

2017
 Mine Permit Groundwater Quality Monitoring Data
 HW-1L (Monitoring)
 Humboldt Mill

Parameter	Unit	Recommended Benchmark 2014	Q1 2017 02/15/2017 ^D	Q2 2017 05/22/2017 ^D	Q3 2017 08/22/2017 ^D	Q4 2017 11/28/2017 ^D
Field						
D.O.	ppm	-	0.45	2.8	1.8	0.22
ORP	mV	-	-232	-32	-193	-307
pH	SU	9.0-10	8.4	8.7	8.4	7.7
Specific Conductance	uS/cm	-	361	247	356	357
Temperature	C	-	7.5	8.2	11	8.4
Turbidity	NTU	-	29	11	4.6	3.5
Water Elevation	ft MSL	-	1465.85	1464.52	1463.67	1485.53
Metals						
Aluminum	ug/L	200 (p)	-	-	< 50	-
Antimony	ug/L	8.0 (p)	-	-	< 2.0	-
Arsenic	ug/L	20 (p)	< 5.0	< 5.0	< 5.0	< 5.0
Barium	ug/L	400 (p)	-	-	< 100	-
Beryllium	ug/L	4.0 (p)	-	-	< 1.0	-
Boron	ug/L	1200 (p)	-	-	632	-
Cadmium	ug/L	4.0 (p)	-	-	< 1.0	-
Chromium	ug/L	40 (p)	-	-	< 10	-
Cobalt	ug/L	80 (p)	-	-	< 20	-
Copper	ug/L	16 (p)	< 4.0	< 4.0	< 4.0	< 4.0
Iron	ug/L	1134	670	610	622	907
Lead	ug/L	12 (p)	< 3.0	< 3.0	< 3.0	< 3.0
Lithium	ug/L	40 (p)	-	-	19	-
Manganese	ug/L	23	< 50	< 50	< 50	< 50
Mercury	ng/L	4.0 (p)	< 1.0	< 1.0	< 1.0	< 1.0
Molybdenum	ug/L	200 (p)	-	-	< 50	-
Nickel	ug/L	80 (p)	< 20	< 20	< 20	< 20
Selenium	ug/L	20 (p)	-	-	< 5.0	-
Silver	ug/L	0.80 (p)	-	-	< 0.20	-
Thallium	ug/L	8.0 (p)	-	-	< 2.0	-
Vanadium	ug/L	16 (p)	-	-	< 4.0	-
Zinc	ug/L	11	< 10	< 10	< 10	< 10
Major Anions						
Alkalinity, Bicarbonate	mg/L	117	84	82	81	82
Alkalinity, Carbonate	mg/L	14	< 2.0	< 2.0	< 2.0	< 2.0
Chloride	mg/L	52	46	45	46	46
Fluoride	mg/L	4.0 (p)	< 1.0	< 1.0	< 1.0	< 1.0
Nitrogen, Ammonia	mg/L	0.04	< 0.03	< 0.03	< 0.03	< 0.03
Nitrogen, Nitrate	mg/L	0.40 (p)	< 0.10	< 0.10	< 0.10	< 0.10
Nitrogen, Nitrite	mg/L	0.40 (p)	< 0.10	< 0.10	< 0.10	< 0.10
Sulfate	mg/L	24	25	25	24	26
Sulfide	mg/L	0.80 (p)	< 0.20	< 0.20	< 0.20	< 0.20
Major Cations						
Calcium	mg/L	35	26	24	26	28
Magnesium	mg/L	17	11	11	11	11
Potassium	mg/L	11	2.1	1.8	1.9	1.8
Sodium	mg/L	27	25	25	24	23
General						
Hardness	mg/L	157	114	111	114	128

2017
 Mine Permit Groundwater Quality Monitoring Data
 HW-1U LLA (Monitoring)
 Humboldt Mill

Parameter	Unit	Recommended Benchmark 2014	Q1 2017 02/15/2017 ^D	Q2 2017 05/22/2017 ^D	Q3 2017 08/22/2017 ^D	Q4 2017 11/28/2017 ^D
Field						
D.O.	ppm	-	1.1	2.0	2.1	3.1
ORP	mV	-	-143	-50	-92	-53
pH	SU	8.6-9.6	8.8	9.0	9.0	8.4
Specific Conductance	uS/cm	-	4.7	325	435	443
Temperature	C	-	7.0	8.2	11	8.1
Turbidity	NTU	-	978	855	777	869
Water Elevation	ft MSL	-	1489.96	1494.49	1495.62	1512.99
Metals						
Aluminum	ug/L	200 (p)	-	-	< 50	-
Antimony	ug/L	8.0 (p)	-	-	< 2.0	-
Arsenic	ug/L	20 (p)	11	7.4	< 5.0	< 5.0
Barium	ug/L	400 (p)	-	-	< 100	-
Beryllium	ug/L	4.0 (p)	-	-	< 1.0	-
Boron	ug/L	1200 (p)	-	-	< 300	-
Cadmium	ug/L	4.0 (p)	-	-	< 1.0	-
Chromium	ug/L	40 (p)	-	-	< 10	-
Cobalt	ug/L	80 (p)	-	-	< 20	-
Copper	ug/L	16 (p)	7.1	4.1	< 4.0	< 4.0
Iron	ug/L	800 (p)	35000	35000	< 200	3230
Lead	ug/L	12 (p)	110	59	< 3.0	8.2
Lithium	ug/L	40 (p)	-	-	16	-
Manganese	ug/L	200 (p)	490	290	< 50	< 50
Mercury	ng/L	4.0 (p)	9.8	< 10	< 1.0	5.0
Molybdenum	ug/L	200 (p)	-	-	< 50	-
Nickel	ug/L	80 (p)	< 20	< 20	< 20	< 20
Selenium	ug/L	20 (p)	-	-	< 5.0	-
Silver	ug/L	0.80 (p)	-	-	< 0.20	-
Thallium	ug/L	8.0 (p)	-	-	< 2.0	-
Vanadium	ug/L	16 (p)	-	-	< 4.0	-
Zinc	ug/L	40 (p)	35	20	< 10	< 10
Major Anions						
Alkalinity, Bicarbonate	mg/L	125	170	120	83	79
Alkalinity, Carbonate	mg/L	66	< 2.0	39	42	57
Chloride	mg/L	40 (p)	44	46	46	66
Fluoride	mg/L	4.0 (p)	< 1.0	< 1.0	< 1.0	< 1.0
Nitrogen, Ammonia	mg/L	0.10 (p)	0.32	0.36	0.35	0.43
Nitrogen, Nitrate	mg/L	0.40 (p)	< 0.10	< 0.10	0.43	0.14
Nitrogen, Nitrite	mg/L	0.40 (p)	< 0.10	0.60	< 0.10	< 0.10
Sulfate	mg/L	58	130	150	434	372
Sulfide	mg/L	0.36	< 2.0	< 5.0	< 10	< 5.0
Major Cations						
Calcium	mg/L	29	61	61	2.6	7.2
Magnesium	mg/L	15	24	26	< 1.0	2.4
Potassium	mg/L	50	4.1	3.6	1.0	1.0
Sodium	mg/L	33	130	110	86	99
General						
Hardness	mg/L	132	130	158	9.8	30

2017
 Mine Permit Groundwater Quality Monitoring Data
 HW-1U UFB (Monitoring)
 Humboldt Mill

Parameter	Unit	Recommended Benchmark 2014	Q1 2017 02/15/2017 ^D	Q2 2017 05/22/2017 ^D	Q3 2017 08/22/2017 ^T	Q4 2017 11/28/2017 ^D
Field						
D.O.	ppm	-	0.59	0.98	0.40	0.36
ORP	mV	-	-234	-180	-269	-282
pH	SU	8.4-9.4	8.8	8.9	8.9	8.6
Specific Conductance	uS/cm	-	210	97	157	175
Temperature	C	-	5.8	8.1	11	8.6
Turbidity	NTU	-	3.5	10	2.0	4.7
Water Elevation	ft MSL	-	1530.25	1532.32	1532.19	1532.13
Metals						
Aluminum	ug/L	200 (p)	-	-	< 50	-
Antimony	ug/L	8.0 (p)	-	-	< 2.0	-
Arsenic	ug/L	11	< 5.0	< 5.0	< 5.0	< 5.0
Barium	ug/L	400 (p)	-	-	< 100	-
Beryllium	ug/L	4.0 (p)	-	-	< 1.0	-
Boron	ug/L	1200 (p)	-	-	< 300	-
Cadmium	ug/L	4.0 (p)	-	-	< 1.0	-
Chromium	ug/L	40 (p)	-	-	< 10	-
Cobalt	ug/L	80 (p)	-	-	< 20	-
Copper	ug/L	16 (p)	< 4.0	< 4.0	< 4.0	< 4.0
Iron	ug/L	800 (p)	< 200	< 200	296	224
Lead	ug/L	12 (p)	< 3.0	< 3.0	< 3.0	< 3.0
Lithium	ug/L	40 (p)	-	-	< 10	-
Manganese	ug/L	75	< 50	< 50	< 50	< 50
Mercury	ng/L	4.0 (p)	< 1.0	< 1.0	< 1.0	< 1.0
Molybdenum	ug/L	200 (p)	-	-	< 50	-
Nickel	ug/L	80 (p)	< 20	< 20	< 20	< 20
Selenium	ug/L	20 (p)	-	-	< 5.0	-
Silver	ug/L	0.80 (p)	-	-	< 0.20	-
Thallium	ug/L	8.0 (p)	-	-	< 2.0	-
Vanadium	ug/L	16 (p)	-	-	< 4.0	-
Zinc	ug/L	40 (p)	< 10	< 10	< 10	< 10
Major Anions						
Alkalinity, Bicarbonate	mg/L	127	88	63	62	76
Alkalinity, Carbonate	mg/L	14	6.2	4.1	8.1	6.1
Chloride	mg/L	121	< 10	< 10	< 10	< 10
Fluoride	mg/L	4.0 (p)	< 1.0	< 1.0	< 1.0	< 1.0
Nitrogen, Ammonia	mg/L	0.12 (p)	< 0.03	< 0.03	< 0.03	< 0.03
Nitrogen, Nitrate	mg/L	0.67	< 0.10	< 0.10	< 0.10	< 0.10
Nitrogen, Nitrite	mg/L	0.40 (p)	< 0.10	< 0.10	< 0.10	< 0.10
Sulfate	mg/L	76	5.6	1.5	< 0.10	< 0.10
Sulfide	mg/L	1.3	< 0.20	< 0.20	< 0.20	< 0.20
Major Cations						
Calcium	mg/L	46	15	14	14	17
Magnesium	mg/L	17	6.0	3.9	4.5	5.5
Potassium	mg/L	22	5.2	2.3	2.8	3.2
Sodium	mg/L	91	17	6.9	7.4	6.7
General						
Hardness	mg/L	189	68	46	63	72

