

2016
Mine Permit Water Quality Monitoring Data
Contact Water Basins
Eagle Mine

		Q1 2016	Q2 2016	Q3 2016	Q4 2016
Parameter	Unit	2/22/2016	6/2/2016	8/24/2016	11/29/2016
Field					
pH	SU	11.2	7.4	7.4	7.5
Specific Conductivity	µS/cm	2870	1923	1747	2570
Metals					
Aluminum, Total	mg/L	—	—	860	—
Antimony, Total	µg/L	—	—	1.8	—
Arsenic, Total	µg/L	1.3	1.1	1.6	2.6
Barium, Total	µg/L	—	—	29	—
Beryllium, Total	µg/L	—	—	<1.0	—
Boron, Total	µg/L	530	490	510	890
Cadmium, Total	µg/L	—	—	<0.20	—
Chromium, Total	µg/L	—	—	8.3	—
Cobalt, Total	µg/L	—	—	3.4	—
Copper, Total	µg/L	17	42	55	94
Iron, Total	µg/L	100	730	1700	2800
Lead, Total	µg/L	—	—	1.1	—
Lithium, Total	µg/L	—	—	15	—
Manganese, Total	µg/L	6	27	43	68
Mercury, Total	µg/L	0.0009	0.0021	0.0024	0.0045
Molybdenum, Total	µg/L	—	—	27	—
Nickel, Total	µg/L	37	76	100	170
Selenium, Total	µg/L	8.9	7.5	4.8	9.0
Silver, Total	µg/L	—	—	<0.20	—
Strontium, Total	µg/L	—	—	610	—
Thallium, Total	µg/L	—	—	<1.0	—
Vanadium, Total	µg/L	—	—	5.0	—
Zinc, Total	µg/L	<10	<10	14	18
Major Anions					
Alkalinity, Bicarbonate	mg/L	64	33	42	65
Alkalinity, Carbonate	mg/L	<2.0	<2.0	<2.0	<2.0
Chloride	mg/L	370	170	100	220
Fluoride	µg/L	—	—	130	—
Nitrogen, Nitrate	mg/L	68	38	37	58
Sulfate	mg/L	530	570	490	690
Major Cations					
Calcium, Total	mg/L	—	—	84	—
Magnesium, Total	mg/L	—	—	15	—
Potassium, Total	µg/L	—	—	40000	—
Sodium, Total	mg/L	430	260	230	420

— Analyte not included in the quarterly parameter list.

2016
Mine Permit Water Quality Monitoring Data
TDRSA Contact Water Sump
Eagle Mine

		Q1 2016	Q2 2016	Q3 2016	Q4 2016
Parameter	Unit	2/22/2016	6/2/2016	8/24/2016	11/29/2016
Field					
pH	SU	6.9	6.3	6.5	7.0
Specific Conductivity	µS/cm	6025	3107	2932	2768
Metals					
Aluminum, Total	mg/L	—	—	<500	—
Antimony, Total	µg/L	—	—	<1.0	—
Arsenic, Total	µg/L	<1.0	<1.0	<1.0	<1.0
Barium, Total	µg/L	—	—	62	—
Beryllium, Total	µg/L	—	—	<1.0	—
Boron, Total	µg/L	1200	900	1300	950
Cadmium, Total	µg/L	—	—	<0.20	—
Chromium, Total	µg/L	—	—	1.5	—
Cobalt, Total	µg/L	—	—	5.6	—
Copper, Total	µg/L	<1.0	1.0	<1.0	2.9
Iron, Total	µg/L	37	25	41	<20
Lead, Total	µg/L	—	—	<1.0	—
Lithium, Total	µg/L	—	—	<8.0	—
Manganese, Total	µg/L	760	390	210	190
Mercury, Total	µg/L	0.0098	0.0063	0.0031	0.0114
Molybdenum, Total	µg/L	—	—	23	—
Nickel, Total	µg/L	200	140	810	880
Selenium, Total	µg/L	9.1	6.5	8.6	8.9
Silver, Total	µg/L	—	—	<0.20	—
Strontium, Total	µg/L	—	—	2300	—
Thallium, Total	µg/L	—	—	<1.0	—
Vanadium, Total	µg/L	—	—	<4.0	—
Zinc, Total	µg/L	<10	<10	<10	10
Major Anions					
Alkalinity, Bicarbonate	mg/L	27	20	37	27
Alkalinity, Carbonate	mg/L	<2.0	<2.0	<2.0	<2.0
Chloride	mg/L	110	45	28	26
Fluoride	µg/L	—	—	<100	—
Nitrogen, Ammonia	mg/L	51	13	0.79	1.0
Nitrogen, Nitrate	mg/L	440	190	150	120
Nitrogen, Nitrite	mg/L	9.7	2.7	0.14	0.47
Sulfate	mg/L	1700	1100	1100	1200
Major Cations					
Calcium, Total	mg/L	—	—	290	—
Magnesium, Total	mg/L	170	110	110	110
Potassium, Total	µg/L	—	—	46000	—
Sodium, Total	mg/L	460	250	190	160

