

**Table 1**  
**Mine Permit Groundwater Quality Monitoring Data**  
**QAL073A (NCWIB)**  
**Eagle Mine**

Parameter	Unit	Benchmark	Q2 2017 05/09/17 <sup>T</sup>	Q2 2018 05/08/18 <sup>T</sup>	Q2 2019 05/07/19 <sup>T</sup>
<b>Field</b>					
D.O. <sup>1</sup>	ppm	--	10	12	11
ORP	mV	--	210	132	220
pH	SU	6.1-7.1	6.5	6.6	6.8
Specific Conductance	µS/cm @ 25°C	--	217	189	178
Temperature	°C	--	8.1	8.6	9.0
Turbidity	NTU	--	<1	<1	<1
Water Elevation	ft MSL	--	1381.91	1383.41	1383.74
<b>Metals</b>					
Aluminum	ug/L	200	<50	<50	<50.0
Antimony	ug/L	5.5	<5.0	<5.0	<5.0
Arsenic	ug/L	6.0	<2.0	<2.0	<2.0
Barium	ug/L	80	<20	<20	<20.0
Beryllium	ug/L	2.5	<1.0	<1.0	<1.0
Boron	ug/L	400	<100 e	<100	<100
Cadmium	ug/L	2.0	<0.50	<0.50	<0.50
Chromium	ug/L	20	<5.0	<5.0	<5.0
Cobalt	ug/L	40	<10	<10	<10.0
Copper	ug/L	20	<5.0 e	<5.0	<5.0
Iron	ug/L	132	<20	41.2	95.3
Lead	ug/L	4.0	<1.0	<1.0	<1.0
Lithium	ug/L	32	<8.0	<8.0	<8.0
Manganese	ug/L	80	<20	<20	<20.0
Mercury	ng/L	2.00	<0.500	0.515 e	0.820
Molybdenum	ug/L	40	<10	<10	<10.0
Nickel	ug/L	100	<25	<25	<25.0
Selenium	ug/L	4.0	<1.0	<1.0	<1.0
Silver	ug/L	0.80	<0.20	<0.20	<0.20
Strontium	ug/L	200	90	99.2	92.7
Thallium	ug/L	2.0	<2.0	<2.0	<1.0
Vanadium	ug/L	4.0	<1.0	<1.0	<1.0
Zinc	ug/L	40	<10 e	<10	<10.0
<b>Major Anions</b>					
Alkalinity, Bicarbonate	mg/L	44	100	88.2	78.6
Alkalinity, Carbonate	mg/L	8.0	<2.0	<2.0	<2.0 e
Chloride	mg/L	20	3.6 e	2.1	3.4 e
Fluoride	mg/L	0.40	<0.10	<0.10	<0.10 e
Nitrogen, Nitrate	mg/L	0.60	1.5 e	1.2	1.1 e
Sulfate	mg/L	8.0	9.2	9.0	7.5 e
<b>Major Cations</b>					
Calcium	mg/L	9.2	32	26.1	27.7 e
Magnesium	mg/L	2.5	7.1	5.6	5.2
Potassium	mg/L	2.0	1.4 e	1.3	1.3
Sodium	mg/L	2.0	3.0 e	2.5	2.4 e
<b>General</b>					
Hardness	mg/L	33	109	88	91

Explanations of abbreviations are included on the final page of this table.

QAL073A (NCWIB)

**Table 1**  
**Mine Permit Groundwater Quality Monitoring Data**  
**QAL023B (UMB)**  
**Eagle Mine**

Parameter	Unit	Benchmark	Q1 2019 03/07/19 <sup>T</sup>	Q2 2019 05/08/19 <sup>T</sup>	Q3 2019 07/22/19 <sup>T</sup>	Q4 2019 10/30/19 <sup>T</sup>
<b>Field</b>						
D.O. <sup>1</sup>	ppm	--	<0.1	<0.1	<b>0.5</b>	<b>0.8</b>
ORP	mV	--	<b>-250</b>	<b>-127</b>	<b>-138</b>	<b>-96</b>
pH	SU	7.8-8.8	<b>8.3</b>	<b>7.4</b>	<b>8.3</b>	<b>7.5</b>
Specific Conductance	µS/cm @ 25°C	--	<b>127</b>	<b>119</b>	<b>122</b>	<b>167</b>
Temperature	°C	--	<b>6.6</b>	<b>6.5</b>	<b>13</b>	<b>6.0</b>
Turbidity	NTU	--	<1	<1	<1	1
Water Elevation	ft MSL	--	<b>1413.78</b>	<b>1414.55</b>	<b>1414.71</b>	<b>1414.58</b>
<b>Metals</b>						
Aluminum	ug/L	200	--	<50.0	--	--
Antimony	ug/L	5.5	--	<5.0	--	--
Arsenic	ug/L	6.5	<2.0	<2.0	<2.0	<2.0
Barium	ug/L	80	--	<20.0	--	--
Beryllium	ug/L	2.5	--	<1.0	--	--
Boron	ug/L	400	<100	<100	<100	<100
Cadmium	ug/L	2.0	--	<0.50	--	--
Chromium	ug/L	20	--	<5.0	--	--
Cobalt	ug/L	40	--	<10.0	--	--
Copper	ug/L	20	<5.0	<5.0	<5.0	<5.0
Iron	ug/L	159	<50.0 e	<50.0	<b>58.3</b>	<50.0
Lead	ug/L	4.0	--	<1.0	--	--
Lithium	ug/L	32	--	<8.0	--	--
Manganese	ug/L	80	<20.0	<20.0	<20.0	<20.0
Mercury	ng/L	2.00	<0.50	<0.50	<0.50	<0.50
Molybdenum	ug/L	40	--	<10.0	--	--
Nickel	ug/L	100	<25.0	<25.0	<25.0	<25.0
Selenium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Silver	ug/L	0.80	--	<0.20	--	--
Strontium	ug/L	200	--	<50.0	--	--
Thallium	ug/L	2.0	--	<1.0	--	--
Vanadium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Zinc	ug/L	40	<10.0	<10.0	<10.0	<10.0
<b>Major Anions</b>						
Alkalinity, Bicarbonate	mg/L	67	<b>58.5</b>	<b>60.3</b>	<b>60.5</b>	<b>57.5</b>
Alkalinity, Carbonate	mg/L	8.0	<2.0	<2.0 e	<2.0	<2.0
Chloride	mg/L	4.0	<1.0 e	<1.0 e	<1.0 e	<1.0
Fluoride	mg/L	0.40	--	<0.10 e	--	--
Nitrogen, Nitrate	mg/L	0.20	<0.050 e	<0.050 e	<0.050 e	<0.050
Sulfate	mg/L	8.0	<b>3.8</b>	<b>3.8 e</b>	<b>3.5 e</b>	<b>4.7</b>
<b>Major Cations</b>						
Calcium	mg/L	16	--	<b>14.7 e</b>	--	--
Magnesium	mg/L	3.7	--	<b>3.5</b>	--	--
Potassium	mg/L	2.0	--	<0.50	--	--
Sodium	mg/L	11	<b>6.6 e</b>	<b>6.8 e</b>	<b>6.3 e</b>	<b>6.1</b>
<b>General</b>						
Hardness	mg/L	55	--	<b>51</b>	--	--

Explanations of abbreviations are included on the final page of this table.

QAL023B (UMB)

**Table 1**  
**Mine Permit Groundwater Quality Monitoring Data**  
**QAL024A (UMB)**  
**Eagle Mine**

Parameter	Unit	Benchmark	Q1 2019 03/20/19 <sup>T</sup>	Q2 2019 05/07/19 <sup>T</sup>	Q3 2019 07/30/19 <sup>T</sup>	Q4 2019 10/28/19 <sup>T</sup>
<b>Field</b>						
D.O. <sup>1</sup>	ppm	--	11	10	11	11
ORP	mV	--	56	251	93	174
pH	SU	6.1-7.1	6.4	6.3	6.9	6.3
Specific Conductance	µS/cm @ 25°C	--	357	481	237	179
Temperature	°C	--	9.3	10.0	8.1	7.7
Turbidity	NTU	--	<1	<1	<1	1.0
Water Elevation	ft MSL	--	1417.61	1418.68	1419.86	1418.96
<b>Metals</b>						
Aluminum	ug/L	200	--	<50.0	--	--
Antimony	ug/L	5.5	--	<5.0	--	--
Arsenic	ug/L	6.0	<2.0	<2.0	<2.0	<2.0
Barium	ug/L	86	--	73.4	--	--
Beryllium	ug/L	2.5	--	<1.0	--	--
Boron	ug/L	400	<100	<100	<100	<100
Cadmium	ug/L	2.0	--	<0.50	--	--
Chromium	ug/L	20	--	18.7	--	--
Cobalt	ug/L	40	--	<10.0	--	--
Copper	ug/L	20	<5.0	<5.0	<5.0	<5.0
Iron	ug/L	105	83.1 e	230	<50.0	<50.0
Lead	ug/L	4.0	--	<1.0	--	--
Lithium	ug/L	32	--	<8.0	--	--
Manganese	ug/L	80	<20.0	<20.0	<20.0	<20.0
Mercury	ng/L	2.00	0.710	1.67	0.500	<0.50
Molybdenum	ug/L	40	--	<10.0	--	--
Nickel	ug/L	100	<25.0	<25.0	<25.0	<25.0
Selenium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Silver	ug/L	0.80	--	<0.20	--	--
Strontium	ug/L	200	--	108	--	--
Thallium	ug/L	2.0	--	<1.0	--	--
Vanadium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Zinc	ug/L	40	<10.0	<10.0	<10.0	<10.0
<b>Major Anions</b>						
Alkalinity, Bicarbonate	mg/L	24	41.4	37.9	45.6	44.7
Alkalinity, Carbonate	mg/L	8.0	<2.0	<2.0 e	<2.0	<2.0
Chloride	mg/L	4.0	79.8 e	116 e	37.7 e	21.1
Fluoride	mg/L	0.40	--	<0.10 e	--	--
Nitrogen, Nitrate	mg/L	0.20	2.4 e	3.7 e	0.58 e	0.28
Sulfate	mg/L	8.0	6.3	7.0 e	4.9 e	4.5
<b>Major Cations</b>						
Calcium	mg/L	48	--	35 e	--	--
Magnesium	mg/L	8.1	--	5.6	--	--
Potassium	mg/L	3.7	--	2.8	--	--
Sodium	mg/L	2.0	39.6 e	50.6 e	24.3 e	19.4
<b>General</b>						
Hardness	mg/L	153	--	110	--	--

Explanations of abbreviations are included on the final page of this table.