2017
 Mine Permit Groundwater Quality Monitoring Data
 HW-2 (Monitoring)
 Humboldt Mill

Parameter	Unit	Recommended Benchmark 2014	Q1 2017 02/20/2017 ^D	Q2 2017 05/23/2017 ^D	Q3 2017 08/22/2017 ^D	Q4 2017 11/30/2017 ^D
Field						
D.O.	ppm	-	0.30	0.46	0.40	0.41
ORP	mV	-	-181	-220	-190	-82
pH	SU	7.7-8.7	7.7	8.3	7.7	7.9
Specific Conductance	uS/cm	-	644	456	454	672
Temperature	C	-	9.0	10	11	11
Turbidity	NTU	-	39	110	39	56
Water Elevation	ft MSL	-	1530.24	1532.01	1531.10	1532.55
Metals						
Aluminum	ug/L	200 (p)	-	-	< 50	-
Antimony	ug/L	8.0 (p)	-	-	< 2.0	-
Arsenic	ug/L	20 (p)	< 5.0	< 5.0	< 5.0	< 5.0
Barium	ug/L	400 (p)	-	-	< 100	-
Beryllium	ug/L	4.0 (p)	-	-	< 1.0	-
Boron	ug/L	1200 (p)	-	-	< 300	-
Cadmium	ug/L	4.0 (p)	-	-	< 1.0	-
Chromium	ug/L	40 (p)	-	-	< 10	-
Cobalt	ug/L	80 (p)	-	-	< 20	-
Copper	ug/L	16 (p)	< 4.0	< 4.0	< 4.0	< 4.0
Iron	ug/L	3401	1400	< 200	1390	1290
Lead	ug/L	12 (p)	< 3.0	< 3.0	< 3.0	< 3.0
Lithium	ug/L	40 (p)	-	-	< 10	-
Manganese	ug/L	324	320	170	294	306
Mercury	ng/L	1.3	< 1.0	< 1.0	< 1.0	< 1.0
Molybdenum	ug/L	200 (p)	-	-	< 50	-
Nickel	ug/L	80 (p)	< 20	< 20	< 20	< 20
Selenium	ug/L	20 (p)	-	-	< 5.0	-
Silver	ug/L	0.80 (p)	-	-	< 0.20	-
Thallium	ug/L	8.0 (p)	-	-	< 2.0	-
Vanadium	ug/L	16 (p)	-	-	< 4.0	-
Zinc	ug/L	40 (p)	< 10	< 10	< 10	< 10
Major Anions						
Alkalinity, Bicarbonate	mg/L	145	110	120	114	109
Alkalinity, Carbonate	mg/L	8.0 (p)	< 2.0	< 2.0	< 2.0	< 2.0
Chloride	mg/L	25	28	28	27	34
Fluoride	mg/L	4.0 (p)	< 1.0	< 1.0	< 1.0	< 1.0
Nitrogen, Ammonia	mg/L	0.05	0.07	0.06	0.03	0.03
Nitrogen, Nitrate	mg/L	0.40 (p)	< 0.10	< 0.10	0.11	< 0.10
Nitrogen, Nitrite	mg/L	0.40 (p)	< 0.10	< 0.10	< 0.10	< 0.10
Sulfate	mg/L	135	150	150	142	156
Sulfide	mg/L	0.47	< 0.20	< 0.20	< 0.20	< 0.20
Major Cations						
Calcium	mg/L	72	59	56	54	59
Magnesium	mg/L	28	25	24	21	24
Potassium	mg/L	7.0	5.1	4.9	4.2	5.3
Sodium	mg/L	15	27	26	23	30
General						
Hardness	mg/L	277	254	261	254	262

2017
 Mine Permit Groundwater Quality Monitoring Data
 HW-8U (Monitoring)
 Humboldt Mill

Parameter	Unit	Recommended Benchmark 2014	Q1 2017 02/16/2017 ^T	Q2 2017 05/22/2017 ^D	Q3 2017 08/22/2017 ^T	Q4 2017 11/28/2017 ^T
Field						
D.O.	ppm	-	0.81	1.8	1.5	0.20
ORP	mV	-	-120	-92	-98	-107
pH	SU	6.4-7.4	7.2	6.9	6.8	6.2
Specific Conductance	uS/cm	-	268	223	334	353
Temperature	C	-	7.5	8.3	10	8.4
Turbidity	NTU	-	1.9	4.0	2.5	2.2
Water Elevation	ft MSL	-	1531.57	1534.27	1534.38	1533.86
Metals						
Aluminum	ug/L	200 (p)	-	-	< 50	-
Antimony	ug/L	8.0 (p)	-	-	< 2.0	-
Arsenic	ug/L	20 (p)	7.3	5.3	6.3	7.9
Barium	ug/L	400 (p)	-	-	< 100	-
Beryllium	ug/L	4.0 (p)	-	-	< 1.0	-
Boron	ug/L	1200 (p)	-	-	< 300	-
Cadmium	ug/L	4.0 (p)	-	-	< 1.0	-
Chromium	ug/L	40 (p)	-	-	< 10	-
Cobalt	ug/L	80 (p)	-	-	< 20	-
Copper	ug/L	16 (p)	< 4.0	< 4.0	< 4.0	< 4.0
Iron	ug/L	27125	8300	7800	8010	7000
Lead	ug/L	12 (p)	< 3.0	< 3.0	< 3.0	< 3.0
Lithium	ug/L	40 (p)	-	-	< 10	-
Manganese	ug/L	5498	4900	3800	3840	5830
Mercury	ng/L	4.0 (p)	< 1.0	< 1.0	< 1.0	< 1.0
Molybdenum	ug/L	200 (p)	-	-	< 50	-
Nickel	ug/L	80 (p)	< 20	< 20	< 20	< 20
Selenium	ug/L	20 (p)	-	-	< 5.0	-
Silver	ug/L	0.80 (p)	-	-	< 0.20	-
Thallium	ug/L	8.0 (p)	-	-	< 2.0	-
Vanadium	ug/L	16 (p)	-	-	< 4.0	-
Zinc	ug/L	26	< 10	< 10	< 10	< 10
Major Anions						
Alkalinity, Bicarbonate	mg/L	237	140	130	127	147
Alkalinity, Carbonate	mg/L	8.0 (p)	< 2.0	< 2.0	< 2.0	< 2.0
Chloride	mg/L	40 (p)	13	13	15	17
Fluoride	mg/L	4.0 (p)	< 1.0	< 1.0	< 1.0	< 1.0
Nitrogen, Ammonia	mg/L	0.04	< 0.03	< 0.03	< 0.03	< 0.03
Nitrogen, Nitrate	mg/L	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Nitrogen, Nitrite	mg/L	0.40 (p)	< 0.10	< 0.10	< 0.10	< 0.10
Sulfate	mg/L	2.6	8.9	9.6	9.3	12
Sulfide	mg/L	0.80 (p)	< 0.20	< 0.20	< 0.20	< 0.20
Major Cations						
Calcium	mg/L	54	33	31	32	36
Magnesium	mg/L	22	11	12	12	11
Potassium	mg/L	4.1	2.9	3.0	2.8	2.7
Sodium	mg/L	4.4	3.3	3.2	3.5	3.5
General						
Hardness	mg/L	224	148	141	156	170

2017
 Mine Permit Groundwater Quality Monitoring Data
 HYG-1 (Monitoring)
 Humboldt Mill

Parameter	Unit	Recommended Benchmark 2014	Q1 2017 02/20/2017 ^T	Q2 2017 05/24/2017 ^T	Q3 2017 08/22/2017 ^T	Q4 2017 11/30/2017 ^T
Field						
D.O.	ppm	-	0.34	0.22	0.38	0.41
ORP	mV	-	33	22	22	179
pH	SU	6.3-7.3	6.6	6.8	6.5	6.6
Specific Conductance	uS/cm	-	865	565	507	807
Temperature	C	-	8.0	7.5	8.6	8.9
Turbidity	NTU	-	1.1	2.2	1.5	1.5
Water Elevation	ft MSL	-	1530.72	1532.87	1533.80	1533.62
Metals						
Aluminum	ug/L	200 (p)	-	-	< 50	-
Antimony	ug/L	8.0 (p)	-	-	7.4	-
Arsenic	ug/L	20 (p)	< 5.0	< 5.0	< 5.0	< 5.0
Barium	ug/L	400 (p)	-	-	<100	-
Beryllium	ug/L	4.0 (p)	-	-	< 1.0	-
Boron	ug/L	1200 (p)	-	-	< 300	-
Cadmium	ug/L	4.0 (p)	-	-	< 1.0	-
Chromium	ug/L	40 (p)	-	-	< 10	-
Cobalt	ug/L	80 (p)	-	-	< 20	-
Copper	ug/L	4.4	4.2	< 4.0	< 4.0	< 4.0
Iron	ug/L	800 (p)	< 200	< 200	212	353
Lead	ug/L	12 (p)	< 3.0	< 3.0	< 3.0	< 3.0
Lithium	ug/L	40 (p)	-	-	< 10	-
Manganese	ug/L	286	440	380	435	688
Mercury	ng/L	6.2	26	29	17	21
Molybdenum	ug/L	200 (p)	-	-	< 50	-
Nickel	ug/L	80 (p)	< 20	< 20	< 20	< 20
Selenium	ug/L	20 (p)	-	-	< 5.0	-
Silver	ug/L	0.80 (p)	-	-	< 0.20	-
Thallium	ug/L	8.0 (p)	-	-	< 2.0	-
Vanadium	ug/L	16 (p)	-	-	< 4.0	-
Zinc	ug/L	19	< 10	< 10	< 10	< 10
Major Anions						
Alkalinity, Bicarbonate	mg/L	157	370	250	246	297
Alkalinity, Carbonate	mg/L	8.0 (p)	< 2.0	< 2.0	< 2.0	< 2.0
Chloride	mg/L	12	11	< 10	11	12
Fluoride	mg/L	4.0 (p)	< 1.0	< 1.0	< 1.0	< 1.0
Nitrogen, Ammonia	mg/L	0.38	0.34	0.46	0.52	0.69
Nitrogen, Nitrate	mg/L	0.26	< 0.10	< 0.10	< 0.10	< 0.10
Nitrogen, Nitrite	mg/L	0.40 (p)	< 0.10	< 0.10	< 0.10	< 0.10
Sulfate	mg/L	98	100	120	128	113
Sulfide	mg/L	0.80 (p)	< 0.20	< 0.20	< 0.20	< 0.20
Major Cations						
Calcium	mg/L	52	61	50	53	61
Magnesium	mg/L	28	31	26	28	33
Potassium	mg/L	8.4	13	11	11	12
Sodium	mg/L	14	78	59	51	56
General						
Hardness	mg/L	230	300	248	262	300

