II210810-2	.502	U	.492	mg/L	98	75	125	1	20	
L67776-01DUP	DUP	08/20/21 17:43			U	U	mg/L				0	20	RA

Silver, total (3050)

M6010D ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525503													
WG525503ICV	ICV	08/18/21 13:24	II210801-1	1		.991	mg/L	99	90	110			
WG525503ICB	ICB	08/18/21 13:27				U	mg/L		-0.03	0.03			
WG525379PBS	PBS	08/18/21 13:52				U	mg/Kg		-3	3			
WG525379LCSS	LCSS	08/18/21 13:56	PCN63759	33.6		28.07	mg/Kg		26.8	40.3			
WG525379LCSSD	LCSSD	08/18/21 13:59	PCN63759	33.6		30.01	mg/Kg		26.8	40.3	7	20	
L67564-01MS	MS	08/18/21 14:07	II210810-2	50.702	9.52	58.903	mg/Kg	97	75	125			
L67564-01MSD	MSD	08/18/21 14:11	II210810-2	50.702	9.52	58.418	mg/Kg	96	75	125	1	20	

Sodium (1312)

M6010D ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525667													
WG525667ICV	ICV	08/20/21 16:52	II210801-1	100		100.2	mg/L	100	90	110			
WG525667ICB	ICB	08/20/21 16:56				U	mg/L		-0.6	0.6			
WG525407PBS	PBS	08/20/21 17:20				U	mg/L		-0.6	0.6			
WG525407LFB1	LFB	08/20/21 17:24	II210810-2	100.0109		98.36	mg/L	98	80	120			
L67776-01MS2	MS	08/20/21 17:36	II210810-2	100.0109	U	97.85	mg/L	98	75	125			
L67776-01MSD2	MSD	08/20/21 17:40	II210810-2	100.0109	U	98.29	mg/L	98	75	125	0	20	
L67776-01DUP	DUP	08/20/21 17:43			U	U	mg/L				0	20	RA

Sodium, total (3050)

M6010D ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525503													
WG525503ICV	ICV	08/18/21 13:24	II210801-1	100		99.18	mg/L	99	90	110			
WG525503ICB	ICB	08/18/21 13:27				U	mg/L		-0.6	0.6			
WG525379PBS	PBS	08/18/21 13:52				U	mg/Kg		-60	60			
WG525379LCSS	LCSS	08/18/21 13:56	PCN63759	133		122	mg/Kg		95.1	171			
WG525379LCSSD	LCSSD	08/18/21 13:59	PCN63759	133		125.2	mg/Kg		95.1	171	3	20	
L67564-01MS	MS	08/18/21 14:07	II210810-2	10101.1009	75.6	10312.1	mg/Kg	101	75	125			
L67564-01MSD	MSD	08/18/21 14:11	II210810-2	10101.1009	75.6	10201	mg/Kg	100	75	125	1	20	

Solids, Percent

D2216-80

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525314													
L67776-01DUP	DUP	08/16/21 15:00			99.2	99.1	%				0	20	
WG525314PBS	PBS	08/16/21 15:00				U	%		-0.1	0.1			

Reardon Steel LLC

ACZ Project ID: **L67776**

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

Sulfate (1312 DI)

D516-07 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG526058													
WG526058ICB	ICB	08/27/21 12:53				U	mg/L		-3	3			
WG526058ICV	ICV	08/27/21 12:53	WI210818-1	20.46		18.5	mg/L	90	90	110			
WG526058LFB	LFB	08/27/21 13:07	WI210105-3	10		10.2	mg/L	102	90	110			
WG525408PBS	PBS	08/27/21 13:07				U	mg/L		-3	3			
L67776-01DUP	DUP	08/27/21 13:07			5.1	6	mg/L				16	20	RA
WG525912PBS	PBS	08/27/21 13:07				U	mg/L		-3	3			
L68010-02AS	AS	08/27/21 13:52	SO4TURB10X	10	222	226.5	mg/L	45	90	110			M3

Sulfur Organic Residual

M600/2-78-054 3.2.4

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525742													
L67776-01DUP	DUP	08/25/21 15:01			.07	.07	%				0	20	RA

Sulfur Pyritic Sulfide

M600/2-78-054 3.2.4

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525742													
L67776-01DUP	DUP	08/25/21 15:01			.59	.62	%				5	20	