QAL024A (UMB)

**Table 1**  
**Mine Permit Groundwater Quality Monitoring Data**  
**QAL025A (Background)**  
**Eagle Mine**

Parameter	Unit	Benchmark	Q1 2019 03/06/19 <sup>T</sup>	Q2 2019 05/06/19 <sup>T</sup>	Q3 2019 07/23/19 <sup>T</sup>	Q4 2019 10/29/19 <sup>T</sup>
<b>Field</b>						
D.O. <sup>1</sup>	ppm	--	11	11	12	12
ORP	mV	--	53	297	79	158
pH	SU	6.4-7.4	7.2	6.6	7.2	5.7
Specific Conductance	µS/cm @ 25°C	--	64	42	67	63
Temperature	°C	--	7.0	7.8	7.7	7.2
Turbidity	NTU	--	<1	<1	<1	1
Water Elevation	ft MSL	--	1416.59	1417.14	1419.52	1418.28
<b>Metals</b>						
Aluminum	ug/L	200	--	<50.0	--	--
Antimony	ug/L	5.5	--	<5.0	--	--
Arsenic	ug/L	6.0	<2.0	<2.0	<2.0	<2.0
Barium	ug/L	80	--	<20.0	--	--
Beryllium	ug/L	2.5	--	<1.0	--	--
Boron	ug/L	400	<100	<100	<100	<100
Cadmium	ug/L	2.0	--	<0.50	--	--
Chromium	ug/L	20	--	<5.0	--	--
Cobalt	ug/L	40	--	<10.0	--	--
Copper	ug/L	20	<5.0	<5.0	<5.0	<5.0
Iron	ug/L	126	<50.0 e	<50.0	<50.0	<50.0
Lead	ug/L	4.0	--	<1.0	--	--
Lithium	ug/L	32	--	<8.0	--	--
Manganese	ug/L	80	<20.0	<20.0	<20.0	<20.0
Mercury	ng/L	2.00	<0.50	<0.50	<0.50	<0.50
Molybdenum	ug/L	40	--	<10.0	--	--
Nickel	ug/L	100	<25.0	<25.0	<25.0	<25.0
Selenium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Silver	ug/L	0.80	--	<0.20	--	--
Strontium	ug/L	200	--	<50.0	--	--
Thallium	ug/L	2.0	--	<1.0	--	--
Vanadium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Zinc	ug/L	40	<10.0	<10.0	<10.0	<10.0
<b>Major Anions</b>						
Alkalinity, Bicarbonate	mg/L	25	27.5	16.9	31.4	29.8
Alkalinity, Carbonate	mg/L	8.0	<2.0	<2.0 e	<2.0	<2.0
Chloride	mg/L	4.0	<1.0 e	<1.0 e	<1.0 e	<1.0
Fluoride	mg/L	0.40	--	<0.10 e	--	--
Nitrogen, Nitrate	mg/L	1.1	0.37 e	0.37 e	0.18 e	0.23
Sulfate	mg/L	8.0	2.0	<2.0 e	<2.0 e	2.0
<b>Major Cations</b>						
Calcium	mg/L	8.5	--	5.7 e	--	--
Magnesium	mg/L	2.0	--	1.1	--	--
Potassium	mg/L	2.0	--	0.76	--	--
Sodium	mg/L	2.0	<1.0 e	<1.0 e	<1.0 e	<1.0
<b>General</b>						
Hardness	mg/L	28	--	19	--	--

Explanations of abbreviations are included on the final page of this table.

QAL025A (Background)

**Table 1**  
**Mine Permit Groundwater Quality Monitoring Data**  
**QAL025B (Background)**  
**Eagle Mine**

Parameter	Unit	Benchmark	Q1 2019 03/06/19 <sup>T</sup>	Q2 2019 05/06/19 <sup>T</sup>	Q3 2019 07/23/19 <sup>T</sup>	Q4 2019 10/29/19 <sup>T</sup>
<b>Field</b>						
D.O. <sup>1</sup>	ppm	--	11	11	11	12
ORP	mV	--	21	267	32	276
pH	SU	8.5-9.5	9.1	8.9	9.1	8.8
Specific Conductance	µS/cm @ 25°C	--	71	65	66	91
Temperature	°C	--	7.4	7.2	7.6	7.5
Turbidity	NTU	--	<1	<1	<1	1
Water Elevation	ft MSL	--	1416.47	1417.03	1419.40	1418.20
<b>Metals</b>						
Aluminum	ug/L	200	--	<50.0	--	--
Antimony	ug/L	5.5	--	<5.0	--	--
Arsenic	ug/L	6.0	<2.0	<2.0	<2.0	<2.0
Barium	ug/L	80	--	<20.0	--	--
Beryllium	ug/L	2.5	--	<1.0	--	--
Boron	ug/L	400	<100	<100	<100	<100
Cadmium	ug/L	2.0	--	<0.50	--	--
Chromium	ug/L	20	--	<5.0	--	--
Cobalt	ug/L	40	--	<10.0	--	--
Copper	ug/L	20	<5.0	<5.0	<5.0	<5.0
Iron	ug/L	56	<50.0 e	<50.0	<50.0	<50.0
Lead	ug/L	4.0	--	<1.0	--	--
Lithium	ug/L	32	--	<8.0	--	--
Manganese	ug/L	80	<20.0	<20.0	<20.0	<20.0
Mercury	ng/L	2.00	<0.50	<0.50	<0.50	<0.50
Molybdenum	ug/L	40	--	<10.0	--	--
Nickel	ug/L	100	<25.0	<25.0	<25.0	<25.0
Selenium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Silver	ug/L	0.80	--	<0.20	--	--
Strontium	ug/L	200	--	<50.0	--	--
Thallium	ug/L	2.0	--	<1.0	--	--
Vanadium	ug/L	4.0	<1.0	1.1	1.1	1.0
Zinc	ug/L	40	<10.0	<10.0	<10.0	<10.0
<b>Major Anions</b>						
Alkalinity, Bicarbonate	mg/L	36	28.4	26.7	30.5	29.6
Alkalinity, Carbonate	mg/L	12	2.4	5.0 e	<2.0	<2.0
Chloride	mg/L	4.0	<1.0 e	<1.0 e	<1.0 e	<1.0
Fluoride	mg/L	0.40	--	<0.10 e	--	--
Nitrogen, Nitrate	mg/L	0.20	0.17 e	0.20 e	0.19 e	0.16
Sulfate	mg/L	8.0	<2.0	<2.0 e	<2.0 e	<2.0
<b>Major Cations</b>						
Calcium	mg/L	10	--	9.4 e	--	--
Magnesium	mg/L	2.0	--	1.7	--	--
Potassium	mg/L	2.0	--	<0.50	--	--
Sodium	mg/L	4.5	1.5 e	1.6 e	1.2 e	1.3
<b>General</b>						
Hardness	mg/L	33	--	30	--	--

Explanations of abbreviations are included on the final page of this table.

QAL025B (Background)

**Table 1**  
**Mine Permit Groundwater Quality Monitoring Data**  
**QAL025D (Background)**  
**Eagle Mine**

Parameter	Unit	Benchmark	Q1 2019 02/12/19 <sup>T</sup>	Q2 2019 05/15/19 <sup>T</sup>	Q3 2019 07/23/19 <sup>T</sup>	Q4 2019 10/29/19 <sup>T</sup>
<b>Field</b>						
D.O. <sup>1</sup>	ppm	--	4.5	4.1	4.4	5.0
ORP	mV	--	147	246	10	252
pH	SU	8.2-9.2	9.0	8.7	8.7	8.7
Specific Conductance	µS/cm @ 25°C	--	100	96	101	135
Temperature	°C	--	7.1	7.4	7.4	7.2
Turbidity	NTU	--	<1	<1	<1	2.0
Water Elevation	ft MSL	--	1412.85	1413.26	1415.15	1414.41
<b>Metals</b>						
Aluminum	ug/L	200	--	<50.0	--	--
Antimony	ug/L	5.5	--	<5.0	--	--
Arsenic	ug/L	6.5	3.0	2.9	2.8	2.9
Barium	ug/L	80	--	<20.0	--	--
Beryllium	ug/L	2.5	--	<1.0	--	--
Boron	ug/L	400	<100	<100	<100	<100
Cadmium	ug/L	2.0	--	<0.50	--	--
Chromium	ug/L	20	--	<5.0	--	--
Cobalt	ug/L	40	--	<10.0	--	--
Copper	ug/L	20	<5.0	<5.0	<5.0	<5.0
Iron	ug/L	137	<50.0 e	<50.0	<50.0	<50.0
Lead	ug/L	4.0	--	<1.0	--	--
Lithium	ug/L	32	--	<8.0	--	--
Manganese	ug/L	80	<20.0	<20.0	<20.0	<20.0
Mercury	ng/L	2.00	0.720	<0.50	<0.50	<0.50
Molybdenum	ug/L	40	--	<10.0	--	--
Nickel	ug/L	100	<25.0	<25.0	<25.0	<25.0
Selenium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Silver	ug/L	0.80	--	<0.20	--	--
Strontium	ug/L	200	--	<50.0	--	--
Thallium	ug/L	2.0	--	<1.0	--	--
Vanadium	ug/L	4.0	4.1	4.0	3.9	4.0
Zinc	ug/L	40	<10.0	<10.0	<10.0	<10.0
<b>Major Anions</b>						
Alkalinity, Bicarbonate	mg/L	52	43.8	45.8	45.7	43.5
Alkalinity, Carbonate	mg/L	14	<2.0	<2.0 e	<2.0	<2.0
Chloride	mg/L	4.0	<1.0 e	<1.0 e	<1.0 e	<1.0
Fluoride	mg/L	0.40	--	<0.10 e	--	--
Nitrogen, Nitrate	mg/L	0.20	0.10 b,e	0.089 e	0.094 e	0.098
Sulfate	mg/L	8.0	5.1	5.4 e	5.3 e	5.2
<b>Major Cations</b>						
Calcium	mg/L	12	--	12.9 e	--	--
Magnesium	mg/L	2.7	--	2.9	--	--
Potassium	mg/L	2.0	--	0.80	--	--
Sodium	mg/L	12	3.4 e	3.8 e	3.2 e	3.4
<b>General</b>						
Hardness	mg/L	42	--	44	--	--

Explanations of abbreviations are included on the final page of this table.