2017
 Mine Permit Groundwater Quality Monitoring Data
 KMW-5R (Facility)
 Humboldt Mill

Parameter	Unit	Recommended Benchmark 2014	Q1 2017 02/21/2017 ^D	Q2 2017 05/25/2017 ^D	Q3 2017 08/22/2017 ^D	Q4 2017 12/04/2017 ^D
Field						
D.O.	ppm	-	NM	NM	NM	5.2
ORP	mV	-	NM	NM	NM	286
pH	SU	6.7-7.7	NM	NM	NM	7.1
Specific Conductance	uS/cm	-	NM	NM	NM	880
Temperature	C	-	NM	NM	NM	8.4
Turbidity	NTU	-	NM	NM	NM	1455
Water Elevation	ft MSL	-	1557.20	1560.44	1559.68	1559.63
Metals						
Aluminum	ug/L	200 (p)	-	-	9110	-
Antimony	ug/L	8.0 (p)	-	-	< 2.0	-
Arsenic	ug/L	6.0	< 5.0	< 5.0	10	< 5.0
Barium	ug/L	400 (p)	-	-	< 100	-
Beryllium	ug/L	4.0 (p)	-	-	1.6	-
Boron	ug/L	1200 (p)	-	-	< 300	-
Cadmium	ug/L	4.0 (p)	-	-	< 1.0	-
Chromium	ug/L	40 (p)	-	-	13	-
Cobalt	ug/L	80 (p)	-	-	< 20	-
Copper	ug/L	15	8.0	< 4.0	20	17
Iron	ug/L	33432	13000	400	62700	22500
Lead	ug/L	4.8	< 3.0	< 3.0	< 3.0	< 3.0
Lithium	ug/L	40 (p)	-	-	31	-
Manganese	ug/L	2815	2100	1600	1970	1250
Mercury	ng/L	2.1	7.4	< 1.0	11	9.6
Molybdenum	ug/L	200 (p)	-	-	< 50	-
Nickel	ug/L	80 (p)	< 20	< 20	23	< 20
Selenium	ug/L	20 (p)	-	-	< 5.0	-
Silver	ug/L	0.80 (p)	-	-	< 0.20	-
Thallium	ug/L	8.0 (p)	-	-	< 2.0	-
Vanadium	ug/L	16 (p)	-	-	13	-
Zinc	ug/L	19	< 10	< 10	17	13
Major Anions						
Alkalinity, Bicarbonate	mg/L	486	380	400	390	378
Alkalinity, Carbonate	mg/L	3.3	< 2.0	< 2.0	< 2.0	< 2.0
Chloride	mg/L	139	17	< 10	< 10	< 10
Fluoride	mg/L	4.0 (p)	< 1.0	< 1.0	< 1.0	< 1.0
Nitrogen, Ammonia	mg/L	0.76	0.03	0.05	0.03	0.03
Nitrogen, Nitrate	mg/L	0.11	< 0.10	< 0.10	< 0.10	< 0.10
Nitrogen, Nitrite	mg/L	0.06	< 0.10	< 0.10	< 0.10	< 0.10
Sulfate	mg/L	123	120	110	108	99
Sulfide	mg/L	3.8	< 0.20	< 0.20	< 1.0	< 1.0
Major Cations						
Calcium	mg/L	169	130	120	115	108
Magnesium	mg/L	67	51	47	53	46
Potassium	mg/L	9.1	7.6	7.3	7.5	7.3
Sodium	mg/L	50	5.8	7.2	7.4	7.4
General						
Hardness	mg/L	800	504	277	480	484

2017
 Mine Permit Groundwater Quality Monitoring Data
 MW-701 QAL (Compliance)
 Humboldt Mill

Parameter	Unit	Recommended Benchmark 2014	Q1 2017 02/16/2017 ^T	Q2 2017 05/23/2017 ^D	Q3 2017 08/22/2017 ^D	Q4 2017 11/30/2017 ^T
Field						
D.O.	ppm	-	5.1	7.7	7.5	6.0
ORP	mV	-	182	148	152	313
pH	SU	5.8-6.8	5.9	5.8	5.8	5.9
Specific Conductance	uS/cm	-	143	97	89	118
Temperature	C	-	6.6	7.7	10	8.7
Turbidity	NTU	-	2.2	4.0	17	1.6
Water Elevation	ft MSL	-	1530.36	1532.50	1531.66	1531.62
Metals						
Aluminum	ug/L	200 (p)	-	-	< 50	-
Antimony	ug/L	8.0 (p)	-	-	< 2.0	-
Arsenic	ug/L	20 (p)	< 5.0	< 5.0	< 5.0	< 5.0
Barium	ug/L	400 (p)	-	-	< 100	-
Beryllium	ug/L	4.0 (p)	-	-	< 1.0	-
Boron	ug/L	1200 (p)	-	-	< 300	-
Cadmium	ug/L	4.0 (p)	-	-	< 1.0	-
Chromium	ug/L	40 (p)	-	-	< 10	-
Cobalt	ug/L	80 (p)	-	-	< 20	-
Copper	ug/L	16 (p)	< 4.0	< 4.0	< 4.0	< 4.0
Iron	ug/L	459	< 200	< 200	< 200	< 200
Lead	ug/L	12 (p)	< 3.0	< 3.0	< 3.0	< 3.0
Lithium	ug/L	40 (p)	-	-	< 10	-
Manganese	ug/L	4801	< 50	< 50	< 50	< 50
Mercury	ng/L	11	1.2	< 1.0	< 1.0	< 1.0
Molybdenum	ug/L	200 (p)	-	-	< 50	-
Nickel	ug/L	80 (p)	< 20	< 20	< 20	< 20
Selenium	ug/L	20 (p)	-	-	< 5.0	-
Silver	ug/L	0.80 (p)	-	-	< 0.20	-
Thallium	ug/L	8.0 (p)	-	-	< 2.0	-
Vanadium	ug/L	16 (p)	-	-	< 4.0	-
Zinc	ug/L	40 (p)	< 10	< 10	< 10	< 10
Major Anions						
Alkalinity, Bicarbonate	mg/L	189	41	44	37	30
Alkalinity, Carbonate	mg/L	8.0 (p)	< 2.0	< 2.0	< 2.0	< 2.0
Chloride	mg/L	19	< 10	< 10	< 10	< 10
Fluoride	mg/L	4.0 (p)	< 1.0	< 1.0	< 1.0	< 1.0
Nitrogen, Ammonia	mg/L	0.39	< 0.03	< 0.03	< 0.03	< 0.03
Nitrogen, Nitrate	mg/L	3.1	0.94	0.50	0.14	0.45
Nitrogen, Nitrite	mg/L	0.40 (p)	< 0.10	< 0.10	< 0.10	< 0.10
Sulfate	mg/L	110	19	20	14	16
Sulfide	mg/L	0.22	< 0.20	< 0.20	< 0.20	< 0.20
Major Cations						
Calcium	mg/L	57	10	10	9.1	9.2
Magnesium	mg/L	26	4.7	4.5	4.1	4.3
Potassium	mg/L	9.2	3	2.5	2.4	2.4
Sodium	mg/L	14	6.6	6.6	5.5	5.1
General						
Hardness	mg/L	272	48	48	42	48

2017
 Mine Permit Groundwater Quality Monitoring Data
 MW-701 UFB (Compliance)
 Humboldt Mill

Parameter	Unit	Recommended Benchmark 2014	Q1 2017 02/16/2017 ^D	Q2 2017 05/23/2017 ^D	Q3 2017 08/22/2017 ^D	Q4 2017 11/30/2017 ^D
Field						
D.O.	ppm	-	0.09	0.20	0.37	0.46
ORP	mV	-	-216	-238	-189	-30
pH	SU	7.2-8.2	7.3	7.5	7.3	7.3
Specific Conductance	uS/cm	-	394	360	251	383
Temperature	C	-	7.5	7.7	8.5	7.8
Turbidity	NTU	-	49	48	21	6.5
Water Elevation	ft MSL	-	1530.55	1532.83	1531.08	1531.90
Metals						
Aluminum	ug/L	200 (p)	-	-	< 50	-
Antimony	ug/L	8.0 (p)	-	-	< 2.0	-
Arsenic	ug/L	20 (p)	< 5.0	< 5.0	< 5.0	< 5.0
Barium	ug/L	400 (p)	-	-	135	-
Beryllium	ug/L	4.0 (p)	-	-	< 1.0	-
Boron	ug/L	1200 (p)	-	-	< 300	-
Cadmium	ug/L	4.0 (p)	-	-	< 1.0	-
Chromium	ug/L	40 (p)	-	-	< 10	-
Cobalt	ug/L	80 (p)	-	-	< 20	-
Copper	ug/L	30	< 4.0	9.0	< 4.0	< 4.0
Iron	ug/L	27405	18000	16000	14400	16200
Lead	ug/L	12 (p)	< 3.0	< 3.0	< 3.0	< 3.0
Lithium	ug/L	40 (p)	-	-	11	-
Manganese	ug/L	6881	2200	1900	2340	2390
Mercury	ng/L	4.0 (p)	< 1.0	< 1.0	< 1.0	< 1.0
Molybdenum	ug/L	200 (p)	-	-	< 50	-
Nickel	ug/L	80 (p)	< 20	< 20	< 20	< 20
Selenium	ug/L	20 (p)	-	-	< 5.0	-
Silver	ug/L	0.80 (p)	-	-	< 0.20	-
Thallium	ug/L	8.0 (p)	-	-	< 2.0	-
Vanadium	ug/L	16 (p)	-	-	< 4.0	-
Zinc	ug/L	26	< 10	< 10	< 10	< 10
Major Anions						
Alkalinity, Bicarbonate	mg/L	172	150	140	141	133
Alkalinity, Carbonate	mg/L	18	< 2.0	< 2.0	< 2.0	< 2.0
Chloride	mg/L	43	< 10	< 10	< 10	< 10
Fluoride	mg/L	4.0 (p)	< 1.0	< 1.0	< 1.0	< 1.0
Nitrogen, Ammonia	mg/L	1.6	< 0.03	0.05	< 0.03	< 0.03
Nitrogen, Nitrate	mg/L	0.40 (p)	< 0.10	< 0.10	< 0.10	< 0.10
Nitrogen, Nitrite	mg/L	0.40 (p)	< 0.10	< 0.10	< 0.10	< 0.10
Sulfate	mg/L	80	16	6.8	16	21
Sulfide	mg/L	1.7	< 0.20	< 0.20	< 0.20	< 0.20
Major Cations						
Calcium	mg/L	40	32	30	32	34
Magnesium	mg/L	16	14	13	14	15
Potassium	mg/L	13	3.0	3.2	2.8	2.9
Sodium	mg/L	56	4.6	4.7	4.4	4.7
General						
Hardness	mg/L	163	152	141	144	152

