

2019
Mine Permit Water Quality Monitoring Data
Contact Water Basins
Eagle Mine

		Q1 2019	Q2 2019	Q3 2019	Q4 2019
Parameter	Unit	3/26/2019	6/25/2019	8/27/2019	11/19/2019
Field					
pH	SU	n/a	9.2	10.3	8.7
Specific Conductivity	µS/cm	n/a	10630	11480	14090
Metals					
Aluminum, Total	µg/L	68.2	235	123	167
Antimony, Total	µg/L	17.3	20.3	24.4	42.4
Arsenic, Total	µg/L	2.4	3.3	4.3	6.0
Barium, Total	µg/L	27.6	49.0	42.3	45.6
Beryllium, Total	µg/L	<1.0	<1.0	<1.0	<5.0
Boron, Total	µg/L	1270	1640	1720	1610
Cadmium, Total	µg/L	0.93	1.1	0.78	0.92
Chromium, Total	µg/L	5.4	5.6	2.8	7.5
Cobalt, Total	µg/L	30.8	35.5	33.5	73.2
Copper, Total	µg/L	12.7	15.0	9.0	10.6
Iron, Total	µg/L	186	414	139	364
Lead, Total	µg/L	<1.0	<1.0	<2.0	<5.0
Lithium, Total	µg/L	46.8	41.9	—	93.5
Manganese, Total	µg/L	124	65.5	84.0	196
Mercury, Total	µg/L	0.00125	0.0013	0.0007	0.0015
Molybdenum, Total	µg/L	76.8	90.7	81.3	89.1
Nickel, Total	µg/L	888	410	272	1160
Selenium, Total	µg/L	27.3	30.8	32.8	30.2
Silver, Total	µg/L	<0.20	<0.20	<0.20	<0.20
Strontium, Total	µg/L	1540	2590	2840	3210
Thallium, Total	µg/L	<2.0	<2.0	<4.0	<10.0
Vanadium, Total	µg/L	1.7	4.2	3.5	3.7
Zinc, Total	µg/L	62.1	48.6	41.9	115
Major Anions					
Alkalinity, Bicarbonate	mg/L	144	140	3.5	176
Alkalinity, Carbonate	mg/L	92.2	43.2	85.6	56.0
Chloride	mg/L	1910	2200	2510	3530
Fluoride	mg/L	0.26	0.26	0.18	0.28
Nitrogen, Nitrate	mg/L	228	236	237	291
Sulfate	mg/L	1380	1690	1600	2810
Major Cations					
Calcium, Total	mg/L	93.3	150	154	146
Magnesium, Total	mg/L	53.3	72.1	83.4	72.5
Potassium, Total	µg/L	112000	120000	128000	188000
Sodium, Total	mg/L	2000	2180	2320	3320

— Analyte not included in the quarterly parameter list.

2019
Mine Permit Water Quality Monitoring Data
TDRSA Contact Water Sump
Eagle Mine

		Q1 2019	Q2 2019	Q3 2019	Q4 2019
Parameter	Unit	3/26/2019	6/25/2019	8/27/2019	11/19/2019
Field					
pH	SU		6.6	7.0	6.1
Specific Conductivity	µS/cm		8772	9809	8002
Metals					
Aluminum, Total	µg/L	—	50.4	78.1	—
Antimony, Total	µg/L	—	1.0	1.0	—
Arsenic, Total	µg/L	<1.0	1.3	1.7	1.4
Barium, Total	µg/L	—	62.3	57.5	—
Beryllium, Total	µg/L	—	<1.0	<1.0	—
Boron, Total	µg/L	1030	1280	1230	1180
Cadmium, Total	µg/L	—	6.1	10.0	—
Chromium, Total	µg/L	—	<1.0	1.8	—
Cobalt, Total	µg/L	—	<300	399	—
Copper, Total	µg/L	8.1	7.6	8.7	5.6
Iron, Total	µg/L	<50.0	589	<50.0	<50.0
Lead, Total	µg/L	—	<1.0	<1.0	—
Lithium, Total	µg/L	—	—	—	—
Manganese, Total	µg/L	1400	1780	2470	2630
Mercury, Total	µg/L	0.00204	0.00162	0.00146	0.00141
Molybdenum, Total	µg/L	—	26.7	22.0	—
Nickel, Total	µg/L	15000	3920	3030	10900
Selenium, Total	µg/L	39.7	51.7	47.7	41.2
Silver, Total	µg/L	—	<0.20	<0.20	—
Strontium, Total	µg/L	—	6350	6430	—
Thallium, Total	µg/L	—	<2.0	<2.0	—
Vanadium, Total	µg/L	—	<1.0	<1.0	—
Zinc, Total	µg/L	771	990	1540	1200
Major Anions					
Alkalinity, Bicarbonate	mg/L	29.8	48.7	43.4	50.9
Alkalinity, Carbonate	mg/L	<2.0	<2.0	<2.0	<2.0
Chloride	mg/L	495	907	1090	739
Fluoride	mg/L	—	<0.10	<0.10	—
Nitrogen, Ammonia	mg/L	<0.10	12.9	9.3	6.8
Nitrogen, Nitrate	mg/L	274	498	51.1	427
Nitrogen, Nitrite	mg/L	0.021	2.1	2.4	0.95
Sulfate	mg/L	1900	1970	2780	2620
Major Cations					
Calcium, Total	mg/L	—	625	684	—
Magnesium, Total	mg/L	287	390	486	350
Potassium, Total	µg/L	—	94	102	—
Sodium, Total	mg/L	544	912	1020	782