QAL025D (Background)

**Table 1**  
**Mine Permit Groundwater Quality Monitoring Data**  
**QAL026A (Background)**  
**Eagle Mine**

Parameter	Unit	Benchmark	Q1 2019 02/12/19 <sup>T</sup>	Q2 2019 05/15/19 <sup>T</sup>	Q3 2019 07/23/19 <sup>T</sup>	Q4 2019 10/29/19 <sup>T</sup>
<b>Field</b>						
D.O. <sup>1</sup>	ppm	--	10	10	10	12
ORP	mV	--	183	301	308	356
pH	SU	6.2-7.2	6.9	6.4	6.2	5.7
Specific Conductance	µS/cm @ 25°C	--	138	83	52	86
Temperature	°C	--	6.2	7.4	9.0	7.0
Turbidity	NTU	--	<1	<1	<1	<1
Water Elevation	ft MSL	--	1416.43	<<1415.4 BP	1419.28	1418.43
<b>Metals</b>						
Aluminum	ug/L	236	--	144	--	--
Antimony	ug/L	5.5	--	<5.0	--	--
Arsenic	ug/L	6.0	<2.0	<2.0	<2.0	<2.0
Barium	ug/L	80	--	<20.0	--	--
Beryllium	ug/L	2.5	--	<1.0	--	--
Boron	ug/L	400	<100	<100	<100	<100
Cadmium	ug/L	2.0	--	<0.50	--	--
Chromium	ug/L	20	--	<5.0	--	--
Cobalt	ug/L	40	--	<10.0	--	--
Copper	ug/L	20	<5.0	<5.0	<5.0	<5.0
Iron	ug/L	368	<50.0 e	126	246	<50.0
Lead	ug/L	4.0	--	<1.0	--	--
Lithium	ug/L	32	--	<8.0	--	--
Manganese	ug/L	80	<20.0	<20.0	<20.0	<20.0
Mercury	ng/L	2.00	0.750	0.610	0.710	<0.50
Molybdenum	ug/L	40	--	<10.0	--	--
Nickel	ug/L	100	<25.0	<25.0	<25.0	<25.0
Selenium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Silver	ug/L	0.80	--	<0.20	--	--
Strontium	ug/L	200	--	<50.0	--	--
Thallium	ug/L	2.0	--	<1.0	--	--
Vanadium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Zinc	ug/L	40	<10.0	<10.0	<10.0	<10.0
<b>Major Anions</b>						
Alkalinity, Bicarbonate	mg/L	114	69.2	38.4	22.7	27.9
Alkalinity, Carbonate	mg/L	8.0	<2.0	<2.0 e	<2.0	<2.0
Chloride	mg/L	4.0	<1.0 e	<1.0 e	<1.0 e	<1.0
Fluoride	mg/L	0.40	--	<0.10 e	--	--
Nitrogen, Nitrate	mg/L	0.73	0.72 b,e	0.63 e	0.65 e	0.50
Sulfate	mg/L	8.0	2.1	<2.0 e	<2.0 e	2.0
<b>Major Cations</b>						
Calcium	mg/L	40.0	--	13.2 e	--	--
Magnesium	mg/L	5.9	--	2.1	--	--
Potassium	mg/L	2.0	--	1.3	--	--
Sodium	mg/L	2.4	1.5 e	1.4 e	<1.0 e	1.2
<b>General</b>						
Hardness	mg/L	124	--	42	--	--

Explanations of abbreviations are included on the final page of this table.

QAL026A (Background)

**Table 1**  
**Mine Permit Groundwater Quality Monitoring Data**  
**QAL026D (Background)**  
**Eagle Mine**

Parameter	Unit	Benchmark	Q1 2019 02/12/19 <sup>T</sup>	Q2 2019 05/15/19 <sup>T</sup>	Q3 2019 07/23/19 <sup>T</sup>	Q4 2019 10/29/19 <sup>T</sup>
<b>Field</b>						
D.O. <sup>1</sup>	ppm	--	11	11	10	11
ORP	mV	--	155	249	293	266
pH	SU	8.4-9.4	9.2	9.0	8.9	8.9
Specific Conductance	µS/cm @ 25°C	--	66	63	67	95
Temperature	°C	--	7.4	7.2	7.6	7.4
Turbidity	NTU	--	<1	<1	2	1.0
Water Elevation	ft MSL	--	1409.67	1410.01	1411.73	1411.18
<b>Metals</b>						
Aluminum	ug/L	200	--	<50.0	--	--
Antimony	ug/L	5.5	--	<5.0	--	--
Arsenic	ug/L	6.0	<2.0	<2.0	<2.0	<2.0
Barium	ug/L	80	--	<20.0	--	--
Beryllium	ug/L	2.5	--	<1.0	--	--
Boron	ug/L	400	<100	<100	<100	<100
Cadmium	ug/L	2.0	--	<0.50	--	--
Chromium	ug/L	20	--	<5.0	--	--
Cobalt	ug/L	40	--	<10.0	--	--
Copper	ug/L	20	<5.0	<5.0	<5.0	<5.0
Iron	ug/L	80	<50.0 e	<50.0	<50.0	<50.0
Lead	ug/L	4.0	--	<1.0	--	--
Lithium	ug/L	32	--	<8.0	--	--
Manganese	ug/L	80	<20.0	<20.0	<20.0	<20.0
Mercury	ng/L	2.00	<0.50	<0.50	<0.50	<0.50
Molybdenum	ug/L	40	--	<10.0	--	--
Nickel	ug/L	100	<25.0	<25.0	<25.0	<25.0
Selenium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Silver	ug/L	0.80	--	<0.20	--	--
Strontium	ug/L	200	--	<50.0	--	--
Thallium	ug/L	2.0	--	<1.0	--	--
Vanadium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Zinc	ug/L	40	<10.0	<10.0	<10.0	<10.0
<b>Major Anions</b>						
Alkalinity, Bicarbonate	mg/L	31	29.9	31.8	29.3	31.3
Alkalinity, Carbonate	mg/L	8.0	<2.0	<2.0 e	3.4	<2.0
Chloride	mg/L	4.0	<1.0 e	<1.0 e	<1.0 e	<1.0
Fluoride	mg/L	0.40	--	<0.10 e	--	--
Nitrogen, Nitrate	mg/L	0.20	0.15 b,e	0.12 e	0.11 e	0.11
Sulfate	mg/L	8.0	<2.0	<2.0 e	<2.0 e	<2.0
<b>Major Cations</b>						
Calcium	mg/L	13	--	10.6 e	--	--
Magnesium	mg/L	2.4	--	1.5	--	--
Potassium	mg/L	2.0	--	0.57	--	--
Sodium	mg/L	2.0	<1.0 e	<1.0 e	<1.0 e	<1.0
<b>General</b>						
Hardness	mg/L	43	--	33	--	--

Explanations of abbreviations are included on the final page of this table.

QAL026D (Background)



**Table 1**  
**Mine Permit Groundwater Quality Monitoring Data**  
**QAL026E (Background)**  
**Eagle Mine**

Parameter	Unit	Benchmark	Q1 2019 03/06/19 <sup>T</sup>	Q2 2019 05/06/19 <sup>T</sup>	Q3 2019 07/23/19 <sup>T</sup>	Q4 2019 10/29/19 <sup>T</sup>
<b>Field</b>						
D.O. <sup>1</sup>	ppm	--	<0.1	<b>0.2</b>	<b>0.7</b>	<0.1
ORP	mV	--	<b>-175</b>	<b>-32</b>	<b>-92</b>	<b>13</b>
pH	SU	8.1-9.1	<b>8.7</b>	<b>8.4</b>	<b>8.6</b>	<b>8.5</b>
Specific Conductance	µS/cm @ 25°C	--	<b>127</b>	<b>118</b>	<b>121</b>	<b>170</b>
Temperature	°C	--	<b>7.1</b>	<b>7.2</b>	<b>7.5</b>	<b>7.2</b>
Turbidity	NTU	--	<1	<1	<1	<b>1.0</b>
Water Elevation	ft MSL	--	<b>1409.29</b>	<b>1409.38</b>	<b>1411.70</b>	<b>1411.11</b>
<b>Metals</b>						
Aluminum	ug/L	200	--	<50.0	--	--
Antimony	ug/L	5.5	--	<5.0	--	--
Arsenic	ug/L	7.8	<b>7.8</b>	<b>7.3</b>	<b>7.8</b>	<b>7.9</b>
Barium	ug/L	80	--	<20.0	--	--
Beryllium	ug/L	2.5	--	<1.0	--	--
Boron	ug/L	400	<100	<100	<100	<100
Cadmium	ug/L	2.0	--	<0.50	--	--
Chromium	ug/L	20	--	<5.0	--	--
Cobalt	ug/L	40	--	<10.0	--	--
Copper	ug/L	20	<5.0	<5.0	<5.0	<5.0
Iron	ug/L	80	<50.0 e	<50.0	<50.0	<50.0
Lead	ug/L	4.0	--	<1.0	--	--
Lithium	ug/L	32	--	<8.0	--	--
Manganese	ug/L	80	<20.0	<20.0	<20.0	<20.0
Mercury	ng/L	2.00	<0.50	<0.50	<0.50	<0.50
Molybdenum	ug/L	40	--	<10.0	--	--
Nickel	ug/L	100	<25.0	<25.0	<25.0	<25.0
Selenium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Silver	ug/L	0.80	--	<0.20	--	--
Strontium	ug/L	200	--	<b>61.2</b>	--	--
Thallium	ug/L	2.0	--	<1.0	--	--
Vanadium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Zinc	ug/L	40	<10.0	<10.0	<10.0	<10.0
<b>Major Anions</b>						
Alkalinity, Bicarbonate	mg/L	91	<b>54.3</b>	<b>53.4</b>	<b>54.2</b>	<b>52.4</b>
Alkalinity, Carbonate	mg/L	8.0	<2.0	<b>2.2</b> e	<2.0	<2.0
Chloride	mg/L	4.0	<1.0 e	<1.0 e	<1.0 e	<1.0
Fluoride	mg/L	0.40	--	<0.10 e	--	--
Nitrogen, Nitrate	mg/L	0.20	<0.050 e	<0.050 e	<0.050 e	<0.050
Sulfate	mg/L	8.6	<b>7.7</b>	<b>7.6</b> e	<b>7.7</b> e	<b>7.7</b>
<b>Major Cations</b>						
Calcium	mg/L	17	--	<b>16.3</b> e	--	--
Magnesium	mg/L	4.3	--	<b>4.1</b>	--	--
Potassium	mg/L	2.0	--	<b>1.8</b>	--	--
Sodium	mg/L	2.0	<b>1.7</b> e	<b>1.7</b> e	<b>1.7</b> e	<b>1.6</b>
<b>General</b>						
Hardness	mg/L	60	--	<b>58</b>	--	--

Explanations of abbreviations are included on the final page of this table.