2017
 Mine Permit Groundwater Quality Monitoring Data
 MW-702 QAL (Leachate)
 Humboldt Mill

Parameter	Unit	Recommended Benchmark 2014	Q1 2017 02/20/2017 ^D	Q2 2017 05/24/2017 ^D	Q3 2017 08/22/2017 ^D	Q4 2017 11/28/2017 ^D
Field						
D.O.	ppm	-	1.1	1.5	1.2	0.68
ORP	mV	-	123	-48	-47	42
pH	SU	9.8-11	6.9	11	9.2	7.5
Specific Conductance	uS/cm	-	488	444	288	320
Temperature	C	-	7.0	7.1	7.6	7.1
Turbidity	NTU	-	31	6.2	11	4.8
Water Elevation	ft MSL	-	1529.76	1531.47	1529.90	1529.87
Metals						
Aluminum	ug/L	200 (p)	-	-	90	-
Antimony	ug/L	8.0 (p)	-	-	< 2.0	-
Arsenic	ug/L	7.5	< 5.0	5.4	< 5.0	< 5.0
Barium	ug/L	155	-	-	< 100	-
Beryllium	ug/L	4.0 (p)	-	-	< 1.0	-
Boron	ug/L	1200 (p)	-	-	< 300	-
Cadmium	ug/L	4.0 (p)	-	-	< 1.0	-
Chromium	ug/L	40 (p)	-	-	< 10	-
Cobalt	ug/L	80 (p)	-	-	< 20	-
Copper	ug/L	16 (p)	< 4.0	< 4.0	< 4.0	< 4.0
Iron	ug/L	386	< 200	< 200	< 200	< 200
Lead	ug/L	12 (p)	< 3.0	< 3.0	< 3.0	< 3.0
Lithium	ug/L	40 (p)	-	-	< 10	-
Manganese	ug/L	717	91	< 50	< 50	< 50
Mercury	ng/L	4.0 (p)	1.3	< 1.0	2.5	2.6
Molybdenum	ug/L	200 (p)	-	-	< 50	-
Nickel	ug/L	80 (p)	< 20	< 20	< 20	< 20
Selenium	ug/L	20 (p)	-	-	< 5.0	-
Silver	ug/L	0.80 (p)	-	-	< 0.20	-
Thallium	ug/L	8.0 (p)	-	-	< 2.0	-
Vanadium	ug/L	16 (p)	-	-	4.6	-
Zinc	ug/L	40 (p)	< 10	< 10	< 10	< 10
Major Anions						
Alkalinity, Bicarbonate	mg/L	194	130	80	95	116
Alkalinity, Carbonate	mg/L	54	< 2.0	12	12	< 2.0
Chloride	mg/L	12	< 10	< 10	< 10	< 10
Fluoride	mg/L	4.0 (p)	< 1.0	< 1.0	< 1.0	< 1.0
Nitrogen, Ammonia	mg/L	0.03	< 0.03	< 0.03	< 0.03	< 0.03
Nitrogen, Nitrate	mg/L	1.8	0.52	1.1	0.61	0.29
Nitrogen, Nitrite	mg/L	0.12	< 0.10	< 0.10	< 0.10	< 0.10
Sulfate	mg/L	148	84	86	72	62
Sulfide	mg/L	0.80 (p)	< 0.20	< 0.20	< 0.20	< 0.20
Major Cations						
Calcium	mg/L	99	34	34	29	26
Magnesium	mg/L	17	9.7	5.8	6.6	6.9
Potassium	mg/L	36	4.7	12	10	7
Sodium	mg/L	42	41	60	40	35
General						
Hardness	mg/L	286	124	113	108	100

2017
 Mine Permit Groundwater Quality Monitoring Data
 MW-702 UFB (Leachate)
 Humboldt Mill

Parameter	Unit	Recommended Benchmark 2014	Q1 2017 02/14/2017 ^D	Q2 2017 05/22/2017 ^D	Q3 2017 08/22/2017 ^D	Q4 2017 11/27/2017 ^D
Field						
D.O.	ppm	-	5.8	3.3	1.9	3.9
ORP	mV	-	-72	-111	-174	-134
pH	SU	8.5-9.5	8.1	8.0	7.8	7.7
Specific Conductance	uS/cm	-	118	171	261	260
Temperature	C	-	5.6	6.9	9.4	5.9
Turbidity	NTU	-	8.1	13	5.1	5.2
Water Elevation	ft MSL	-	1533.03	1531.08	1528.15	1521.18
Metals						
Aluminum	ug/L	200 (p)	-	-	< 50	-
Antimony	ug/L	8.0 (p)	-	-	< 2.0	-
Arsenic	ug/L	20 (p)	< 5.0	< 5.0	< 5.0	< 5.0
Barium	ug/L	400 (p)	-	-	< 100	-
Beryllium	ug/L	4.0 (p)	-	-	< 1.0	-
Boron	ug/L	1200 (p)	-	-	< 300	-
Cadmium	ug/L	4.0 (p)	-	-	< 1.0	-
Chromium	ug/L	40 (p)	-	-	< 10	-
Cobalt	ug/L	80 (p)	-	-	< 20	-
Copper	ug/L	16 (p)	< 4.0	< 4.0	< 4.0	< 4.0
Iron	ug/L	2484	650	640	908	828
Lead	ug/L	12 (p)	< 3.0	< 3.0	< 3.0	< 3.0
Lithium	ug/L	40 (p)	-	-	< 10	-
Manganese	ug/L	126	79	75	75	78
Mercury	ng/L	4.0 (p)	< 1.0	< 1.0	< 1.0	< 1.0
Molybdenum	ug/L	200 (p)	-	-	< 50	-
Nickel	ug/L	80 (p)	< 20	< 20	< 20	< 20
Selenium	ug/L	20 (p)	-	-	< 5.0	-
Silver	ug/L	0.80 (p)	-	-	< 0.20	-
Thallium	ug/L	8.0 (p)	-	-	< 2.0	-
Vanadium	ug/L	16 (p)	-	-	< 4.0	-
Zinc	ug/L	66	< 10	< 10	< 10	< 10
Major Anions						
Alkalinity, Bicarbonate	mg/L	125	94	93	94	92
Alkalinity, Carbonate	mg/L	15	< 2.0	< 2.0	< 2.0	< 2.0
Chloride	mg/L	40 (p)	< 10	< 10	< 10	< 10
Fluoride	mg/L	4.0 (p)	< 1.0	< 1.0	< 1.0	< 1.0
Nitrogen, Ammonia	mg/L	0.12 (p)	< .01	< 0.03	< 0.03	< 0.03
Nitrogen, Nitrate	mg/L	0.40 (p)	< 0.10	< 0.10	< 0.10	< 0.10
Nitrogen, Nitrite	mg/L	0.40 (p)	< 0.10	< 0.10	< 0.10	< 0.10
Sulfate	mg/L	36	34	35	33	34
Sulfide	mg/L	0.80 (p)	< 0.20	< 0.20	< 0.20	< 0.20
Major Cations						
Calcium	mg/L	49	31	30	30	29
Magnesium	mg/L	14	10	9.8	9.7	8.9
Potassium	mg/L	22	3.4	2.9	2.9	2.8
Sodium	mg/L	8	3.4	3.1	3.3	2.9
General						
Hardness	mg/L	160	112	121	118	120

2017
 Mine Permit Groundwater Quality Monitoring Data
 MW-703 DBA (Compliance)
 Humboldt Mill

Parameter	Unit	Recommended Benchmark 2014	Q1 2017 02/15/2017 ^T	Q2 2017 05/22/2017 ^D	Q3 2017 08/22/2017 ^D	Q4 2017 11/28/2017 ^D
Field						
D.O.	ppm	-	0.92	1.6	1.8	0.45
ORP	mV	-	-255	-164	-156	-199
pH	SU	8.7-9.7	9.4	11	9.4	10
Specific Conductance	uS/cm	-	252	200	261	270
Temperature	C	-	5.1	6.9	9.1	6.7
Turbidity	NTU	-	2.3	21	50	5.7
Water Elevation	ft MSL	-	1530.61	1532.65	1531.84	1531.32
Metals						
Aluminum	ug/L	200 (p)	-	-	< 50	-
Antimony	ug/L	8.0 (p)	-	-	< 2.0	-
Arsenic	ug/L	20 (p)	< 5.0	< 5.0	< 5.0	< 5.0
Barium	ug/L	400 (p)	-	-	< 100	-
Beryllium	ug/L	4.0 (p)	-	-	< 1.0	-
Boron	ug/L	1200 (p)	-	-	< 300	-
Cadmium	ug/L	4.0 (p)	-	-	< 1.0	-
Chromium	ug/L	40 (p)	-	-	< 10	-
Cobalt	ug/L	80 (p)	-	-	< 20	-
Copper	ug/L	16 (p)	< 4.0	< 4.0	< 4.0	< 4.0
Iron	ug/L	2738	< 200	< 200	< 200	798
Lead	ug/L	12 (p)	< 3.0	< 3.0	< 3.0	< 3.0
Lithium	ug/L	17	-	-	16	-
Manganese	ug/L	60	< 50	< 50	< 50	< 50
Mercury	ng/L	4.0 (p)	< 1.0	< 1.00	< 1.0	< 1.0
Molybdenum	ug/L	200 (p)	-	-	< 50	-
Nickel	ug/L	80 (p)	< 20	< 20	< 20	< 20.0
Selenium	ug/L	20 (p)	-	-	< 5.0	-
Silver	ug/L	0.80 (p)	-	-	< 0.20	-
Thallium	ug/L	8.0 (p)	-	-	< 2.0	-
Vanadium	ug/L	16 (p)	-	-	< 4.0	-
Zinc	ug/L	22	< 10	< 10	< 10	15
Major Anions						
Alkalinity, Bicarbonate	mg/L	74	58	53	67	43
Alkalinity, Carbonate	mg/L	27	25	21	8.1	16
Chloride	mg/L	20	16	17	17	16
Fluoride	mg/L	4.0 (p)	< 1.0	< 1.0	< 1.0	< 1.0
Nitrogen, Ammonia	mg/L	0.12	< 0.03	0.04	< 0.03	< 0.03
Nitrogen, Nitrate	mg/L	0.11	< 0.10	< 0.10	< 0.10	< 0.10
Nitrogen, Nitrite	mg/L	0.40 (p)	< 0.10	< 0.10	< 0.10	< 0.10
Sulfate	mg/L	91	16	19	27	24
Sulfide	mg/L	0.80 (p)	0.78	0.43	0.34	0.29
Major Cations						
Calcium	mg/L	29	11	9.3	17	12
Magnesium	mg/L	17	9.4	7.1	9.8	6.1
Potassium	mg/L	15	21	24	12	25
Sodium	mg/L	14	11	13	8.9	12
General						
Hardness	mg/L	137	68	55	96	70