— Analyte not included in the quarterly parameter list.

2016
Mine Permit Water Quality Monitoring Data
TDRSA Leak Detection Sump
Eagle Mine

		Q1 2016	Q2 2016	Q3 2016	Q4 2016
Parameter	Unit	2/22/2016	6/2/2016	8/24/2016	11/29/2016
Field					
pH	SU	7.4	7.1	7.4	7.5
Specific Conductivity	μS/cm	2976	3133	2693	2441
Major Anions					
Chloride	mg/L	14	14	13	11
Nitrogen, Ammonia	mg/L	0.19	0.09	0.07	<0.05
Nitrogen, Nitrate	mg/L	26	29	28	25
Nitrogen, Nitrite	mg/L	0.15	<0.05	0.36	0.06
Sulfate	mg/L	1000	980	840	810
Major Cations					
Magnesium, Total	mg/L	15	16	16	15
Sodium, Total	mg/L	610	610	590	510

2016
Mine Permit Water Quality Monitoring Data
Underground Influent
Eagle Mine

		Q1 2016	Q2 2016	Q3 2016	Q4 2016
Parameter	Unit	2/22/2016	6/2/2016	8/24/2016	11/29/2016
Field					
pH	SU	7.3	8.1	7.2	8.7
Specific Conductivity	µS/cm	1470	2445	1420	2016
Metals					
Aluminum, Total	mg/L	—	—	1700	—
Antimony, Total	µg/L	—	—	4.3	—
Arsenic, Total	µg/L	7.6	17	2.8	2.2
Barium, Total	µg/L	—	—	36	—
Beryllium, Total	µg/L	—	—	<1.0	—
Boron, Total	µg/L	560	660	570	600
Cadmium, Total	µg/L	—	—	<0.20	—
Chromium, Total	µg/L	—	—	25	—
Cobalt, Total	µg/L	—	—	9.9	—
Copper, Total	µg/L	8700	22000	300	230
Iron, Total	µg/L	36000	120000	3200	2900
Lead, Total	µg/L	—	—	4.0	—
Lithium, Total	µg/L	—	—	21	—
Manganese, Total	µg/L	390	1400	43	26
Mercury, Total	µg/L	0.148	0.006	0.0168	0.0067
Molybdenum, Total	µg/L	—	—	35	—
Nickel, Total	µg/L	7200	23000	350	220
Selenium, Total	µg/L	13	25	4.9	4.8
Silver, Total	µg/L	—	—	<0.20	—
Strontium, Total	µg/L	—	—	650	—
Thallium, Total	µg/L	—	—	<1.0	—
Vanadium, Total	µg/L	—	—	7.5	—
Zinc, Total	µg/L	180	520	30	13
Major Anions					
Alkalinity, Bicarbonate	mg/L	150	69	41	43
Alkalinity, Carbonate	mg/L	<2	<2	<2	<2
Chloride	mg/L	250	540	67	110
Fluoride	µg/L	—	—	270	—
Nitrogen, Nitrate	mg/L	25	30	38	70
Nitrogen, Nitrite	mg/L	—	—	—	—
Sulfate	mg/L	250	430	370	350
Major Cations					
Calcium, Total	mg/L	—	—	100	—
Magnesium, Total	mg/L	—	—	8.6	—
Potassium, Total	µg/L	—	—	39000	—
Sodium, Total	mg/L	—	—	120	—

— Analyte not included in the quarterly parameter list.