QAL026E (Background)

**Table 1**  
**Mine Permit Groundwater Quality Monitoring Data**  
**QAL044B (UMB)**  
**Eagle Mine**

Parameter	Unit	Benchmark	Q1 2019 03/07/19 <sup>T</sup>	Q2 2019 05/07/19 <sup>T</sup>	Q3 2019 07/22/19 <sup>T</sup>	Q4 2019 10/29/19 <sup>T</sup>
<b>Field</b>						
D.O. <sup>1</sup>	ppm	--	0.5	3.5	1.0	2.4
ORP	mV	--	-86	-46	-176	-76
pH	SU	8.3-9.3	9.3	9.1	9.1	9.1
Specific Conductance	µS/cm @ 25°C	--	79	102	82	117
Temperature	°C	--	5.6	7.7	8.0	7.8
Turbidity	NTU	--	<1	<1	<1	1
Water Elevation	ft MSL	--	1414.09	1414.78	1415.76	1415.03
<b>Metals</b>						
Aluminum	ug/L	200	--	<50.0	--	--
Antimony	ug/L	5.5	--	<5.0	--	--
Arsenic	ug/L	6.0	<2.0	<2.0	<2.0	<2.0
Barium	ug/L	80	--	<20.0	--	--
Beryllium	ug/L	2.5	--	<1.0	--	--
Boron	ug/L	400	<100	<100	<100	<100
Cadmium	ug/L	2.0	--	<0.50	--	--
Chromium	ug/L	20	--	<5.0	--	--
Cobalt	ug/L	40	--	<10.0	--	--
Copper	ug/L	20	<5.0	<5.0	<5.0	<5.0
Iron	ug/L	80	<50.0 e	79.3	<50.0	<50.0
Lead	ug/L	4.0	--	<1.0	--	--
Lithium	ug/L	32	--	<8.0	--	--
Manganese	ug/L	80	<20.0	<20.0	<20.0	<20.0
Mercury	ng/L	2.00	0.940	<0.50	<0.50	<0.50
Molybdenum	ug/L	40	--	<10.0	--	--
Nickel	ug/L	100	<25.0	<25.0	<25.0	<25.0
Selenium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Silver	ug/L	0.80	--	<0.20	--	--
Strontium	ug/L	200	--	<50.0	--	--
Thallium	ug/L	2.0	--	<1.0	--	--
Vanadium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Zinc	ug/L	40	<10.0	<10.0	<10.0	<10.0
<b>Major Anions</b>						
Alkalinity, Bicarbonate	mg/L	64	32.8	42.1	33.7	34.4
Alkalinity, Carbonate	mg/L	8.0	7.8	4.8 e	<2.0	<2.0
Chloride	mg/L	4.0	<1.0 e	<1.0 e	<1.0 e	<1.0
Fluoride	mg/L	0.40	--	<0.10 e	--	--
Nitrogen, Nitrate	mg/L	0.20	<0.050 e	<0.050 e	<0.050 e	<0.050
Sulfate	mg/L	24	6.8	6.7 e	6.2 e	6.1
<b>Major Cations</b>						
Calcium	mg/L	17	--	16.8 e	--	--
Magnesium	mg/L	4.0	--	1.4	--	--
Potassium	mg/L	2.0	--	1.7	--	--
Sodium	mg/L	2.6	2.8 e	2.7 e	2.9 e	2.9
<b>General</b>						
Hardness	mg/L	58	--	48	--	--

Explanations of abbreviations are included on the final page of this table.

QAL044B (UMB)

**Table 1**  
**Mine Permit Groundwater Quality Monitoring Data**  
**QAL060A (TDRSA-CWB)**  
**Eagle Mine**

Parameter	Unit	Benchmark	Q1 2019 03/11/19 <sup>T</sup>	Q2 2019 05/07/19 <sup>T</sup>	Q3 2019 07/29/19 <sup>T</sup>	Q4 2019 10/28/19 <sup>T</sup>
<b>Field</b>						
D.O. <sup>1</sup>	ppm	--	11	11	10	12
ORP	mV	--	35	67	272	211
pH	SU	8.1-9.1	8.6	8.3	8.6	8.6
Specific Conductance	µS/cm @ 25°C	--	95	87	109	148
Temperature	°C	--	7.8	8.0	8.1	7.9
Turbidity	NTU	--	<1	<1	<1	<1
Water Elevation	ft MSL	--	1404.61	1404.71	1406.97	1406.38
<b>Metals</b>						
Aluminum	ug/L	200	--	<50.0	--	--
Antimony	ug/L	5.5	--	<5.0	--	--
Arsenic	ug/L	7.2	4.2	4.1	3.7	3.5
Barium	ug/L	80	--	<20.0	--	--
Beryllium	ug/L	2.5	--	<1.0	--	--
Boron	ug/L	400	<100	<100	<100	<100
Cadmium	ug/L	2.0	--	<0.50	--	--
Chromium	ug/L	20	--	<5.0	--	--
Cobalt	ug/L	40	--	<10.0	--	--
Copper	ug/L	20	<5.0	<5.0	<5.0	<5.0
Iron	ug/L	80	<50.0 e	<50.0	<50.0	<50.0
Lead	ug/L	4.0	--	<1.0	--	--
Lithium	ug/L	32	--	<8.0	--	--
Manganese	ug/L	80	<20.0	<20.0	<20.0	<20.0
Mercury	ng/L	2.00	<0.50	<0.50	<0.50	<0.50
Molybdenum	ug/L	40	--	<10.0	--	--
Nickel	ug/L	100	<25.0	<25.0	<25.0	<25.0
Selenium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Silver	ug/L	0.80	--	<0.20	--	--
Strontium	ug/L	200	--	<50.0	--	--
Thallium	ug/L	2.0	--	<1.0	--	--
Vanadium	ug/L	4.0	1.1	1.1	<1.0	<1.0
Zinc	ug/L	40	<10.0	<10.0	<10.0	<10.0
<b>Major Anions</b>						
Alkalinity, Bicarbonate	mg/L	62	43.3	46.3	53.3	50.6
Alkalinity, Carbonate	mg/L	8.0	<2.0	<2.0 e	<2.0	<2.0
Chloride	mg/L	4.0	<1.0 e	<1.0 e	<1.0 e	<1.0
Fluoride	mg/L	0.40	--	<0.10 e	--	--
Nitrogen, Nitrate	mg/L	0.20	0.31 e	0.33 e	0.35 e	0.30
Sulfate	mg/L	8.0	<2.0	2.0 e	2.1 e	<2.0
<b>Major Cations</b>						
Calcium	mg/L	17	--	13.4 e	--	--
Magnesium	mg/L	4.2	--	2.8	--	--
Potassium	mg/L	2.0	--	0.83	--	--
Sodium	mg/L	2.1	<1.0 e	<1.0 e	1.2 e	<1.0
<b>General</b>						
Hardness	mg/L	61	--	45	--	--

Explanations of abbreviations are included on the final page of this table.

QAL060A (TDRSA-CWB)

**Table 1**  
**Mine Permit Groundwater Quality Monitoring Data**  
**QAL061A (TDRSA-CWB)**  
**Eagle Mine**

Parameter	Unit	Benchmark	Q1 2019 03/11/19 <sup>T</sup>	Q2 2019 05/07/19 <sup>T</sup>	Q3 2019 07/29/19 <sup>T</sup>	Q4 2019 10/28/19 <sup>T</sup>
<b>Field</b>						
D.O. <sup>1</sup>	ppm	--	11	11	10	12
ORP	mV	--	178	73	219	249
pH	SU	8.1-9.1	8.6	8.4	8.6	8.6
Specific Conductance	µS/cm @ 25°C	--	97	123	118	155
Temperature	°C	--	7.5	7.8	8.4	7.9
Turbidity	NTU	--	<1	<1	<1	<1
Water Elevation	ft MSL	--	1406.04	1406.14	1408.49	1407.91
<b>Metals</b>						
Aluminum	ug/L	200	--	<50.0	--	--
Antimony	ug/L	5.5	--	<5.0	--	--
Arsenic	ug/L	6.0	<2.0	<2.0	<2.0	<2.0
Barium	ug/L	80	--	<20.0	--	--
Beryllium	ug/L	2.5	--	<1.0	--	--
Boron	ug/L	400	<100	<100	<100	<100
Cadmium	ug/L	2.0	--	<0.50	--	--
Chromium	ug/L	20	--	<5.0	--	--
Cobalt	ug/L	40	--	<10.0	--	--
Copper	ug/L	20	<5.0	<5.0	<5.0	<5.0
Iron	ug/L	80	<50.0 e	<50.0	<50.0	<50.0
Lead	ug/L	4.0	--	<1.0	--	--
Lithium	ug/L	32	--	<8.0	--	--
Manganese	ug/L	80	<20.0	<20.0	<20.0	<20.0
Mercury	ng/L	2.00	<0.50	<0.50	<0.50	<0.50
Molybdenum	ug/L	40	--	<10.0	--	--
Nickel	ug/L	100	<25.0	<25.0	<25.0	<25.0
Selenium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Silver	ug/L	0.80	--	<0.20	--	--
Strontium	ug/L	200	--	<50.0	--	--
Thallium	ug/L	2.0	--	<1.0	--	--
Vanadium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Zinc	ug/L	40	<10.0	<10.0	<10.0	<10.0
<b>Major Anions</b>						
Alkalinity, Bicarbonate	mg/L	40	58.4	62.2	56	53.4
Alkalinity, Carbonate	mg/L	8.0	<2.0	<2.0 e	2.2	<2.0
Chloride	mg/L	4.0	<1.0 e	<1.0 e	<1.0 e	<1.0
Fluoride	mg/L	0.40	--	<0.10 e	--	--
Nitrogen, Nitrate	mg/L	0.27	0.36 e	0.36 e	0.38 e	0.44
Sulfate	mg/L	8.0	<2.0	<2.0 e	<2.0 e	<2.0
<b>Major Cations</b>						
Calcium	mg/L	15	--	20.4 e	--	--
Magnesium	mg/L	2.2	--	3.5	--	--
Potassium	mg/L	2.0	--	0.75	--	--
Sodium	mg/L	2.0	<1.0 e	<1.0 e	<1.0 e	<1.0
<b>General</b>						
Hardness	mg/L	37	--	65	--	--

Explanations of abbreviations are included on the final page of this table.

QAL061A (TDRSA-CWB)

**Table 1**  
**Mine Permit Groundwater Quality Monitoring Data**  
**QAL062A (TDRSA-CWB)**  
**Eagle Mine**

Parameter	Unit	Benchmark	Q1 2019 03/20/19 <sup>T</sup>	Q2 2019 05/07/19 <sup>T</sup>	Q3 2019 07/30/19 <sup>T</sup>	Q4 2019 10/28/19 <sup>T</sup>
<b>Field</b>						
D.O. <sup>1</sup>	ppm	--	8.3	8.0	7.0	8.7
ORP	mV	--	23	66	193	127
pH	SU	8.3-9.3	7.6	7.4	7.5	7.5
Specific Conductance	µS/cm @ 25°C	--	624	608	630	630
Temperature	°C	--	7.6	7.6	9.3	8.6
Turbidity	NTU	--	<1	<1	<1	2.0
Water Elevation	ft MSL	--	1407.64	1407.50	1409.71	1409.71
<b>Metals</b>						
Aluminum	ug/L	200	--	<50.0	--	--
Antimony	ug/L	5.5	--	<5.0	--	--
Arsenic	ug/L	6.0	<2.0	<2.0	<2.0	<2.0
Barium	ug/L	80	--	47.4	--	--
Beryllium	ug/L	2.5	--	<1.0	--	--
Boron	ug/L	400	<100	<100	<100	<100
Cadmium	ug/L	2.0	--	<0.50	--	--
Chromium	ug/L	20	--	<5.0	--	--
Cobalt	ug/L	40	--	<10.0	--	--
Copper	ug/L	20	<5.0	<5.0	<5.0	<5.0
Iron	ug/L	80	<50.0 e	<50.0	64.3	<50.0
Lead	ug/L	4.0	--	<1.0	--	--
Lithium	ug/L	32	--	<8.0	--	--
Manganese	ug/L	80	<20.0	<20.0	<20.0	<20.0
Mercury	ng/L	2.00	<0.50	<0.50	0.54	<0.50
Molybdenum	ug/L	40	--	<10.0	--	--
Nickel	ug/L	100	<25.0	<25.0	<25.0	<25.0
Selenium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Silver	ug/L	0.80	--	<0.20	--	--
Strontium	ug/L	200	--	118	--	--
Thallium	ug/L	2.0	--	<1.0	--	--
Vanadium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Zinc	ug/L	40	<10.0	<10.0	<10.0	<10.0
<b>Major Anions</b>						
Alkalinity, Bicarbonate	mg/L	48	194	210	214	181
Alkalinity, Carbonate	mg/L	8.0	<2.0	<2.0 e	<2.0	8.4
Chloride	mg/L	4.0	76.1 e	74.4 e	75.3 e	78.8
Fluoride	mg/L	0.40	--	<0.10 e	--	--
Nitrogen, Nitrate	mg/L	0.41	1.2 e	1.4 e	1.2 e	0.82
Sulfate	mg/L	8.0	3.0	3.2 e	3.3 e	3.1
<b>Major Cations</b>						
Calcium	mg/L	12	--	77 e	--	--
Magnesium	mg/L	2.2	--	15.9	--	--
Potassium	mg/L	2.0	--	2.8	--	--
Sodium	mg/L	2.0	26.6 e	26.7 e	27.7 e	26
<b>General</b>						
Hardness	mg/L	40	--	258	--	--

Explanations of abbreviations are included on the final page of this table.