2017
 Mine Permit Groundwater Quality Monitoring Data
 MW-703 LLA (Compliance)
 Humboldt Mill

Parameter	Unit	Recommended Benchmark 2014	Q1 2017 02/15/2017 ^D	Q2 2017 05/22/2017 ^D	Q3 2017 08/22/2017 ^T	Q4 2017 11/28/2017 ^D
Field						
D.O.	ppm	-	0.26	0.55	0.42	0.52
ORP	mV	-	-271	-257	-242	-257
pH	SU	8.2-9.2	8.4	8.4	8.3	8.2
Specific Conductance	uS/cm	-	270	183	271	269
Temperature	C	-	6.3	6.9	7.9	6.5
Turbidity	NTU	-	6.1	4.9	2.3	14
Water Elevation	ft MSL	-	1531.33	1533.27	1532.59	1534.61
Metals						
Aluminum	ug/L	200 (p)	-	-	< 50	-
Antimony	ug/L	8.0 (p)	-	-	< 2.0	-
Arsenic	ug/L	20 (p)	< 5.0	< 5.0	< 5.0	< 5.0
Barium	ug/L	400 (p)	-	-	< 300	-
Beryllium	ug/L	4.0 (p)	-	-	< 1.0	-
Boron	ug/L	1200 (p)	-	-	< 300	-
Cadmium	ug/L	4.0 (p)	-	-	< 1.0	-
Chromium	ug/L	40 (p)	-	-	< 10	-
Cobalt	ug/L	80 (p)	-	-	< 20	-
Copper	ug/L	16 (p)	< 4.0	< 4.0	< 4.0	< 4.0
Iron	ug/L	2966	560	580	676	2090
Lead	ug/L	12 (p)	< 3.0	< 3.0	< 3.0	< 3.0
Lithium	ug/L	30	-	-	< 10	-
Manganese	ug/L	101	73	82	74	59
Mercury	ng/L	4.0 (p)	< 1.0	< 1.0	< 1.0	< 1.0
Molybdenum	ug/L	200 (p)	-	-	< 50	-
Nickel	ug/L	80 (p)	< 20	< 20	< 20	< 20
Selenium	ug/L	20 (p)	-	-	< 5.0	-
Silver	ug/L	0.80 (p)	-	-	< 0.20	-
Thallium	ug/L	8.0 (p)	-	-	< 2.0	-
Vanadium	ug/L	16 (p)	-	-	< 4.0	-
Zinc	ug/L	40+	< 10	< 10	< 10	< 10
Major Anions						
Alkalinity, Bicarbonate	mg/L	84	83	81	77	80
Alkalinity, Carbonate	mg/L	4.0	< 2.0	< 2.0	3.1	< 2.0
Chloride	mg/L	124	11	11	20	11
Fluoride	mg/L	4.0 (p)	< 1.0	< 1.0	< 1.0	< 1.0
Nitrogen, Ammonia	mg/L	0.08	< 0.03	0.04	< 0.03	< 0.03
Nitrogen, Nitrate	mg/L	0.40 (p)	< 0.10	< 0.10	< 0.10	< 0.10
Nitrogen, Nitrite	mg/L	0.40 (p)	< 0.10	< 0.10	< 0.10	< 0.10
Sulfate	mg/L	44	32	32	22	32
Sulfide	mg/L	0.80 (p)	< 0.20	< 0.20	< 0.20	< 0.20
Major Cations						
Calcium	mg/L	39	26	24	26	25
Magnesium	mg/L	13	11	10	10	10
Potassium	mg/L	10	3.8	2.9	3.0	3.2
Sodium	mg/L	67	8.3	6.3	6.5	6.6
General						
Hardness	mg/L	138	108	111	96	120

2017
 Mine Permit Groundwater Quality Monitoring Data
 MW-703 QAL (Compliance)
 Humboldt Mill

Parameter	Unit	Recommended Benchmark 2014	Q1 2017 02/20/2017 ^T	Q2 2017 05/24/2017 ^D	Q3 2017 08/22/2017 ^T	Q4 2017 11/30/2017 ^D
Field						
D.O.	ppm	-	6.6	6.8	7.5	5.8
ORP	mV	-	104	164	122	382
pH	SU	7.2-8.2	6.3	6.1	6.1	6.1
Specific Conductance	uS/cm	-	260	127	121	195
Temperature	C	-	6.4	6.4	7.0	6.4
Turbidity	NTU	-	1.8	4.6	2.9	7.2
Water Elevation	ft MSL	-	1532.86	1535.25	1535.77	1534.51
Metals						
Aluminum	ug/L	200 (p)	-	-	< 50	-
Antimony	ug/L	8.0 (p)	-	-	< 2.0	-
Arsenic	ug/L	20 (p)	< 5.0	< 5.0	< 5.0	< 5.0
Barium	ug/L	400 (p)	-	-	< 100	-
Beryllium	ug/L	4.0 (p)	-	-	< 1.0	-
Boron	ug/L	1200 (p)	-	-	< 300	-
Cadmium	ug/L	4.0 (p)	-	-	< 1.0	-
Chromium	ug/L	40 (p)	-	-	< 10	-
Cobalt	ug/L	80 (p)	-	-	< 20	-
Copper	ug/L	16 (p)	< 4.0	< 4.0	< 4.0	< 4.0
Iron	ug/L	255	< 200	< 200	< 200	< 200
Lead	ug/L	12 (p)	< 3.0	< 3.0	< 3.0	< 3.0
Lithium	ug/L	40 (p)	-	-	< 10	-
Manganese	ug/L	105	< 50	< 50	< 50	< 50
Mercury	ng/L	4.0 (p)	< 1.0	< 1.0	< 1.0	< 1.0
Molybdenum	ug/L	200 (p)	-	-	< 50	-
Nickel	ug/L	80 (p)	< 20	< 20	< 20	< 20
Selenium	ug/L	20 (p)	-	-	< 5.0	-
Silver	ug/L	0.80 (p)	-	-	< 0.20	-
Thallium	ug/L	8.0 (p)	-	-	< 2.0	-
Vanadium	ug/L	16 (p)	-	-	< 4.0	-
Zinc	ug/L	40 (p)	< 10	< 10	< 10	< 10
Major Anions						
Alkalinity, Bicarbonate	mg/L	100	56	58	49	50
Alkalinity, Carbonate	mg/L	8.0 (p)	< 2.0	< 2.0	< 2.0	< 2.0
Chloride	mg/L	40 (p)	< 10	< 10	< 10	< 10
Fluoride	mg/L	131	< 1.0	< 1.0	< 1.0	< 1.0
Nitrogen, Ammonia	mg/L	0.12 (p)	< 0.03	< 0.03	< 0.03	< 0.03
Nitrogen, Nitrate	mg/L	0.22	1.3	1.3	1.9	1.9
Nitrogen, Nitrite	mg/L	0.40 (p)	< 0.10	< 0.10	< 0.10	< 0.10
Sulfate	mg/L	50	14	20	29	31
Sulfide	mg/L	0.30	< 0.20	< 0.20	< 0.20	< 0.20
Major Cations						
Calcium	mg/L	40	15	18	19	19
Magnesium	mg/L	11	6.0	7.4	8.2	8.8
Potassium	mg/L	3.1	1.4	1.7	1.5	1.6
Sodium	mg/L	11	2.3	2.3	2.2	2.2
General						
Hardness	mg/L	136	70	77	80	80

2017
 Mine Permit Groundwater Quality Monitoring Data
 MW-703 UFB (Compliance)
 Humboldt Mill

Parameter	Unit	Recommended Benchmark 2014	Q1 2017 02/14/2017 ^D	Q2 2017 05/22/2017 ^D	Q3 2017 08/22/2017 ^T	Q4 2017 11/28/2017 ^D
Field						
D.O.	ppm	-	1.5	1.4	0.82	0.55
ORP	mV	-	3.5	-165	-194	-231
pH	SU	8.3-9.3	8.4	7.9	8.0	8.0
Specific Conductance	uS/cm	-	156	187	280	282
Temperature	C	-	6.2	6.5	8.4	6.3
Turbidity	NTU	-	8.6	4.6	5.4	4.8
Water Elevation	ft MSL	-	1531.45	1533.05	1531.13	1532.43
Metals						
Aluminum	ug/L	200 (p)	-	-	< 50	-
Antimony	ug/L	8.0 (p)	-	-	< 2.0	-
Arsenic	ug/L	20 (p)	< 5.0	< 5.0	< 5.0	< 5.0
Barium	ug/L	400 (p)	-	-	< 100	-
Beryllium	ug/L	4.0 (p)	-	-	< 1.0	-
Boron	ug/L	1200 (p)	-	-	< 300	-
Cadmium	ug/L	4.0 (p)	-	-	< 1.0	-
Chromium	ug/L	40 (p)	-	-	< 10	-
Cobalt	ug/L	80 (p)	-	-	< 20	-
Copper	ug/L	16 (p)	< 4.0	< 4.0	< 4.0	< 4.0
Iron	ug/L	2441	640	610	1640	1820
Lead	ug/L	12 (p)	< 3.0	< 3.0	< 3.0	< 3.0
Lithium	ug/L	40 (p)	-	-	< 10	-
Manganese	ug/L	194	160	180	168	184
Mercury	ng/L	4.0 (p)	< 1.0	< 1.0	< 1.0	< 1.0
Molybdenum	ug/L	200 (p)	-	-	< 50	-
Nickel	ug/L	80 (p)	< 20	< 20	< 20	< 20
Selenium	ug/L	20 (p)	-	-	< 5.0	-
Silver	ug/L	0.80 (p)	-	-	< 0.20	-
Thallium	ug/L	8.0 (p)	-	-	< 2.0	-
Vanadium	ug/L	16 (p)	-	-	< 4.0	-
Zinc	ug/L	14	< 10	< 10	< 10	< 10
Major Anions						
Alkalinity, Bicarbonate	mg/L	127	83	85	82	82
Alkalinity, Carbonate	mg/L	28	< 2.0	< 2.0	< 2.0	< 2.0
Chloride	mg/L	40 (p)	< 10	< 10	< 10	< 10
Fluoride	mg/L	4.0 (p)	< 1.0	< 1.0	< 1.0	< 1.0
Nitrogen, Ammonia	mg/L	0.47	< 0.03	< 0.03	< 0.03	< 0.03
Nitrogen, Nitrate	mg/L	0.40 (p)	< 0.10	< 0.10	< 0.10	< 0.10
Nitrogen, Nitrite	mg/L	0.40 (p)	< 0.10	< 0.10	< 0.10	< 0.10
Sulfate	mg/L	53	46	46	46	47
Sulfide	mg/L	0.80 (p)	< 0.20	< 0.20	< 0.20	< 0.20
Major Cations						
Calcium	mg/L	53	31	31	32	32
Magnesium	mg/L	17	11	11	11	11
Potassium	mg/L	5.8	2.4	2.4	2.3	2.3
Sodium	mg/L	35	2.9	2.9	3.0	3.0
General						
Hardness	mg/L	193	124	127	65	144