Sulfur Sulfate

M600/2-78-054 3.2.4

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525742													
WG525742PBS	PBS	08/25/21 14:48				U	%		-0.03	0.03			
L67776-01DUP	DUP	08/25/21 15:01			.08	.06	%				29	20	RA

Sulfur Total

M600/2-78-054 3.2.4

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525742													
WG525742PBS	PBS	08/25/21 14:10				U	%		-0.03	0.03			
WG525742LCSS	LCSS	08/25/21 14:13	PCN63155	4.01		3.59	%	90	80	120			
L67776-01MS	MS	08/25/21 14:18	PCN63758	1.3	.74	2.14	%	108	80	120			
L67776-01DUP	DUP	08/25/21 14:21			.74	.75	%				1	20	
WG525742LCSS	LCSS	08/25/21 14:24	PCN63155	4.01		3.58	%	89	80	120			
WG525742PBS	PBS	08/25/21 14:27				U	%		-0.03	0.03			

Thallium (1312)

M6020B ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525853													
WG525853ICV	ICV	08/24/21 16:04	MS210727-2	.05		.04975	mg/L	100	90	110			
WG525853ICB	ICB	08/24/21 16:06				U	mg/L		-0.0003	0.0003			
WG525407PBS	PBS	08/24/21 16:19				U	mg/L		-0.0003	0.0003			
WG525407LFB2	LFB	08/24/21 16:20	MS210727-5	.05		.04816	mg/L	96	80	120			
L67776-01MS1	MS	08/24/21 16:26	MS210727-5	.05	U	.04758	mg/L	95	75	125			
L67776-01MSD1	MSD	08/24/21 16:28	MS210727-5	.05	U	.04809	mg/L	96	75	125	1	20	
L67776-01DUP	DUP	08/24/21 16:29			U	U	mg/L				0	20	RA

Reardon Steel LLC

ACZ Project ID: **L67776**

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.

Thallium, total (3050)

M6020B ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525511													
WG525511ICV	ICV	08/18/21 14:07	MS210727-2	.05		.05145	mg/L	103	90	110			
WG525511ICB	ICB	08/18/21 14:09				U	mg/L		-0.0003	0.0003			
WG525379LCSS	LCSS	08/18/21 14:21	PCN63759	112		102.57045	mg/Kg		90.3	133			
WG525379LCSSD	LCSSD	08/18/21 14:23	PCN63759	112		99.86931	mg/Kg		90.3	133	3	20	
L67776-01MS	MS	08/18/21 14:30	MS210521-6	25.25	.363	24.37992	mg/Kg	95	75	125			
L67776-01MSD	MSD	08/18/21 14:35	MS210521-6	25.25	.363	24.86276	mg/Kg	97	75	125	2	20	
WG525379PBS	PBS	08/18/21 14:37				U	mg/Kg		-0.15	0.15			

Total Sulfur Minus Sulfate

M600/2-78-054 3.2.4

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525742													
WG525742PBS	PBS	08/25/21 14:48				U	%		-0.03	0.03			
L67776-01DUP	DUP	08/25/21 15:01			.66	.69	%				4	20	

Vanadium (1312)

M6010D ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525667													
WG525667ICV	ICV	08/20/21 16:52	II210801-1	2		1.963	mg/L	98	90	110			
WG525667ICB	ICB	08/20/21 16:56				U	mg/L		-0.03	0.03			
WG525407PBS	PBS	08/20/21 17:20				U	mg/L		-0.03	0.03			
WG525407LFB1	LFB	08/20/21 17:24	II210810-2	.5005		.4949	mg/L	99	80	120			
L67776-01MS2	MS	08/20/21 17:36	II210810-2	.5005	U	.492	mg/L	98	75	125			
L67776-01MSD2	MSD	08/20/21 17:40	II210810-2	.5005	U	.491	mg/L	98	75	125	0	20	
L67776-01DUP	DUP	08/20/21 17:43			U	U	mg/L				0	20	RA

Vanadium, total (3050)