QAL062A (TDRSA-CWB)

**Table 1**  
**Mine Permit Groundwater Quality Monitoring Data**  
**QAL063A (TDRSA-CWB)**  
**Eagle Mine**

Parameter	Unit	Benchmark	Q1 2019 02/19/19 <sup>T</sup>	Q2 2019 05/06/19 <sup>T</sup>	Q3 2019 07/30/19 <sup>T</sup>	Q4 2019 10/28/19 <sup>T</sup>
<b>Field</b>						
D.O. <sup>1</sup>	ppm	--	10	11	8.8	8.8
ORP	mV	--	138	158	64	97
pH	SU	8.1-9.1	7.6	7.6	7.6	7.5
Specific Conductance	µS/cm @ 25°C	--	530	645	714	686
Temperature	°C	--	8.0	8.1	8.9	8.5
Turbidity	NTU	--	<1	<1	<1	1.0
Water Elevation	ft MSL	--	1401.30	1401.27	1402.76	1403.18
<b>Metals</b>						
Aluminum	ug/L	200	--	<50.0	--	--
Antimony	ug/L	5.5	--	<5.0	--	--
Arsenic	ug/L	6.0	<2.0	<2.0	<2.0	<2.0
Barium	ug/L	80	--	45.5	--	--
Beryllium	ug/L	2.5	--	<1.0	--	--
Boron	ug/L	400	<100	<100	<100	<100
Cadmium	ug/L	2.0	--	<0.50	--	--
Chromium	ug/L	20	--	<5.0	--	--
Cobalt	ug/L	40	--	<10.0	--	--
Copper	ug/L	20	<5.0	<5.0	<5.0	<5.0
Iron	ug/L	80	<50.0 e	<50.0	<50.0	<50.0
Lead	ug/L	4.0	--	<1.0	--	--
Lithium	ug/L	32	--	<8.0	--	--
Manganese	ug/L	80	<20.0	<20.0	<20.0	<20.0
Mercury	ng/L	2.00	<0.50	<0.50	<0.50	<0.50
Molybdenum	ug/L	40	--	<10.0	--	--
Nickel	ug/L	100	<25.0	<25.0	<25.0	<25.0
Selenium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Silver	ug/L	0.80	--	<0.20	--	--
Strontium	ug/L	200	--	116	--	--
Thallium	ug/L	2.0	--	<1.0	--	--
Vanadium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Zinc	ug/L	40	<10.0	<10.0	<10.0	<10.0
<b>Major Anions</b>						
Alkalinity, Bicarbonate	mg/L	42	196	214	222	174
Alkalinity, Carbonate	mg/L	8.0	<2.0	<2.0 e	<2.0	6.8
Chloride	mg/L	4.0	80.9 e	84.3 e	103 e	101
Fluoride	mg/L	0.40	--	<0.10 e	--	--
Nitrogen, Nitrate	mg/L	0.29	0.98 e	1.2 e	1.2 e	0.93
Sulfate	mg/L	8.0	2.5	2.6 e	3.2 e	2.8
<b>Major Cations</b>						
Calcium	mg/L	12	--	85.2 e	--	--
Magnesium	mg/L	2.0	--	17	--	--
Potassium	mg/L	2.0	--	3.0	--	--
Sodium	mg/L	2.0	19.5 e	23.7 e	28.4 e	29.2
<b>General</b>						
Hardness	mg/L	40	--	281	--	--

Explanations of abbreviations are included on the final page of this table.

QAL063A (TDRSA-CWB)

**Table 1**  
**Mine Permit Groundwater Quality Monitoring Data**  
**QAL064D (UMB)**  
**Eagle Mine**

Parameter	Unit	Benchmark	Q1 2019 03/07/19 <sup>T</sup>	Q2 2019 05/16/19 <sup>T</sup>	Q3 2019 07/22/19 <sup>T</sup>	Q4 2019 10/29/19 <sup>T</sup>
<b>Field</b>						
D.O. <sup>1</sup>	ppm	--	0.1	<0.1	<0.1	2.3
ORP	mV	--	-287	-196	-186	-281
pH	SU	8.0-9.0	8.8	8.3	9.3	8.4
Specific Conductance	µS/cm @ 25°C	--	101	144	146	144
Temperature	°C	--	6.9	7.0	8.1	6.9
Turbidity	NTU	--	<1	<1	<1	<1
Water Elevation	ft MSL	--	1415.53	1416.49	1416.42	1416.24
<b>Metals</b>						
Aluminum	ug/L	200	--	<50.0	--	--
Antimony	ug/L	5.5	--	<5.0	--	--
Arsenic	ug/L	6.0	<2.0	<2.0	<2.0	<2.0
Barium	ug/L	80	--	<20.0	--	--
Beryllium	ug/L	2.5	--	<1.0	--	--
Boron	ug/L	400	<100	<100	<100	<100
Cadmium	ug/L	2.0	--	<0.50	--	--
Chromium	ug/L	20	--	<5.0	--	--
Cobalt	ug/L	40	--	<10.0	--	--
Copper	ug/L	20	<5.0	<5.0	<5.0	<5.0
Iron	ug/L	80	<50.0 e	<50.0	<50.0	<50.0
Lead	ug/L	4.0	--	<1.0	--	--
Lithium	ug/L	32	--	<8.0	--	--
Manganese	ug/L	80	<20.0	<20.0	<20.0	<20.0
Mercury	ng/L	2.00	<0.50	<0.50	<0.50	<0.50
Molybdenum	ug/L	40	--	<10.0	--	--
Nickel	ug/L	100	<25.0	<25.0	<25.0	<25.0
Selenium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Silver	ug/L	0.80	--	<0.20	--	--
Strontium	ug/L	200	--	114	--	--
Thallium	ug/L	2.0	--	<1.0	--	--
Vanadium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Zinc	ug/L	40	<10.0	<10.0	<10.0	<10.0
<b>Major Anions</b>						
Alkalinity, Bicarbonate	mg/L	82	70.3	75.2	70.9	66.6
Alkalinity, Carbonate	mg/L	8.0	<2.0	<2.0 e	<2.0	<2.0
Chloride	mg/L	4.2	1.9 e	1.9 e	2.4 e	2.6
Fluoride	mg/L	0.40	--	0.12 e	--	--
Nitrogen, Nitrate	mg/L	0.20	<0.050 e	<0.050 e	<0.050 e	<0.050
Sulfate	mg/L	8.0	<2.0	<2.0 e	<2.0 e	<2.0
<b>Major Cations</b>						
Calcium	mg/L	22	--	19.9 e	--	--
Magnesium	mg/L	3.3	--	4.2	--	--
Potassium	mg/L	2.0	--	1.3	--	--
Sodium	mg/L	6.9	4.1 e	4.1 e	4.3 e	3.9
<b>General</b>						
Hardness	mg/L	51	--	67	--	--

Explanations of abbreviations are included on the final page of this table.

QAL064D (UMB)

**Table 1**  
**Mine Permit Groundwater Quality Monitoring Data**  
**QAL065D (UMB)**  
**Eagle Mine**

Parameter	Unit	Benchmark	Q1 2019 03/11/19 <sup>T</sup>	Q2 2019 05/08/19 <sup>T</sup>	Q3 2019 07/22/19 <sup>T</sup>	Q4 2019 10/30/19 <sup>T</sup>
<b>Field</b>						
D.O. <sup>1</sup>	ppm	--	6.5	0.2	0.4	1.0
ORP	mV	--	-138	-98	-118	-161
pH	SU	7.9-8.9	8.5	8.2	8.6	8.3
Specific Conductance	µS/cm @ 25°C	--	124	144	151	206
Temperature	°C	--	6.7	6.7	12.0	6.5
Turbidity	NTU	--	<1	<1	<1	1.0
Water Elevation	ft MSL	--	1415.41	1416.41	1415.94	1415.85
<b>Metals</b>						
Aluminum	ug/L	200	--	<50.0	--	--
Antimony	ug/L	5.5	--	<5.0	--	--
Arsenic	ug/L	6.6	3.7	3.6	3.7	3.7
Barium	ug/L	80	--	<20.0	--	--
Beryllium	ug/L	2.5	--	<1.0	--	--
Boron	ug/L	400	<100	<100	<100	<100
Cadmium	ug/L	2.0	--	<0.50	--	--
Chromium	ug/L	20	--	<5.0	--	--
Cobalt	ug/L	40	--	<10.0	--	--
Copper	ug/L	20	<5.0	<5.0	<5.0	<5.0
Iron	ug/L	80	<50.0 e	75.2	54.6	76.8
Lead	ug/L	4.0	--	<1.0	--	--
Lithium	ug/L	32	--	<8.0	--	--
Manganese	ug/L	80	<20.0	<20.0	<20.0	<20.0
Mercury	ng/L	2.00	<0.50	<0.50	<0.50	<0.50
Molybdenum	ug/L	40	--	<10.0	--	--
Nickel	ug/L	100	<25.0	<25.0	<25.0	<25.0
Selenium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Silver	ug/L	0.80	--	<0.20	--	--
Strontium	ug/L	200	--	191	--	--
Thallium	ug/L	2.0	--	<1.0	--	--
Vanadium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Zinc	ug/L	40	<10.0	<10.0	<10.0	<10.0
<b>Major Anions</b>						
Alkalinity, Bicarbonate	mg/L	86	74.9	81	78.6	75.2
Alkalinity, Carbonate	mg/L	8.7	<2.0	<2.0 e	<2.0	<2.0
Chloride	mg/L	4.0	<1.0 e	<1.0 e	<1.0 e	<1.0
Fluoride	mg/L	0.40	--	0.13 e	--	--
Nitrogen, Nitrate	mg/L	0.20	<0.050 e	<0.050 e	<0.050 e	<0.050
Sulfate	mg/L	8.0	<2.0	<2.0 e	<2.0 e	<2.0
<b>Major Cations</b>						
Calcium	mg/L	14	--	14.7 e	--	--
Magnesium	mg/L	4.8	--	4.6	--	--
Potassium	mg/L	3.0	--	2.8	--	--
Sodium	mg/L	12	9.6 e	10.1 e	9.4 e	9.7
<b>General</b>						
Hardness	mg/L	53	--	56	--	--

Explanations of abbreviations are included on the final page of this table.