2017
 Mine Permit Groundwater Quality Monitoring Data
 MW-704 DBA (Compliance)
 Humboldt Mill

Parameter	Unit	Recommended Benchmark 2014	Q1 2017 02/16/2017 ^D	Q2 2017 05/23/2017 ^D	Q3 2017 08/22/2017 ^T	Q4 2017 11/28/2017 ^D
Field						
D.O.	ppm	-	0.51	0.68	1.2	0.25
ORP	mV	-	-324	-210	-229	-306
pH	SU	8.6-9.6	8.7	8.4	8.3	8.9
Specific Conductance	uS/cm	-	218	218	251	269
Temperature	C	-	8.1	7.9	11	8.9
Turbidity	NTU	-	3.5	10	3.0	3.4
Water Elevation	ft MSL	-	1531.08	1533.89	1532.60	1531.80
Metals						
Aluminum	ug/L	200 (p)	-	-	< 50	-
Antimony	ug/L	8.0 (p)	-	-	< 2.0	-
Arsenic	ug/L	20 (p)	< 5.0	< 5.0	< 5.0	< 5.0
Barium	ug/L	400 (p)	-	-	< 100	-
Beryllium	ug/L	4.0 (p)	-	-	< 1.0	-
Boron	ug/L	1480	-	-	< 300	-
Cadmium	ug/L	4.0 (p)	-	-	< 1.0	-
Chromium	ug/L	40 (p)	-	-	< 10	-
Cobalt	ug/L	80 (p)	-	-	< 20	-
Copper	ug/L	16 (p)	< 4.0	< 4.0	< 4.0	< 4.0
Iron	ug/L	9645	650	800	888	792
Lead	ug/L	12 (p)	< 3.0	< 3.0	< 3.0	< 3.0
Lithium	ug/L	40 (p)	-	-	15	-
Manganese	ug/L	58	< 50	54	53	52
Mercury	ng/L	4.0 (p)	< 1.0	< 1.0	< 1.0	< 1.0
Molybdenum	ug/L	200 (p)	-	-	< 50	-
Nickel	ug/L	80 (p)	< 20	< 20	< 20	< 20
Selenium	ug/L	20 (p)	-	-	< 5.0	-
Silver	ug/L	0.80 (p)	-	-	< 0.20	-
Thallium	ug/L	8.0 (p)	-	-	< 2.0	-
Vanadium	ug/L	16 (p)	-	-	< 4.0	-
Zinc	ug/L	11	< 10	< 10	< 10	< 10
Major Anions						
Alkalinity, Bicarbonate	mg/L	129	130	140	130	119
Alkalinity, Carbonate	mg/L	32	2.1	2.0	2.0	4.0
Chloride	mg/L	40 (p)	< 10	< 10	< 10	< 10
Fluoride	mg/L	4.0 (p)	< 1.0	< 1.0	< 1.0	< 1.0
Nitrogen, Ammonia	mg/L	0.04	< 0.03	< 0.03	< 0.03	< 0.03
Nitrogen, Nitrate	mg/L	0.40 (p)	< 0.10	< 0.10	< 0.10	< 0.10
Nitrogen, Nitrite	mg/L	0.40 (p)	< 0.10	< 0.10	< 0.10	< 0.10
Sulfate	mg/L	6.0	< 1.0	< 1.0	< 1.0	< 1.0
Sulfide	mg/L	0.80 (p)	< 0.20	< 0.20	< 0.20	< 0.20
Major Cations						
Calcium	mg/L	27	20	22	21	18
Magnesium	mg/L	14	10	12	11	9.3
Potassium	mg/L	4.0	2.4	2.6	2.5	2.3
Sodium	mg/L	14	10	11	11	9.1
General						
Hardness	mg/L	111	100	113	116	110

2017
 Mine Permit Groundwater Quality Monitoring Data
 MW-704 LLA (Compliance)
 Humboldt Mill

Parameter	Unit	Recommended Benchmark 2014	Q1 2017 02/15/2017 ^D	Q2 2017 05/23/2017 ^D	Q3 2017 08/22/2017 ^D	Q4 2017 11/28/2017 ^D
Field						
D.O.	ppm	-	0.72	1.7	1.1	0.32
ORP	mV	-	-180	-140	-214	-289
pH	SU	8.2-9.2	8.0	8.0	8.1	8.1
Specific Conductance	uS/cm	-	296	266	291	305
Temperature	C	-	4.2	7.8	11	9.9
Turbidity	NTU	-	10	24	5.7	39
Water Elevation	ft MSL	-	1530.88	1533.63	1534.17	1534.69
Metals						
Aluminum	ug/L	200 (p)	-	-	< 50	-
Antimony	ug/L	8.0 (p)	-	-	< 2.0	-
Arsenic	ug/L	20 (p)	< 5.0	< 5.0	< 5.0	< 5.0
Barium	ug/L	400 (p)	-	-	< 100	-
Beryllium	ug/L	4.0 (p)	-	-	< 1.0	-
Boron	ug/L	1200 (p)	-	-	< 300	-
Cadmium	ug/L	4.0 (p)	-	-	< 1.0	-
Chromium	ug/L	40 (p)	-	-	< 10	-
Cobalt	ug/L	80 (p)	-	-	< 20	-
Copper	ug/L	16 (p)	< 4.0	< 4.0	< 4.0	< 4.0
Iron	ug/L	4974	870	730	538	< 200
Lead	ug/L	12 (p)	< 3.0	< 3.0	< 3.0	< 3.0
Lithium	ug/L	40 (p)	-	-	15	-
Manganese	ug/L	90	84	83	64	< 50
Mercury	ng/L	4.0 (p)	< 1.0	< 1.0	< 1.0	< 1.0
Molybdenum	ug/L	200 (p)	-	-	< 50	-
Nickel	ug/L	80 (p)	< 20	< 20	< 20	< 20
Selenium	ug/L	20 (p)	-	-	< 5.0	-
Silver	ug/L	0.80 (p)	-	-	< 0.20	-
Thallium	ug/L	8.0 (p)	-	-	< 2.0	-
Vanadium	ug/L	16 (p)	-	-	< 4.0	-
Zinc	ug/L	11	< 10	< 10	< 10	< 10
Major Anions						
Alkalinity, Bicarbonate	mg/L	132	150	140	135	87
Alkalinity, Carbonate	mg/L	10	< 2.0	< 2.0	< 2.0	5.0
Chloride	mg/L	40 (p)	< 10	< 10	< 10	< 10
Fluoride	mg/L	4.0 (p)	< 1.0	< 1.0	< 1.0	< 1.0
Nitrogen, Ammonia	mg/L	0.12 (p)	< 0.03	0.03	< 0.03	< 0.03
Nitrogen, Nitrate	mg/L	0.40 (p)	< 0.10	< 0.10	< 0.10	< 0.10
Nitrogen, Nitrite	mg/L	0.40 (p)	< 0.10	< 0.10	< 0.10	< 0.10
Sulfate	mg/L	23	9.1	7.8	5.3	2.2
Sulfide	mg/L	0.80 (p)	< 0.20	< 0.20	< 0.20	< 0.20
Major Cations						
Calcium	mg/L	33	31	28	27	13
Magnesium	mg/L	17	14	13	14	11
Potassium	mg/L	5.0	4.5	3.9	4.3	10
Sodium	mg/L	5.0	3.8	3.6	4.0	5.5
General						
Hardness	mg/L	149	140	145	134	88

2017
 Mine Permit Groundwater Quality Monitoring Data
 MW-704 QAL (Compliance)
 Humboldt Mill

Parameter	Unit	Recommended Benchmark 2014	Q1 2017 02/16/2017 ^T	Q2 2017 05/23/2017 ^D	Q3 2017 08/22/2017 ^T	Q4 2017 11/28/2017 ^T
Field						
D.O.	ppm	-	0.11	0.50	0.35	0.45
ORP	mV	-	55	-45	129	66
pH	SU	5.5-6.5	5.9	6.0	5.7	6.3
Specific Conductance	uS/cm	-	451	503	247	810
Temperature	C	-	7.3	7.1	10	9.2
Turbidity	NTU	-	2.0	4.1	1.9	1.8
Water Elevation	ft MSL	-	1530.39	1533.08	1533.94	1534.17
Metals						
Aluminum	ug/L	200 (p)	-	-	< 50	-
Antimony	ug/L	8.0 (p)	-	-	< 2.0	-
Arsenic	ug/L	24	< 5.0	< 5.0	< 5.0	17
Barium	ug/L	400 (p)	-	-	<100	-
Beryllium	ug/L	4.0 (p)	-	-	< 1.0	-
Boron	ug/L	1200 (p)	-	-	< 300	-
Cadmium	ug/L	4.0 (p)	-	-	< 1.0	-
Chromium	ug/L	40 (p)	-	-	< 10	-
Cobalt	ug/L	80 (p)	-	-	< 20	-
Copper	ug/L	16 (p)	< 4.0	< 4.0	< 4.0	< 4.0
Iron	ug/L	37038	6900	86000	506	103000
Lead	ug/L	12 (p)	< 3.0	< 3.0	< 3.0	< 3.0
Lithium	ug/L	40 (p)	-	-	< 10	-
Manganese	ug/L	7914	7000	< 50	1170	5600
Mercury	ng/L	6.0	18	12	2.4	47
Molybdenum	ug/L	200 (p)	-	-	< 50	-
Nickel	ug/L	80 (p)	< 20	< 20	< 20	< 20
Selenium	ug/L	20 (p)	-	-	< 5.0	-
Silver	ug/L	0.80 (p)	-	-	< 0.20	-
Thallium	ug/L	8.0 (p)	-	-	< 2.0	-
Vanadium	ug/L	16 (p)	-	-	< 4.0	-
Zinc	ug/L	44 (p)	< 10	< 10	< 10	< 10
Major Anions						
Alkalinity, Bicarbonate	mg/L	241	160	250	97	283
Alkalinity, Carbonate	mg/L	8.0 (p)	< 2.0	< 2.0	< 2.0	< 2.0
Chloride	mg/L	18	16	16	17	< 10
Fluoride	mg/L	4.0 (p)	< 1.0	< 1.0	< 1.0	< 1.0
Nitrogen, Ammonia	mg/L	0.04	0.10	0.23	< 0.03	1.7
Nitrogen, Nitrate	mg/L	0.17	0.47	< 0.10	0.81	0.13
Nitrogen, Nitrite	mg/L	0.40 (p)	< 0.10	< 0.10	< 0.10	< 0.10
Sulfate	mg/L	23	32	9.2	40	15.6
Sulfide	mg/L	0.80 (p)	< 0.20	< 0.20	< 0.20	< 0.20
General						
Calcium	mg/L	51	38	42	33	37
Magnesium	mg/L	9.0	10	15	12	15
Potassium	mg/L	3.1	2.7	3.7	2.5	9.0
Sodium	mg/L	27	22	29	11	26
General						
Hardness	mg/L	185	160	192	136	150