M6010D ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525503													
WG525503ICV	ICV	08/18/21 13:24	II210801-1	2		1.933	mg/L	97	90	110			
WG525503ICB	ICB	08/18/21 13:27				U	mg/L		-0.03	0.03			
WG525379PBS	PBS	08/18/21 13:52				U	mg/Kg		-1.5	1.5			
WG525379LCSS	LCSS	08/18/21 13:56	PCN63759	62.6		59.22	mg/Kg		49.4	75.8			
WG525379LCSSD	LCSSD	08/18/21 13:59	PCN63759	62.6		59.2	mg/Kg		49.4	75.8	0	20	
L67564-01MS	MS	08/18/21 14:07	II210810-2	50.5505	31.5	94.3441	mg/Kg	124	75	125			
L67564-01MSD	MSD	08/18/21 14:11	II210810-2	50.5505	31.5	92.122	mg/Kg	120	75	125	2	20	

Zinc (1312)

M6010D ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525667													
WG525667ICV	ICV	08/20/21 16:52	II210801-1	2		1.981	mg/L	99	90	110			
WG525667ICB	ICB	08/20/21 16:56				U	mg/L		-0.06	0.06			
WG525407PBS	PBS	08/20/21 17:20				U	mg/L		-0.06	0.06			
WG525407LFB1	LFB	08/20/21 17:24	II210810-2	.50045		.511	mg/L	102	80	120			
L67776-01MS2	MS	08/20/21 17:36	II210810-2	.50045	U	.505	mg/L	101	75	125			
L67776-01MSD2	MSD	08/20/21 17:40	II210810-2	.50045	U	.504	mg/L	101	75	125	0	20	
L67776-01DUP	DUP	08/20/21 17:43			U	U	mg/L				0	20	RA

Reardon Steel LLC

ACZ Project ID: **L67776**

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

Zinc, total (3050)

M6010D ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG525503													
WG525503ICV	ICV	08/18/21 13:24	II210801-1	2		1.944	mg/L	97	90	110			
WG525503ICB	ICB	08/18/21 13:27				U	mg/L		-0.06	0.06			
WG525379PBS	PBS	08/18/21 13:52				U	mg/Kg		-6	6			
WG525379LCSS	LCSS	08/18/21 13:56	PCN63759	158		147.2	mg/Kg		128	188			
WG525379LCSSD	LCSSD	08/18/21 13:59	PCN63759	158		145.3	mg/Kg		128	188	1	20	
L67564-01MS	MS	08/18/21 14:07	II210810-2	50.54545	271	319.564	mg/Kg	96	75	125			
L67564-01MSD	MSD	08/18/21 14:11	II210810-2	50.54545	271	317.746	mg/Kg	92	75	125	1	20	

Reardon Steel LLC

ACZ Project ID: **L67776**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67776-01	WG525667	Aluminum (1312)	M6010D ICP	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).
	WG525503	Aluminum, total (3050)	M6010D ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG525853	Antimony (1312)	M6020B ICP-MS	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).
	WG525511	Antimony, total (3050)	M6020B ICP-MS	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG525853	Arsenic (1312)	M6020B ICP-MS	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).
			M6020B ICP-MS	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.
	WG525503	Barium, total (3050)	M6010D ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG525667	Beryllium (1312)	M6010D ICP	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).
	WG525721	Bicarbonate as CaCO ₃	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG525667	Cadmium (1312)	M6010D ICP	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).
				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.
	WG525503	Cadmium, total (3050)	M6010D ICP	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.
		Calcium, total (3050)	M6010D ICP	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.
	WG525721	Carbonate as CaCO ₃	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG526081	Chloride (1312 DI)	SM4500CI-E	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.
			SM4500CI-E	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).
	WG525667	Chromium (1312)	M6010D ICP	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)	M6010D ICP	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).
	WG525721	Conductivity @25C (1312-DI)	SM2510B	Q6	Sample was received above recommended temperature.
	WG525667	Copper (1312)	M6010D ICP	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).
	WG525721	Hydroxide as CaCO ₃	SM2320B - Titration	Q6	Sample was received above recommended temperature.
	WG525667	Iron (1312)	M6010D ICP	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).
	WG525503	Iron, total (3050)	M6010D ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG525853	Lead (1312)	M6020B ICP-MS	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).
	WG525667	Magnesium (1312)	M6010D ICP	RA	Relative Percent Difference (RPD) was not used for data