QAL065D (UMB)



**Table 1**  
**Mine Permit Groundwater Quality Monitoring Data**  
**QAL066D (UMB)**  
**Eagle Mine**

Parameter	Unit	Benchmark	Q1 2019 03/07/19 <sup>T</sup>	Q2 2019 05/08/19 <sup>T</sup>	Q3 2019 07/22/19 <sup>T</sup>	Q4 2019 10/30/19 <sup>T</sup>
<b>Field</b>						
D.O. <sup>1</sup>	ppm	--	10	3.4	5.9	4.6
ORP	mV	--	106	130	159	-60
pH	SU	8.7-9.7	8.9	8.5	8.8	8.5
Specific Conductance	µS/cm @ 25°C	--	134	156	155	165
Temperature	°C	--	4.8	6.7	8.8	6.6
Turbidity	NTU	--	<1	<1	<1	<1
Water Elevation	ft MSL	--	1414.65	1415.50	1416.16	1415.83
<b>Metals</b>						
Aluminum	ug/L	557	--	794	--	--
Antimony	ug/L	5.5	--	<5.0	--	--
Arsenic	ug/L	8.9	9.6	8.3	8.4	9.5
Barium	ug/L	80	--	<20.0	--	--
Beryllium	ug/L	2.5	--	<1.0	--	--
Boron	ug/L	400	<100	<100	<100	<100
Cadmium	ug/L	2.0	--	<0.50	--	--
Chromium	ug/L	20	--	<5.0	--	--
Cobalt	ug/L	40	--	<10.0	--	--
Copper	ug/L	20	<5.0	<5.0	<5.0	<5.0
Iron	ug/L	288	498 e	527	328	544
Lead	ug/L	4.0	--	<1.0	--	--
Lithium	ug/L	32	--	<8.0	--	--
Manganese	ug/L	80	<20.0	<20.0	<20.0	<20.0
Mercury	ng/L	2.00	1.11	1.01	0.580	1.74
Molybdenum	ug/L	40	--	<10.0	--	--
Nickel	ug/L	100	<25.0	<25.0	<25.0	<25.0
Selenium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Silver	ug/L	0.80	--	<0.20	--	--
Strontium	ug/L	367	--	61.5	--	--
Thallium	ug/L	2.0	--	<1.0	--	--
Vanadium	ug/L	4.0	1.1	<1.0	<1.0	1.3
Zinc	ug/L	40	<10.0	<10.0	<10.0	<10.0
<b>Major Anions</b>						
Alkalinity, Bicarbonate	mg/L	61	65.2	72.1	67.1	68.1
Alkalinity, Carbonate	mg/L	52	9.0	5.4 e	4.8	5.4
Chloride	mg/L	4.0	<1.0 e	<1.0 e	<1.0 e	<1.0
Fluoride	mg/L	0.40	--	<0.10 e	--	--
Nitrogen, Nitrate	mg/L	0.20	<0.050 e	<0.050 e	<0.050 e	<0.050
Sulfate	mg/L	11	8.0	8.0 e	7.7 e	8.6
<b>Major Cations</b>						
Calcium	mg/L	58	--	15 e	--	--
Magnesium	mg/L	2.9	--	2.4	--	--
Potassium	mg/L	2.6	--	1.2	--	--
Sodium	mg/L	8.0	21.3 e	19.1 e	16.8 e	20.0
<b>General</b>						
Hardness	mg/L	146	--	47	--	--

Explanations of abbreviations are included on the final page of this table.

QAL066D (UMB)

**Table 1**  
**Mine Permit Groundwater Quality Monitoring Data**  
**QAL067A (TDRSA-CWB)**  
**Eagle Mine**

Parameter	Unit	Benchmark	Q1 2019 03/11/19 <sup>T</sup>	Q2 2019 05/07/19 <sup>T</sup>	Q3 2019 07/30/19 <sup>T</sup>	Q4 2019 10/28/19 <sup>T</sup>
<b>Field</b>						
D.O. <sup>1</sup>	ppm	--	10	7.7	7.9	8.9
ORP	mV	--	211	90	202	165
pH	SU	5.6-6.6	6.7	6.3	6.5	6.1
Specific Conductance	µS/cm @ 25°C	--	200	272	352	518
Temperature	°C	--	7.6	8.5	11.0	8.7
Turbidity	NTU	--	<1	<1	<1	2.0
Water Elevation	ft MSL	--	1414.66	1414.74	1416.65	1416.31
<b>Metals</b>						
Aluminum	ug/L	200	--	<50.0	--	--
Antimony	ug/L	5.5	--	<5.0	--	--
Arsenic	ug/L	6.0	<2.0	<2.0	<2.0	<2.0
Barium	ug/L	80	--	<20.0	--	--
Beryllium	ug/L	2.5	--	<1.0	--	--
Boron	ug/L	400	<100	<100	<100	<100
Cadmium	ug/L	2.0	--	<0.50	--	--
Chromium	ug/L	20	--	<5.0	--	--
Cobalt	ug/L	40	--	<10.0	--	--
Copper	ug/L	20	<5.0	<5.0	<5.0	<5.0
Iron	ug/L	80	<50.0 e	<50.0	<50.0	<50.0
Lead	ug/L	4.0	--	<1.0	--	--
Lithium	ug/L	32	--	<8.0	--	--
Manganese	ug/L	80	<20.0	<20.0	<20.0	<20.0
Mercury	ng/L	2.00	2.14	1.24	2.22	1.06
Molybdenum	ug/L	40	--	<10.0	--	--
Nickel	ug/L	100	<25.0	<25.0	<25.0	<25.0
Selenium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Silver	ug/L	0.80	--	<0.20	--	--
Strontium	ug/L	200	--	<50.0	--	--
Thallium	ug/L	2.0	--	<1.0	--	--
Vanadium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Zinc	ug/L	40	<10.0	<10.0	<10.0	<10.0
<b>Major Anions</b>						
Alkalinity, Bicarbonate	mg/L	51	58.6	56	61	62.3
Alkalinity, Carbonate	mg/L	8.0	<2.0	<2.0 e	<2.0	<2.0
Chloride	mg/L	4.0	41.8 e	51 e	70.4 e	115
Fluoride	mg/L	0.40	--	<0.10 e	--	--
Nitrogen, Nitrate	mg/L	0.25	0.24 e	0.32 e	0.46 e	0.74
Sulfate	mg/L	8.4	2.7	2.7 e	5.2 e	6.2
<b>Major Cations</b>						
Calcium	mg/L	8.2	--	6.5 e	--	--
Magnesium	mg/L	2.0	--	3.0	--	--
Potassium	mg/L	2.0	--	1.5	--	--
Sodium	mg/L	2.0	43.6 e	45.7 e	46.7 e	65.8
<b>General</b>						
Hardness	mg/L	26	--	29	--	--

Explanations of abbreviations are included on the final page of this table.

QAL067A (TDRSA-CWB)

**Table 1**  
**Mine Permit Groundwater Quality Monitoring Data**  
**QAL068A (Background)**  
**Eagle Mine**

Parameter	Unit	Benchmark	Q1 2019 03/06/19 <sup>T</sup>	Q2 2019 05/16/19 <sup>T</sup>	Q3 2019 07/23/19 <sup>T</sup>	Q4 2019 10/29/19 <sup>T</sup>
<b>Field</b>						
D.O. <sup>1</sup>	ppm	--	12	11	13	13
ORP	mV	--	186	301	104	165
pH	SU	6.2-7.2	6.7	6.6	6.7	6.4
Specific Conductance	µS/cm @ 25°C	--	34	41	37	41
Temperature	°C	--	7.5	7.6	8.1	7.1
Turbidity	NTU	--	<1	<1	1.0	<1
Water Elevation	ft MSL	--	1421.92	1421.95	1425.37	1424.45
<b>Metals</b>						
Aluminum	ug/L	200	--	<50.0	--	--
Antimony	ug/L	5.5	--	<5.0	--	--
Arsenic	ug/L	6.0	<2.0	<2.0	<2.0	<2.0
Barium	ug/L	80	--	<20.0	--	--
Beryllium	ug/L	2.5	--	<1.0	--	--
Boron	ug/L	400	<100	<100	<100	<100
Cadmium	ug/L	2.0	--	<0.50	--	--
Chromium	ug/L	20	--	<5.0	--	--
Cobalt	ug/L	40	--	<10.0	--	--
Copper	ug/L	20	<5.0	<5.0	<5.0	<5.0
Iron	ug/L	80	<50.0 e	<50.0	<50.0	<50.0
Lead	ug/L	4.0	--	<1.0	--	--
Lithium	ug/L	32	--	<8.0	--	--
Manganese	ug/L	80	<20.0	<20.0	<20.0	<20.0
Mercury	ng/L	2.00	<0.50	<0.50	<0.50	<0.50
Molybdenum	ug/L	40	--	<10.0	--	--
Nickel	ug/L	100	<25.0	<25.0	<25.0	<25.0
Selenium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Silver	ug/L	0.80	--	<0.20	--	--
Strontium	ug/L	200	--	<50.0	--	--
Thallium	ug/L	2.0	--	<1.0	--	--
Vanadium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Zinc	ug/L	40	<10.0	<10.0	<10.0	<10.0
<b>Major Anions</b>						
Alkalinity, Bicarbonate	mg/L	35	20.9	18.2	15.8	16.3
Alkalinity, Carbonate	mg/L	8.0	<2.0	<2.0 e	<2.0	<2.0
Chloride	mg/L	4.0	<1.0 e	<1.0 e	<1.0 e	<1.0
Fluoride	mg/L	0.40	--	<0.10 e	--	--
Nitrogen, Nitrate	mg/L	0.20	<0.050 e	<0.050 e	<0.050 e	<0.050
Sulfate	mg/L	8.0	<2.0	<2.0 e	<2.0 e	<2.0
<b>Major Cations</b>						
Calcium	mg/L	6.7	--	5.7 e	--	--
Magnesium	mg/L	2.0	--	<1.0	--	--
Potassium	mg/L	2.0	--	1.0	--	--
Sodium	mg/L	2.0	<1.0 e	<1.0 e	<1.0 e	<1.0
<b>General</b>						
Hardness	mg/L	21	--	<3	--	--

Explanations of abbreviations are included on the final page of this table.