— Analyte not included in the quarterly parameter list.

2019
Mine Permit Water Quality Monitoring Data
TDRSA Leak Detection Sump
Eagle Mine

		Q1 2019	Q2 2019	Q3 2019	Q4 2019
Parameter	Unit	3/26/2019	6/25/2019	8/27/2019	11/19/2019
Field					
pH	SU		7.3	7.5	7.6
Specific Conductivity	μS/cm		2788	2711	2863
Major Anions					
Chloride	mg/L	27.4	27.6	26.7	37.3
Nitrogen, Ammonia	mg/L	<0.10	<0.10	<0.10	<0.10
Nitrogen, Nitrate	mg/L	36.3	37.4	33.7	89.0
Nitrogen, Nitrite	mg/L	<0.010	<0.010	<0.010	<0.010
Sulfate	mg/L	918	864	874	1110
Major Cations					
Magnesium, Total	mg/L	17.2	17.3	18.5	18.9
Sodium, Total	mg/L	530	542	555	578

2019
Mine Permit Water Quality Monitoring Data
Underground Influent
Eagle Mine

		Q1 2019	Q2 2019	Q3 2019	Q4 2019
Parameter	Unit	3/26/2019	6/25/2019	8/27/2019	11/19/2019
Field					
pH	SU		9.4	8.5	8.2
Specific Conductivity	µS/cm		2593	3922	6577
Metals					
Aluminum, Total	µg/L	—	27700	14500	—
Antimony, Total	µg/L	—	6.2	22.3	—
Arsenic, Total	µg/L	4.7	9.4	11.7	6.2
Barium, Total	µg/L	—	130	113	—
Beryllium, Total	µg/L	—	<1.0	<1.0	—
Boron, Total	µg/L	314	368	483	299
Cadmium, Total	µg/L	—	1.5	1.7	—
Chromium, Total	µg/L	—	232	74.0	—
Cobalt, Total	µg/L	—	73.3	30.9	—
Copper, Total	µg/L	259	663	899	51.0
Iron, Total	µg/L	65900	74300	17200	6360
Lead, Total	µg/L	—	25.7	27.0	—
Lithium, Total	µg/L	—	48.9	52.6	—
Manganese, Total	µg/L	788	792	257	50.5
Mercury, Total	µg/L	0.0983	0.1640	0.0942	0.0332
Molybdenum, Total	µg/L	—	39.9	34.8	—
Nickel, Total	µg/L	1200	1400	902	80.3
Selenium, Total	µg/L	5.6	5.5	9.4	4.9
Silver, Total	µg/L	—	6.7	7.6	—
Strontium, Total	µg/L	—	3300	5340	—
Thallium, Total	µg/L	—	<2.0	<2.0	—
Vanadium, Total	µg/L	—	49.3	28.3	—
Zinc, Total	µg/L	106	245	199	34.1
Major Anions					
Alkalinity, Bicarbonate	mg/L	104	66.3	83.8	38.7
Alkalinity, Carbonate	mg/L	<2.0	70.6	<2.0	<2.0
Chloride	mg/L	744	532	803	2080
Fluoride	mg/L	—	0.15	0.24	—
Nitrogen, Nitrate	mg/L	48.6	53.1	67.4	99.1
Nitrogen, Nitrite	mg/L	—	—	—	—
Sulfate	mg/L	188	375	409	401
Major Cations					
Calcium, Total	mg/L	—	195	253	—
Magnesium, Total	mg/L	—	105	46.7	—
Potassium, Total	µg/L	—	50.4	64.1	—
Sodium, Total	mg/L	—	298	459	—

— Analyte not included in the quarterly parameter list.