2017
 Mine Permit Groundwater Quality Monitoring Data
 MW-704 UFB (Compliance)
 Humboldt Mill

Parameter	Unit	Recommended Benchmark 2014	Q1 2017 02/16/2017 ^D	Q2 2017 05/23/2017 ^D	Q3 2017 08/22/2017 ^D	Q4 2017 11/30/2017 ^D
Field						
D.O.	ppm	-	0.09	0.89	1.5	0.58
ORP	mV	-	-150	-172	-80	30
pH	SU	6.4-7.4	7.0	7.2	6.4	6.7
Specific Conductance	uS/cm	-	506	298	364	608
Temperature	C	-	7.6	7.7	8.8	8.5
Turbidity	NTU	-	149	44	24	35
Water Elevation	ft MSL	-	1530.75	1533.42	1534.64	1534.74
Metals						
Aluminum	ug/L	200 (p)	-	-	< 50	-
Antimony	ug/L	8.0 (p)	-	-	< 2.0	-
Arsenic	ug/L	20 (p)	< 5.0	< 5.0	< 5.0	< 5.0
Barium	ug/L	400 (p)	-	-	< 100	-
Beryllium	ug/L	4.0 (p)	-	-	< 1.0	-
Boron	ug/L	1200 (p)	-	-	< 300	-
Cadmium	ug/L	4.0 (p)	-	-	< 1.0	-
Chromium	ug/L	40 (p)	-	-	< 10	-
Cobalt	ug/L	80 (p)	-	-	< 20	-
Copper	ug/L	5.0	< 4.0	< 4.0	< 4.0	< 4.0
Iron	ug/L	23040	14000	20000	24200	45100
Lead	ug/L	4.0	< 3.0	< 3.0	< 3.0	< 3.0
Lithium	ug/L	40 (p)	-	-	< 10	-
Manganese	ug/L	618	1000	1300	693	873
Mercury	ng/L	2.0	< 1.0	< 1.0	< 1.0	1.3
Molybdenum	ug/L	200 (p)	-	-	< 50	-
Nickel	ug/L	80 (p)	< 20	< 20	< 20	< 20
Selenium	ug/L	20 (p)	-	-	< 5.0	-
Silver	ug/L	0.80 (p)	-	-	< 0.20	-
Thallium	ug/L	8.0 (p)	-	-	< 2.0	-
Vanadium	ug/L	16 (p)	-	-	< 4.0	-
Zinc	ug/L	15	< 10	< 10	< 10	< 10
Major Anions						
Alkalinity, Bicarbonate	mg/L	181	170	170	149	188
Alkalinity, Carbonate	mg/L	8.0 (p)	< 2.0	< 2.0	< 2.0	< 2.0
Chloride	mg/L	18	15	12	23	23
Fluoride	mg/L	4.0 (p)	< 1.0	< 1.0	< 1.0	< 1.0
Nitrogen, Ammonia	mg/L	0.27	0.03	< 0.03	< 0.03	< 0.03
Nitrogen, Nitrate	mg/L	0.40 (p)	< 0.10	< 0.10	0.33	< 0.10
Nitrogen, Nitrite	mg/L	0.14	< 0.10	< 0.10	< 0.10	< 0.10
Sulfate	mg/L	38	31	12	38	29
Sulfide	mg/L	0.80 (p)	< 0.20	< 0.20	< 0.20	< 0.20
Major Cations						
Calcium	mg/L	38	50	47	44	57
Magnesium	mg/L	7.0	9.8	10	11	13
Potassium	mg/L	4.0	3.8	3.9	2.8	3.3
Sodium	mg/L	65	6.4	6.2	8.5	11
General						
Hardness	mg/L	106	186	180	170	192

2017
 Mine Permit Groundwater Quality Monitoring Data
 MW-705 QAL (Monitoring)
 Humboldt Mill

Parameter	Unit	Recommended Benchmark 2014	Q1 2017 02/20/2017 ^T	Q2 2017 05/23/2017 ^T	Q3 2017 08/23/2017 ^T	Q4 2017 11/30/2017 ^T
Field						
D.O.	ppm	-	0.48	2.0	0.49	0.41
ORP	mV	-	-54	140	31	158
pH	SU	5.6-6.6	6.3	5.7	6.0	6.1
Specific Conductance	uS/cm	-	345	125	181	223
Temperature	C	-	6.3	7.0	12	8.5
Turbidity	NTU	-	1.6	2.8	1.9	2.1
Water Elevation	ft MSL	-	1533.45	1536.89	1534.64	1535.31
Metals						
Aluminum	ug/L	200 (p)	-	-	< 50	-
Antimony	ug/L	8.0 (p)	-	-	< 2.0	-
Arsenic	ug/L	20 (p)	< 5.0	< 5.0	< 5.0	< 5.0
Barium	ug/L	400 (p)	-	-	< 100	-
Beryllium	ug/L	4.0 (p)	-	-	< 1.0	-
Boron	ug/L	1200 (p)	-	-	< 300	-
Cadmium	ug/L	4.0 (p)	-	-	< 1.0	-
Chromium	ug/L	40 (p)	-	-	< 10	-
Cobalt	ug/L	80 (p)	-	-	< 20	-
Copper	ug/L	16 (p)	< 4.0	< 4.0	< 4.0	< 4.0
Iron	ug/L	14081	10000	1900	6000	6670
Lead	ug/L	12 (p)	< 3.0	< 3.0	< 3.0	< 3.0
Lithium	ug/L	40 (p)	-	-	< 10	-
Manganese	ug/L	1674	< 1200	280	630	601
Mercury	ng/L	1.0	< 1.0	< 1.0	1.5	1.1
Molybdenum	ug/L	200 (p)	-	-	< 50	-
Nickel	ug/L	80 (p)	< 20	< 20	< 20	< 20
Selenium	ug/L	20 (p)	-	-	< 5.0	-
Silver	ug/L	0.80 (p)	-	-	< 0.20	-
Thallium	ug/L	8.0 (p)	-	-	< 2.0	-
Vanadium	ug/L	16 (p)	-	-	< 4.0	-
Zinc	ug/L	174	< 10	< 10	< 10	< 10
Major Anions						
Alkalinity, Bicarbonate	mg/L	94	78	35	51	47
Alkalinity, Carbonate	mg/L	8.0 (p)	< 2.0	< 2.0	< 2.0	< 2.0
Chloride	mg/L	66	25	29	38	27
Fluoride	mg/L	4.0 (p)	< 1.0	< 1.0	< 1.0	< 1.0
Nitrogen, Ammonia	mg/L	0.10	0.08	0.06	0.11	0.11
Nitrogen, Nitrate	mg/L	0.40 (p)	< 0.10	< 0.10	< 0.10	< 0.10
Nitrogen, Nitrite	mg/L	0.40 (p)	< 0.10	< 0.10	< 0.10	< 0.10
Sulfate	mg/L	6.0	11	13	6.0	5.9
Sulfide	mg/L	0.80 (p)	< 0.20	< 0.20	< 0.20	< 0.20
Major Cations						
Calcium	mg/L	27	16	13	15	14
Magnesium	mg/L	13	7.1	5.6	6.4	6.1
Potassium	mg/L	3.0	2.5	2.1	2.5	2.4
Sodium	mg/L	17	13	11	14	14
General						
Hardness	mg/L	115	74	59	68	60

2017
 Mine Permit Groundwater Quality Monitoring Data
 MW-705 UFB (Monitoring)
 Humboldt Mill

Parameter	Unit	Recommended Benchmark 2014	Q1 2017 02/21/2017 ^D	Q2 2017 05/23/2017 ^D	Q3 2017 08/22/2017 ^D	Q4 2017 11/29/2017 ^D
Field						
D.O.	ppm	-	1.0	0.43	0.45	0.45
ORP	mV	-	-106	-111	-90	26
pH	SU	6.7-7.7	6.9	6.9	6.8	7.0
Specific Conductance	uS/cm	-	38	303	212	312
Temperature	C	-	7.3	7.2	8.4	8.7
Turbidity	NTU	-	25	6.7	6.0	21
Water Elevation	ft MSL	-	1533.16	1536.87	1534.61	1535.41
Metals						
Aluminum	ug/L	200 (p)	-	-	< 50	-
Antimony	ug/L	8.0 (p)	-	-	< 2.0	-
Arsenic	ug/L	20 (p)	< 5.0	< 5.0	< 5.0	< 5.0
Barium	ug/L	400 (p)	-	-	< 100	-
Beryllium	ug/L	4.0 (p)	-	-	< 1.0	-
Boron	ug/L	1200 (p)	-	-	< 300	-
Cadmium	ug/L	4.0 (p)	-	-	< 1.0	-
Chromium	ug/L	40 (p)	-	-	< 10	-
Cobalt	ug/L	80 (p)	-	-	< 20	-
Copper	ug/L	16 (p)	< 4.0	< 4.0	< 4.0	< 4.0
Iron	ug/L	11214	10000	10000	9150	8350
Lead	ug/L	12 (p)	< 3.0	< 3.0	< 3.0	< 3.0
Lithium	ug/L	40 (p)	-	-	11	-
Manganese	ug/L	866	900	910	894	873
Mercury	ng/L	4.0 (p)	< 1.0	< 1.0	< 1.0	< 1.0
Molybdenum	ug/L	200 (p)	-	-	< 50	-
Nickel	ug/L	80 (p)	< 20	< 20	< 20	< 20
Selenium	ug/L	20 (p)	-	-	< 5.0	-
Silver	ug/L	0.80 (p)	-	-	< 0.20	-
Thallium	ug/L	8.0 (p)	-	-	< 2.0	-
Vanadium	ug/L	16 (p)	-	-	< 4.0	-
Zinc	ug/L	17	< 10	< 10	12	< 10
Major Anions						
Alkalinity, Bicarbonate	mg/L	103	84	88	86	84
Alkalinity, Carbonate	mg/L	8.0 (p)	< 2.0	< 2.0	< 2.0	< 2.0
Chloride	mg/L	40 (p)	25	28	31	32
Fluoride	mg/L	4.0 (p)	< 1.0	< 1.0	< 1.0	< 1.0
Nitrogen, Ammonia	mg/L	0.12 (p)	< 0.03	< 0.03	< 0.03	< 0.03
Nitrogen, Nitrate	mg/L	0.40 (p)	< 0.10	< 0.10	< 0.10	0.11
Nitrogen, Nitrite	mg/L	0.40 (p)	< 0.10	< 0.10	< 0.10	< 0.10
Sulfate	mg/L	15	2.7	3.4	3.9	5.6
Sulfide	mg/L	0.80 (p)	< 0.20	< 0.20	< 0.20	< 0.20
Major Cations						
Calcium	mg/L	26	23	23	26	25
Magnesium	mg/L	12	12	12	14	12
Potassium	mg/L	4.0	4.1	3.3	3.6	3.4
Sodium	mg/L	3.0	3.1	2.9	3.1	2.8
General						
Hardness	mg/L	111	114	121	134	120