QAL068A (Background)

**Table 1**  
**Mine Permit Groundwater Quality Monitoring Data**  
**QAL068B (Background)**  
**Eagle Mine**

Parameter	Unit	Benchmark	Q1 2019 03/06/19 <sup>T</sup>	Q2 2019 05/16/19 <sup>T</sup>	Q3 2019 07/22/19 <sup>T</sup>	Q4 2019 10/29/19 <sup>T</sup>
<b>Field</b>						
D.O. <sup>1</sup>	ppm	--	11	12	10	12
ORP	mV	--	144	253	258	71
pH	SU	8.4-9.4	9.2	9.0	9.0	8.9
Specific Conductance	µS/cm @ 25°C	--	52	61	63	65
Temperature	°C	--	7.1	7.7	8.0	7.3
Turbidity	NTU	--	<1	<1	<1	<1
Water Elevation	ft MSL	--	1413.59	1414.17	1416.42	1415.71
<b>Metals</b>						
Aluminum	ug/L	200	--	<50.0	--	--
Antimony	ug/L	5.5	--	<5.0	--	--
Arsenic	ug/L	6.0	<2.0	<2.0	<2.0	<2.0
Barium	ug/L	80	--	<20.0	--	--
Beryllium	ug/L	2.5	--	<1.0	--	--
Boron	ug/L	400	<100	<100	<100	<100
Cadmium	ug/L	2.0	--	<0.50	--	--
Chromium	ug/L	20	--	<5.0	--	--
Cobalt	ug/L	40	--	<10.0	--	--
Copper	ug/L	20	<5.0	<5.0	<5.0	<5.0
Iron	ug/L	184	<50.0 e	<50.0	<50.0	<50.0
Lead	ug/L	4.0	--	<1.0	--	--
Lithium	ug/L	32	--	<8.0	--	--
Manganese	ug/L	80	<20.0	<20.0	<20.0	<20.0
Mercury	ng/L	2.00	<0.50	<0.50	<0.50	<0.50
Molybdenum	ug/L	40	--	<10.0	--	--
Nickel	ug/L	100	<25.0	<25.0	<25.0	<25.0
Selenium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Silver	ug/L	0.80	--	<0.20	--	--
Strontium	ug/L	200	--	<50.0	--	--
Thallium	ug/L	2.0	--	<1.0	--	--
Vanadium	ug/L	4.0	<1.0	1.0	1.1	1.0
Zinc	ug/L	40	<10.0	<10.0	<10.0	<10.0
<b>Major Anions</b>						
Alkalinity, Bicarbonate	mg/L	30	22.8	29.5	30.1	28.7
Alkalinity, Carbonate	mg/L	9.9	<2.0	<2.0 e	<2.0	<2.0
Chloride	mg/L	4.0	<1.0 e	<1.0 e	<1.0 e	<1.0
Fluoride	mg/L	0.40	--	<0.10 e	--	--
Nitrogen, Nitrate	mg/L	0.20	0.061 e	0.054 e	0.067 e	0.066
Sulfate	mg/L	8.0	2.3	2.4 e	2.3 e	2.3
<b>Major Cations</b>						
Calcium	mg/L	9.4	--	8.9 e	--	--
Magnesium	mg/L	2.0	--	1.8	--	--
Potassium	mg/L	2.0	--	0.71	--	--
Sodium	mg/L	2.0	<1.0 e	<1.0 e	<1.0 e	<1.0
<b>General</b>						
Hardness	mg/L	31	--	30	--	--

Explanations of abbreviations are included on the final page of this table.

QAL068B (Background)

**Table 1**  
**Mine Permit Groundwater Quality Monitoring Data**  
**QAL068D (Background)**  
**Eagle Mine**

Parameter	Unit	Benchmark	Q1 2019 03/06/19 <sup>T</sup>	Q2 2019 05/16/19 <sup>T</sup>	Q3 2019 07/22/19 <sup>T</sup>	Q4 2019 10/29/19 <sup>T</sup>
<b>Field</b>						
D.O. <sup>1</sup>	ppm	--	6.7	6.4	1.8	7.9
ORP	mV	--	130	231	217	47
pH	SU	8.0-9.0	8.5	8.5	8.5	8.2
Specific Conductance	µS/cm @ 25°C	--	98	115	119	122
Temperature	°C	--	6.2	7.6	11	6.8
Turbidity	NTU	--	<1	<1	<1	<1
Water Elevation	ft MSL	--	1413.62	1414.22	1416.46	1412.82
<b>Metals</b>						
Aluminum	ug/L	200	--	<50.0	--	--
Antimony	ug/L	5.5	--	<5.0	--	--
Arsenic	ug/L	7.2	5.7	5.8	6.5	5.9
Barium	ug/L	80	--	<20.0	--	--
Beryllium	ug/L	2.5	--	<1.0	--	--
Boron	ug/L	400	<100	<100	<100	<100
Cadmium	ug/L	2.0	--	<0.50	--	--
Chromium	ug/L	20	--	<5.0	--	--
Cobalt	ug/L	40	--	<10.0	--	--
Copper	ug/L	20	<5.0	<5.0	<5.0	42.5
Iron	ug/L	119	<50.0 e	<50.0	<50.0	<50.0
Lead	ug/L	4.0	--	<1.0	--	--
Lithium	ug/L	32	--	<8.0	--	--
Manganese	ug/L	80	<20.0	<20.0	<20.0	<20.0
Mercury	ng/L	2.12	<0.50	<0.50	<0.50	<0.50
Molybdenum	ug/L	40	--	<10.0	--	--
Nickel	ug/L	100	<25.0	<25.0	<25.0	<25.0
Selenium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Silver	ug/L	0.80	--	<0.20	--	--
Strontium	ug/L	200	--	<50.0	--	--
Thallium	ug/L	2.0	--	<1.0	--	--
Vanadium	ug/L	4.0	3.9	2.9	3.7	7.7
Zinc	ug/L	40	<10.0	<10.0	<10.0	<10.0
<b>Major Anions</b>						
Alkalinity, Bicarbonate	mg/L	67	48.7	57.1	57.3	54.9
Alkalinity, Carbonate	mg/L	8.0	<2.0	<2.0 e	<2.0	<2.0
Chloride	mg/L	4.0	<1.0 e	<1.0 e	<1.0 e	<1.0
Fluoride	mg/L	0.40	--	<0.10 e	--	--
Nitrogen, Nitrate	mg/L	0.21	<0.050 e	<0.050 e	<0.050 e	0.053
Sulfate	mg/L	10	5.3	5.3 e	5.3 e	5.3
<b>Major Cations</b>						
Calcium	mg/L	16	--	14.0 e	--	--
Magnesium	mg/L	3.9	--	3.8	--	--
Potassium	mg/L	2.0	--	1.6	--	--
Sodium	mg/L	6.1	4.0 e	4.7 e	4.7 e	3.7
<b>General</b>						
Hardness	mg/L	52	--	51	--	--

Explanations of abbreviations are included on the final page of this table.

QAL068D (Background)

**Table 1  
Mine Permit Groundwater Quality Monitoring Data  
QAL069A (Background)  
Eagle Mine**

Parameter	Unit	Benchmark	Q1 2019 03/06/19 <sup>T</sup>	Q2 2019 05/07/19 <sup>T</sup>	Q3 2019 07/30/19 <sup>T</sup>	Q4 2019 10/28/19 <sup>T</sup>
<b>Field</b>						
D.O. <sup>1</sup>	ppm	--	7.4	7.5	5.6	8.9
ORP	mV	--	195	79	59	160
pH	SU	7.8-8.8	6.9	6.7	7.1	6.8
Specific Conductance	µS/cm @ 25°C	--	381	423	671	551
Temperature	°C	--	7.4	8.3	8.6	8.4
Turbidity	NTU	--	<1	<1	<1	<1
Water Elevation	ft MSL	--	1383.20	1383.83	1386.73	1386.07
<b>Metals</b>						
Aluminum	ug/L	200	--	<50.0	--	--
Antimony	ug/L	5.5	--	<5.0	--	--
Arsenic	ug/L	6.0	<2.0	<2.0	<2.0	<2.0
Barium	ug/L	80	--	<20.0	--	--
Beryllium	ug/L	2.5	--	<1.0	--	--
Boron	ug/L	400	<100	<100	<100	<100
Cadmium	ug/L	2.0	--	<0.50	--	--
Chromium	ug/L	20	--	12	--	--
Cobalt	ug/L	40	--	<10.0	--	--
Copper	ug/L	20	<5.0	<5.0	<5.0	<5.0
Iron	ug/L	80	53.4 e	228	<50.0	<50.0
Lead	ug/L	4.0	--	<1.0	--	--
Lithium	ug/L	32	--	<8.0	--	--
Manganese	ug/L	80	<20.0	<20.0	<20.0	<20.0
Mercury	ng/L	2.00	3.84	2.22	2.24	1.55
Molybdenum	ug/L	40	--	<10.0	--	--
Nickel	ug/L	100	<25.0	<25.0	<25.0	<25.0
Selenium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Silver	ug/L	0.80	--	<0.20	--	--
Strontium	ug/L	200	--	61.6	--	--
Thallium	ug/L	2.0	--	<1.0	--	--
Vanadium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Zinc	ug/L	40	<10.0	<10.0	<10.0	<10.0
<b>Major Anions</b>						
Alkalinity, Bicarbonate	mg/L	138	173	158	149	107
Alkalinity, Carbonate	mg/L	8.0	<2.0	<2.0 e	<2.0	<2.0
Chloride	mg/L	4.0	35.9 e	38.3 e	122 e	51.8
Fluoride	mg/L	0.40	--	<0.10 e	--	--
Nitrogen, Nitrate	mg/L	0.57	0.71 e	0.70 e	0.90 e	0.61
Sulfate	mg/L	8.0	9.4	8.0 e	7.7 e	8.4
<b>Major Cations</b>						
Calcium	mg/L	35	--	40.9 e	--	--
Magnesium	mg/L	18	--	11.5	--	--
Potassium	mg/L	2.0	--	2.0	--	--
Sodium	mg/L	2.0	24.7 e	28.2 e	49 e	40.7
<b>General</b>						
Hardness	mg/L	162	--	149	--	--

Explanations of abbreviations are included on the final page of this table.