REPAD.15.06.05.01

Reardon Steel LLC

ACZ Project ID: **L67776**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
		Manganese (1312)	M6010D ICP	RA	validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
				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).
WG525503		Manganese, total (3050)	M6010D ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			M6010D ICP	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.
WG525657		Mercury (1312)	M7470A CVAA	Q6	Sample was received above recommended temperature.
			M7470A CVAA	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).
WG525574		Mercury, total	M7471A CVAA	Q6	Sample was received above recommended temperature.
WG525667		Nickel (1312)	M6010D ICP	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).
WG525853		Selenium (1312)	M6020B ICP-MS	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).
WG525667		Silver (1312)	M6010D ICP	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).
WG525503		Silver, total (3050)	M6010D ICP	ZH	Serial Dilution exceeded the acceptance criteria. Matrix interference [physical or chemical] is suspected.
WG525667		Sodium (1312)	M6010D ICP	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).
WG526058		Sulfate (1312 DI)	D516-07 - Turbidimetric	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
			D516-07 - Turbidimetric	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).
WG525742		Sulfur Organic Residual	M600/2-78-054 3.2.4	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	M600/2-78-054 3.2.4	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).
WG525853		Thallium (1312)	M6020B ICP-MS	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).
WG525721		Total Alkalinity	SM2320B - Titration	Q6	Sample was received above recommended temperature.
WG525667		Vanadium (1312)	M6010D ICP	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)	M6010D ICP	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).

Reardon Steel LLCACZ Project ID: **L67776**

Soil Analysis

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

Neutralization Potential as CaCO ₃	M600/2-78-054 3.2.3
pH, Saturated Paste	EPA 600/2-78-054 section 3.2.2
Solids, Percent	D2216-80
Sulfur Total	M600/2-78-054 3.2.4

Wet Chemistry

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

Bicarbonate as CaCO ₃	SM2320B - Titration
Carbonate as CaCO ₃	SM2320B - Titration
Chloride (1312 DI)	SM4500Cl-E
Conductivity @25C (1312-DI)	SM2510B
Hydroxide as CaCO ₃	SM2320B - Titration
Sulfate (1312 DI)	D516-07 - Turbidimetric
Total Alkalinity	SM2320B - Titration

Reardon Steel LLC

ACZ Project ID: L67776

Date Received: 08/12/2021 10:51

Received By:

Date Printed: 8/13/2021

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	
The date/time was not present on the sample containers or on the COC. The "Relinquished By" date was used to enter the samples.			
The date/time was not present on the sample containers or on the COC. The "Relinquished By" date was used to enter the samples.			
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

Shipping Containers

Cooler Id	Temp (°C)	Temp Criteria (°C)	Rad (µR/Hr)	Custody Seal Intact?
NA35676	21.1	NA	15	N/A

Was ice present in the shipment container(s)?

Reardon Steel LLC

ACZ Project ID: L67776

Date Received: 08/12/2021 10:51

Received By:

Date Printed: 8/13/2021

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.

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



Accredited
Environmental
Testing

2773 Downhill Drive
Steamboat Springs, CO 80487
(970) 879-8590

L67776

CHAIN of CUSTODY

Report to:

Name: Mike Thompson

Company: Reardon Steel LLC

E-mail: mt@reardonsteel.us

Address: 18032 Road G

Cortez, CO 81321

Telephone: 970-426-2924

Copy of Report to:

Name: Eli Doose

Company: Atlas Mining and Reclamation, LLC

E-mail: eli@ammcindustries.com

Telephone:

Invoice to:

Name: same as report to

Company:

E-mail:

Address:

Telephone:

Copy of Invoice to:

Name:

Company:

E-mail:

Address:

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: Mike Thompson

Sampler's Site Information

State CO

Zip code 81427

Time Zone n/a

*Sampler's Signature:

I attest to the authenticity and validity of this sample. I understand that intentionally mislabeling the time/date/location or tampering with the sample in anyway, is considered fraud and punishable by State Law.

PROJECT INFORMATION

ANALYSES REQUESTED (attach list or use quote number)

Quote #: SO-ABA-SPLP-3050

PO#:

Reporting state for compliance testing:

Check box if samples include NRC licensed material?

SAMPLE IDENTIFICATION

DATE:TIME

Matrix

of Containers

SO-ABA-SPLP-3050

20210803-01

rock

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

[Signature]

08/09/21/1544

[Signature]

8/12/21 10:51

Qualtrax ID: 1984

Revision #: 2

White - Return with sample.

Yellow - Retain for your records.