2017
 Mine Permit Groundwater Quality Monitoring Data
 MW-706 QAL (Facility)
 Humboldt Mill

Parameter	Unit	Recommended Benchmark 2014	Q1 2017 02/20/2017 ^D	Q2 2017 05/26/2017 ^T	Q3 2017 08/23/2017 ^T	Q4 2017 12/04/2017 ^D
Field						
D.O.	ppm	-	0.30	0.71	0.31	0.43
ORP	mV	-	39	56	62	199
pH	SU	6.2-7.2	6.0	5.9	5.8	5.8
Specific Conductance	uS/cm	-	1021	842	714	1020
Temperature	C	-	7.8	10	9.4	8.4
Turbidity	NTU	-	20	2.0	1.7	3.1
Water Elevation	ft MSL	-	1558.91	1562.28	1561.16	1561.17
Metals						
Aluminum	ug/L	200 (p)	-	-	80	-
Antimony	ug/L	8.0 (p)	-	-	< 2.0	-
Arsenic	ug/L	16	< 5.0	< 5.0	< 5.0	< 5.0
Barium	ug/L	400 (p)	-	-	< 100	-
Beryllium	ug/L	4.0 (p)	-	-	< 1.0	-
Boron	ug/L	1200 (p)	-	-	< 300	-
Cadmium	ug/L	4.0 (p)	-	-	< 1.0	-
Chromium	ug/L	40 (p)	-	-	< 10	-
Cobalt	ug/L	80 (p)	-	-	27	-
Copper	ug/L	16 (p)	< 4.0	< 4.0	< 4.0	< 4.0
Iron	ug/L	10846	4700	3900	3960	3500
Lead	ug/L	12 (p)	< 3.0	< 3.0	< 3.0	< 3.0
Lithium	ug/L	40 (p)	-	-	11	-
Manganese	ug/L	27225	18000	17000	16700	14800
Mercury	ng/L	4.0 (p)	< 1.0	< 1.0	< 1.0	< 1.0
Molybdenum	ug/L	200 (p)	-	-	< 50	-
Nickel	ug/L	80 (p)	25	23	23	23
Selenium	ug/L	20 (p)	-	-	< 5.0	-
Silver	ug/L	0.80 (p)	-	-	< 0.20	-
Thallium	ug/L	8.0 (p)	-	-	< 2.0	-
Vanadium	ug/L	16 (p)	-	-	< 4.0	-
Zinc	ug/L	55	< 10	< 10	< 10	< 10
Major Anions						
Alkalinity, Bicarbonate	mg/L	153	78	71	72	71
Alkalinity, Carbonate	mg/L	8.0 (p)	< 2.0	< 2.0	< 2.0	< 2.0
Chloride	mg/L	105	150	150	143	139
Fluoride	mg/L	4.0 (p)	< 1.0	< 1.0	< 1.0	< 1.0
Nitrogen, Ammonia	mg/L	1.4	0.45	0.48	0.48	0.48
Nitrogen, Nitrate	mg/L	0.40 (p)	0.44	< 0.10	< 0.10	< 0.10
Nitrogen, Nitrite	mg/L	0.40 (p)	< 0.10	< 0.10	< 0.10	< 0.10
Sulfate	mg/L	479	210	210	199	196
Sulfide	mg/L	0.80 (p)	< 0.20	< 0.20	< 1.0	< 0.20
Major Cations						
Calcium	mg/L	183	88	86	82	79
Magnesium	mg/L	56	35	35	33	31
Potassium	mg/L	6.0	4.7	5.2	4.8	4.5
Sodium	mg/L	234	37	36	40	36
General						
Hardness	mg/L	609	80	6.0	372	6.0

2017
 Mine Permit Groundwater Quality Monitoring Data
 MW-707 QAL (Facility)
 Humboldt Mill

Parameter	Unit	Recommended Benchmark 2014	Q1 2017 02/21/2017 ^T	Q2 2017 05/25/2017 ^T	Q3 2017 08/22/2017 ^T	Q4 2017 12/04/2017 ^T
Field						
D.O.	ppm	-	0.50	0.56	0.43	0.42
ORP	mV	-	-150	-117	-133	-1.4
pH	SU	6.3-7.3	7.1	6.8	7.0	7.1
Specific Conductance	uS/cm	-	402	252	236	339
Temperature	C	-	7.3	7.7	8.7	8.9
Turbidity	NTU	-	1.3	1.8	1.4	1.9
Water Elevation	ft MSL	-	1582.30	1583.80	1581.34	1582.67
Metals						
Aluminum	ug/L	200 (p)	-	-	< 50	-
Antimony	ug/L	8.0 (p)	-	-	< 2.0	-
Arsenic	ug/L	20 (p)	< 5.0	< 5.0	< 5.0	< 5.0
Barium	ug/L	400 (p)	-	-	< 100	-
Beryllium	ug/L	4.0 (p)	-	-	< 1.0	-
Boron	ug/L	1200 (p)	-	-	< 300	-
Cadmium	ug/L	4.0 (p)	-	-	< 1.0	-
Chromium	ug/L	40 (p)	-	-	< 10	-
Cobalt	ug/L	80 (p)	-	-	< 20	-
Copper	ug/L	16 (p)	< 4.0	4.8	< 4.0	< 4.0
Iron	ug/L	7493	5200	4800	5110	4580
Lead	ug/L	12 (p)	< 3.0	< 3.0	< 3.0	< 3.0
Lithium	ug/L	40 (p)	-	-	< 10	-
Manganese	ug/L	1189	1000	910	885	893
Mercury	ng/L	4.0 (p)	< 1.0	< 1.0	< 1.0	< 1.0
Molybdenum	ug/L	200 (p)	-	-	< 50	-
Nickel	ug/L	80 (p)	< 20	< 20	< 20	< 20
Selenium	ug/L	20 (p)	-	-	< 5.0	-
Silver	ug/L	0.80 (p)	-	-	< 0.20	-
Thallium	ug/L	8.0 (p)	-	-	< 2.0	-
Vanadium	ug/L	16 (p)	-	-	< 4.0	-
Zinc	ug/L	19	< 10	< 10	< 10	< 10
Major Anions						
Alkalinity, Bicarbonate	mg/L	150	160	170	160	157
Alkalinity, Carbonate	mg/L	8.0 (p)	< 2.0	< 2.0	< 2.0	< 2.0
Chloride	mg/L	40 (p)	< 10	< 10	< 10	< 10
Fluoride	mg/L	4.0 (p)	< 1.0	< 1.0	< 1.0	< 1.0
Nitrogen, Ammonia	mg/L	0.34	0.26	0.30	0.29	0.23
Nitrogen, Nitrate	mg/L	0.40 (p)	< 0.10	< 0.10	< 0.10	< 0.10
Nitrogen, Nitrite	mg/L	0.40 (p)	< 0.10	< 0.10	< 0.10	< 0.10
Sulfate	mg/L	8.0	5.3	5.4	6.9	6.8
Sulfide	mg/L	0.80 (p)	< 0.20	< 0.20	< 0.20	< 0.20
Major Cations						
Calcium	mg/L	51	42	40	44	42
Magnesium	mg/L	15	12	12	13	12
Potassium	mg/L	3.0	2.6	2.4	2.5	2.4
Sodium	mg/L	4.0	2.8	3.1	3.0	3.0
General						
Hardness	mg/L	149	154	160	160	158

2017
 Mine Permit Groundwater Quality Monitoring Data
 MW-9R (Facility)
 Humboldt Mill

Parameter	Unit	Recommended Benchmark 2014	Q1 2017 02/21/2017 ^T	Q2 2017 05/25/2017 ^D	Q3 2017 08/22/2017 ^D	Q4 2017 12/04/2017 ^D
Field						
D.O.	ppm	-	4.0	1.7	1.9	0.52
ORP	mV	-	199	129	106	220
pH	SU	5.4-6.4	5.9	6.0	6.1	6.1
Specific Conductance	uS/cm	-	736	215	330	451
Temperature	C	-	9.0	9.4	13	11
Turbidity	NTU	-	1.8	384	4.2	363
Water Elevation	ft MSL	-	1596.87	1597.03	1592.03	1595.16
Metals						
Aluminum	ug/L	200 (p)	-	-	< 50	-
Antimony	ug/L	8.0 (p)	-	-	< 2.0	-
Arsenic	ug/L	25	< 5.0	< 5.0	< 5.0	< 5.0
Barium	ug/L	400 (p)	-	-	< 100	-
Beryllium	ug/L	4.0 (p)	-	-	< 1.0	-
Boron	ug/L	1200 (p)	-	-	< 300	-
Cadmium	ug/L	4.0 (p)	-	-	< 1.0	-
Chromium	ug/L	40 (p)	-	-	< 10	-
Cobalt	ug/L	80 (p)	-	-	< 20	-
Copper	ug/L	5.0	< 4.0	< 4.0	< 4.0	< 4.0
Iron	ug/L	25558	< 200	< 200	< 200	1840
Lead	ug/L	0.04	< 3.0	< 3.0	< 3.0	< 3.0
Lithium	ug/L	40 (p)	-	-	< 10	-
Manganese	ug/L	1694	63	< 50	255	580
Mercury	ng/L	1.0	< 1.0	< 1.0	1.3	< 1.0
Molybdenum	ug/L	200 (p)	-	-	< 50	-
Nickel	ug/L	80 (p)	28	33	22	58
Selenium	ug/L	20 (p)	-	-	< 5.0	-
Silver	ug/L	0.80 (p)	-	-	< 0.20	-
Thallium	ug/L	8.0 (p)	-	-	< 2.0	-
Vanadium	ug/L	16 (p)	-	-	< 4.0	-
Zinc	ug/L	25	16	40	21	25
Major Anions						
Alkalinity, Bicarbonate	mg/L	137	30	23	63	41
Alkalinity, Carbonate	mg/L	2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloride	mg/L	711	77	17	< 10	11
Fluoride	mg/L	4.0 (p)	< 1.0	< 1.0	< 1.0	< 1.0
Nitrogen, Ammonia	mg/L	0.36	< 0.03	< 0.03	< 0.03	0.08
Nitrogen, Nitrate	mg/L	1.0	2.7	0.53	0.36	< 0.10
Nitrogen, Nitrite	mg/L	0.07	< 0.10	< 0.10	< 0.10	< 0.10
Sulfate	mg/L	343	180	65	120	141
Sulfide	mg/L	1.0	< 0.20	< 0.20	< 0.20	< 0.20
Major Cations						
Calcium	mg/L	123	78	23	39	45
Magnesium	mg/L	48	30	8.8	16	16
Potassium	mg/L	8.0	3.6	2.0	2.8	2.6
Sodium	mg/L	289	15	7.2	9.7	7.7
General						
Hardness	mg/L	510	300	103	174	182

2017

Mine Permit Groundwater Quality Monitoring Data Abbreviations & Data Qualifiers
Humboldt Mill

Notes:
Benchmarks are calculated based on guidance from Eagles Mine's Development of Site Specific Benchmarks for Mine Permit Water Quality Monitoring.
Results in bold text indicate that the parameter was detected at a level greater than the laboratory reporting limit.
Highlighted Cell = Value is equal to or above site-specific benchmark. An exceedance occurs if there are 2 consecutive sampling events with a value equal to or greater than the benchmark at a compliance monitoring location.
(p) = Due to less than two detections in baseline dataset, benchmark defaulted to four times the reporting limit.
--Denotes no benchmark required or parameter was not required to be collected during the sampling quarter.
NM = Not measured during the sampling event.
^T = Sample was not filtered and all values are total concentrations.
^D = Sample for metals and major cation parameters was filtered and values are dissolved concentrations.