QAL069A (Background)

**Table 1**  
**Mine Permit Groundwater Quality Monitoring Data**  
**QAL071A (TDRSA-CWB)**  
**Eagle Mine**

Parameter	Unit	Benchmark	Q1 2019 02/19/19 <sup>T</sup>	Q2 2019 05/06/19 <sup>T</sup>	Q3 2019 07/29/19 <sup>T</sup>	Q4 2019 10/28/19 <sup>T</sup>
<b>Field</b>						
D.O. <sup>1</sup>	ppm	--	10	10	9.1	10
ORP	mV	--	165	270	204	201
pH	SU	8.1-9.1	7.7	7.7	7.7	7.7
Specific Conductance	µS/cm @ 25°C	--	431	602	510	699
Temperature	°C	--	8.2	8.6	8.9	8.6
Turbidity	NTU	--	<1	<1	<1	<1
Water Elevation	ft MSL	--	1405.18	1405.87	1407.96	1406.54
<b>Metals</b>						
Aluminum	ug/L	200	--	<50.0	--	--
Antimony	ug/L	5.5	--	<5.0	--	--
Arsenic	ug/L	6.0	<2.0	<2.0	<2.0	<2.0
Barium	ug/L	80	--	38.8	--	--
Beryllium	ug/L	2.5	--	<1.0	--	--
Boron	ug/L	400	<100	<100	<100	<100
Cadmium	ug/L	2.0	--	<0.50	--	--
Chromium	ug/L	20	--	<5.0	--	--
Cobalt	ug/L	40	--	<10.0	--	--
Copper	ug/L	20	7.9	11.9	13.6	15.9
Iron	ug/L	178	<50.0 e	<50.0	<50.0	<50.0
Lead	ug/L	4.0	--	<1.0	--	--
Lithium	ug/L	32	--	<8.0	--	--
Manganese	ug/L	80	<20.0	<20.0	<20.0	<20.0
Mercury	ng/L	2.00	<0.50	<0.50	<0.50	<0.50
Molybdenum	ug/L	40	--	<10.0	--	--
Nickel	ug/L	100	<25.0	<25.0	<25.0	<25.0
Selenium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Silver	ug/L	0.80	--	<0.20	--	--
Strontium	ug/L	200	--	101	--	--
Thallium	ug/L	2.0	--	<1.0	--	--
Vanadium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Zinc	ug/L	40	<10.0	<10.0	<10.0	<10.0
<b>Major Anions</b>						
Alkalinity, Bicarbonate	mg/L	44	123	146	141	102
Alkalinity, Carbonate	mg/L	8.0	<2.0	<2.0 e	<2.0	<2.0
Chloride	mg/L	4.0	18.7 e	22 e	19.2 e	20.3
Fluoride	mg/L	0.40	--	<0.10 e	--	--
Nitrogen, Nitrate	mg/L	0.31	27.5 e	33.6 e	21.8 e	27.1
Sulfate	mg/L	8.0	8.6	9.8 e	11.2 e	8.6
<b>Major Cations</b>						
Calcium	mg/L	12	--	84.9 e	--	--
Magnesium	mg/L	2.0	--	12.4	--	--
Potassium	mg/L	2.0	--	1.8	--	--
Sodium	mg/L	2.0	12 e	19.9 e	15.1 e	16.7
<b>General</b>						
Hardness	mg/L	38	--	263	--	--

Explanations of abbreviations are included on the final page of this table.

QAL071A (TDRSA-CWB)

**Table 1**  
**Mine Permit Groundwater Quality Monitoring Data**  
**QAL074A (Septic & WWTP)**  
**Eagle Mine**

Parameter	Unit	Benchmark	Q1 2019 02/19/19 <sup>T</sup>	Q2 2019 05/06/19 <sup>T</sup>	Q3 2019 07/29/19 <sup>T</sup>	Q4 2019 10/28/19 <sup>T</sup>
<b>Field</b>						
D.O. <sup>1</sup>	ppm	--	9.1	10.0	8.4	9.9
ORP	mV	--	134	208	143	154
pH	SU	8.4-9.4	8.3	8.2	8.2	8.2
Specific Conductance	µS/cm @ 25°C	--	282	309	348	439
Temperature	°C	--	7.0	8.0	9.0	8.0
Turbidity	NTU	--	<1	<1	<1	<1
Water Elevation	ft MSL	--	1403.22	1404.85	1405.95	1404.82
<b>Metals</b>						
Aluminum	ug/L	200	--	376	--	--
Antimony	ug/L	5.5	--	<5.0	--	--
Arsenic	ug/L	6.0	<2.0	<2.0	<2.0	<2.0
Barium	ug/L	80	--	27	--	--
Beryllium	ug/L	2.5	--	<1.0	--	--
Boron	ug/L	400	<100	<100	<100	<100
Cadmium	ug/L	2.0	--	<0.50	--	--
Chromium	ug/L	20	--	384	--	--
Cobalt	ug/L	40	--	<10.0	--	--
Copper	ug/L	20	<5.0	11.9	<5.0	<5.0
Iron	ug/L	212	95.2 e	2,080	274	139
Lead	ug/L	4.0	--	<1.0	--	--
Lithium	ug/L	32	--	<8.0	--	--
Manganese	ug/L	80	<20.0	24	<20.0	<20.0
Mercury	ng/L	2.00	<0.50	<0.50	<0.50	<0.50
Molybdenum	ug/L	40	--	27.2	--	--
Nickel	ug/L	100	<25.0	37.3	<25.0	<25.0
Selenium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Silver	ug/L	0.80	--	0.97	--	--
Strontium	ug/L	200	--	57	--	--
Thallium	ug/L	2.0	--	<1.0	--	--
Vanadium	ug/L	4.0	<1.0	<1.0	<1.0	<1.0
Zinc	ug/L	40	<10.0	<10.0	<10.0	<10.0
<b>Major Anions</b>						
Alkalinity, Bicarbonate	mg/L	39	76.1	83.4	98.6	84.1
Alkalinity, Carbonate	mg/L	8.0	<2.0	<2.0 e	<2.0	<2.0
Chloride	mg/L	4.0	28.4 e	44.8 e	48.1 e	41.7
Fluoride	mg/L	0.40	--	<0.10 e	--	--
Nitrogen, Nitrate	mg/L	0.43	0.92 e	0.93 e	0.84 e	0.84
Sulfate	mg/L	8.0	4.8	7.6 e	8.5 e	8.1
<b>Major Cations</b>						
Calcium	mg/L	31	--	38.1 e	--	--
Magnesium	mg/L	5.9	--	7.3	--	--
Potassium	mg/L	2.0	--	1.7	--	--
Sodium	mg/L	3.5	21.0 e	22.3 e	26.1 e	24.0
<b>General</b>						
Hardness	mg/L	103	--	125	--	--

Explanations of abbreviations are included on the final page of this table.

QAL074A (Septic & WWTP)



**Table 1**  
**Groundwater Quality Data**  
**Mine Permit Monitoring**  
**Explanation of Abbreviations and Data Qualifiers**  
**Eagle Project**

Abbreviation or Data Qualifier	Explanation
1	Many D.O. values are elevated due to well screen configuration and aquifer characteristics and the low-flow sampling method. Super-saturated DO values are rejected (see R data qualifier) as not being representative of true conditions.
a	Estimated value. Duplicate precision for this parameter exceeded quality control limit.
b	Estimated value. Sample received after EPA established hold time expired.
BP	Below pump. Maximum water elevation is shown.
CWB	Contact Water Basin
D	Sample for metal and major cation parameters was filtered and values are dissolved concentrations.
e	Estimated value. The laboratory statement of data qualifications indicates that a quality control limit for this parameter was exceeded.
f	Value should be considered an estimate because field stabilization was not achieved of at least one parameter.
i	Insufficient water for collection of field parameters and/or sample.
J	Estimated value. Reported concentration is between the method detection limit and reporting limit.
NM	Not measured.
p	Pending. Some parameters/locations require additional baseline data to calculate a benchmark.
Q	Quarter.
R	Measured value was rejected based on quality control procedures.
RL	Laboratory reporting limit.
s	Potential false positive value. Compound present in blank sample.
t	Trending. Benchmarks are not proposed for baseline datasets that appear to be trending (using samples collected through Q4 2012) because the data do not represent a random distribution about the baseline mean. Trend analysis is recommended in place of benchmark screening for parameters that appear to be trending.
T	Sample was not filtered and all values are total concentrations.
TDRSA	Temporary Development Rock Storage Area
UMB	Underground Mine Boundary
	Value is equal to or above site-specific benchmark at a compliance monitoring location. An exceedance occurs if there are 2 consecutive sampling events with a value equal to or greater than the benchmark. Color also indicates compliance monitoring location when applied to column headers.
	Value is equal to or above site-specific benchmark at a background monitoring location. Color also indicates background monitoring location when applied to column headers.

**Table 1**  
**Mine Permit Groundwater Quality Monitoring Data**  
**QAL070A (NCWIB)**  
**Eagle Mine**

Parameter	Unit	Benchmark	Q2 2017 05/09/17 <sup>T</sup>	Q2 2018 05/08/18 <sup>T</sup>	Q2 2019 05/07/19 <sup>T</sup>
<b>Field</b>					
D.O. <sup>1</sup>	ppm	--	10	13	11
ORP	mV	--	182	74	185
pH	SU	8.3-9.3	8.2	8.4	8.3
Specific Conductance	µS/cm @ 25°C	--	524	499	479
Temperature	°C	--	8.2	9.5	9.0
Turbidity	NTU	--	<1	<1	<1
Water Elevation	ft MSL	--	1371.21	1372.25	1371.85
<b>Metals</b>					
Aluminum	ug/L	200	<50	<50.0	<50.0
Antimony	ug/L	5.5	<5.0	<5.0	<5.0
Arsenic	ug/L	6.0	<2.0	<2.0	<2.0
Barium	ug/L	80	28	26.6	27.3
Beryllium	ug/L	2.5	<1.0	<1.0	<1.0
Boron	ug/L	400	<100 e	<100	<100
Cadmium	ug/L	2.0	<0.50	<0.50	<0.50
Chromium	ug/L	20	<5.0	<5.0	<5.0
Cobalt	ug/L	40	<10	<10.0	<10.0
Copper	ug/L	20	<5.0 e	<5.0	<5.0
Iron	ug/L	80	<20	<20.0	<50.0
Lead	ug/L	4.0	<1.0	<1.0	<1.0
Lithium	ug/L	32	<8.0	<8.0	<8.0
Manganese	ug/L	80	<20	<20.0	<20.0
Mercury	ng/L	2.00	<0.500	<0.50 e	0.620
Molybdenum	ug/L	40	<10	<10.0	<10.0
Nickel	ug/L	100	<25	<25.0	<25.0
Selenium	ug/L	4.0	<1.0	<1.0	<1.0
Silver	ug/L	0.80	<0.20	<0.20	<0.20
Strontium	ug/L	200	74	74	72.9
Thallium	ug/L	2.0	<2.0	<2.0	<1.0
Vanadium	ug/L	4.0	<1.0	<1.0	<1.0
Zinc	ug/L	40	<10 e	<10.0	<10.0
<b>Major Anions</b>					
Alkalinity, Bicarbonate	mg/L	42	56	63	75.1
Alkalinity, Carbonate	mg/L	8.0	<2.0	<2.0	<2.0 e
Chloride	mg/L	4.0	120 e	110	107 e
Fluoride	mg/L	0.40	<0.10	<0.10	<0.10 e
Nitrogen, Nitrate	mg/L	0.22	1.2 e	1.3	1.4 e
Sulfate	mg/L	8.0	6.7	7.9	10.3 e
<b>Major Cations</b>					
Calcium	mg/L	11	47	37.8	38.6 e
Magnesium	mg/L	3.0	9.9	7.1	7.0
Potassium	mg/L	2.0	2.0 e	1.8	1.9
Sodium	mg/L	2.0	40 e	46.8	48.4 e
<b>General</b>					
Hardness	mg/L	40	158	124	125

Explanations of abbreviations are included on the final page of this table.

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