2016
Mine Permit Groundwater Quality Monitoring Data
HW-1L (Monitoring)
Humboldt Mill

Parameter	Unit	Recommended Benchmark 2014	Q1 2016 2/24/16[D]		Q2 2016 5/17/16[D]	
Field						
D.O.[1]	ppm	--	**0.14**		**0.24**	
ORP	mV	--	**-251**		**-250**	
pH	SU	9.0-10.0	**8.5**		**8.4**	
Specific Conductance	µS/cm	--	**372**		**365**	
Temperature	°C	--	**6.5**		**9**	
Turbidity	NTU	--	**64**		**25**	
Water Elevation	ft MSL	--	**1451.87**		**1478.81**	
Metals						
Aluminum	ug/L	200 (p)	--		--	
Antimony	ug/L	8.0 (p)	--		--	
Arsenic	ug/L	20 (p)	< 5.0		< 5.0	
Barium	ug/L	400 (p)	--		--	
Beryllium	ug/L	4.0 (p)	--		--	
Boron	ug/L	1200 (p)	--		--	
Cadmium	ug/L	4.0 (p)	--		--	
Chromium	ug/L	40 (p)	--		--	
Cobalt	ug/L	80 (p)	--		--	
Copper	ug/L	16 (p)	< 4.0		< 4.0	
Iron	ug/L	1134	**1100**		**1000**	
Lead	ug/L	12 (p)	< 3.0		< 3.0	
Lithium	ug/L	40 (p)	--		--	
Manganese	ug/L	23	< 50		< 50	
Mercury	ng/L	4.0 (p)	< 1.0		< 1.0	
Molybdenum	ug/L	200 (p)	--		--	
Nickel	ug/L	80 (p)	< 20		< 20	
Selenium	ug/L	20 (p)	--		--	
Silver	ug/L	0.8 (p)	--		--	
Thallium	ug/L	8.0 (p)	--		--	
Vanadium	ug/L	16 (p)	--		--	
Zinc	ug/L	11	< 10		< 10	
Major Anions						
Alkalinity, Bicarbonate	mg/L	117	**79**		**80**	
Alkalinity, Carbonate	mg/L	14	< 2.0		< 2.0	
Chloride	mg/L	52	**53**		**53**	
Fluoride	mg/L	4.0 (p)	< 1.0		< 1.0	
Nitrogen, Ammonia	mg/L	0.04	<0.03		<0.03	
Nitrogen, Nitrate	mg/L	0.40 (p)	< 0.1		< 0.1	
Nitrogen, Nitrite	mg/L	0.40 (p)	< 0.1		< 0.1	
Sulfate	mg/L	24	**22**		22	
Sulfide	mg/L	0.80 (p)	< 0.20		< 0.20	
Major Cations						
Calcium	mg/L	35	**26**		**27**	
Magnesium	mg/L	17	**11**		**11**	
Potassium	mg/L	11	**1.9**		**1.8**	
Sodium	mg/L	27	**27**		**27**	
General						
Hardness	mg/L	157	**108**		**122**	

Eagle Mine Data - 2016
Mine Permit Groundwater Quality Monitoring Data
HW-1U LLA (Monitoring)
Humboldt Mill

Parameter	Unit	Recom-mended Benchmark 2014	Q1 2016 2/24/16[D]		Q2 2016 5/17/16[D]	
Field						
D.O.[1]	ppm	--	**0.12**		**0.09**	
ORP	mV	--	**-232**		**-210**	
pH	SU	8.6-9.6	**8.5**		**8.4**	
Specific Conductance	µS/cm	--	**394**		**389**	
Temperature	°C	--	**7.3**		**9.0**	
Turbidity	NTU	--	**18**		**16**	
Water Elevation	ft MSL	--	**1494.14**		**1487.61**	
Metals						
Aluminum	ug/L	200 (p)	--		--	
Antimony	ug/L	8.0 (p)	--		--	
Arsenic	ug/L	20 (p)	< 5.0		< 5.0	
Barium	ug/L	400 (p)	--		--	
Beryllium	ug/L	4.0 (p)	--		--	
Boron	ug/L	1200 (p)	--		--	
Cadmium	ug/L	4.0 (p)	--		--	
Chromium	ug/L	40 (p)	--		--	
Cobalt	ug/L	80 (p)	--		--	
Copper	ug/L	16 (p)	< 4.0		< 4.0	
Iron	ug/L	800 (p)	< 200		< 200	
Lead	ug/L	12 (p)	< 3.0		< 3.0	
Lithium	ug/L	40 (p)	--		--	
Manganese	ug/L	200 (p)	< 50		< 50	
Mercury	ng/L	4.0 (p)	< 1.0		< 1.0	
Molybdenum	ug/L	200 (p)	--		--	
Nickel	ug/L	80 (p)	< 20		< 20	
Selenium	ug/L	20 (p)	--		--	
Silver	ug/L	0.8 (p)	--		--	
Thallium	ug/L	8.0 (p)	--		--	
Vanadium	ug/L	16 (p)	--		--	
Zinc	ug/L	40 (p)	< 10		< 10	
Major Anions						
Alkalinity, Bicarbonate	mg/L	125	**100**		**110**	
Alkalinity, Carbonate	mg/L	66	**5.0**		< 2.0	
Chloride	mg/L	40 (p)	**23**		**22**	
Fluoride	mg/L	4.0 (p)	< 1.0		< 1.0	
Nitrogen, Ammonia	mg/L	0.1 (p)	**0.12**		**0.15**	
Nitrogen, Nitrate	mg/L	0.40 (p)	< 0.1		< 0.1	
Nitrogen, Nitrite	mg/L	0.40 (p)	< 0.1		< 0.1	
Sulfate	mg/L	58	**52**		**55**	
Sulfide	mg/L	0.36	< 0.20		< 0.20	
Major Cations						
Calcium	mg/L	29	**20**		**21**	
Magnesium	mg/L	15	**7.8**		**8.2**	
Potassium	mg/L	50	**2.6**		**2.4**	
Sodium	mg/L	33	**43**		**50**	
General						
Hardness	mg/L	132	**88**		**90**	

Eagle Mine Data - 2016
Mine Permit Groundwater Quality Monitoring Data
HW-1U UFB (Monitoring)
Humboldt Mill

Parameter	Unit	Recom-mended Benchmark 2014	Q1 2016 2/24/16[T]		Q2 2016 5/17/16[D]	
Field						
D.O.[1]	ppm	--	**0.33**		**0.90**	
ORP	mV	--	**-169**		**-160**	
pH	SU	8.4-9.4	**9.1**		**8.9**	
Specific Conductance	µS/cm	--	**296**		**208**	
Temperature	°C	--	**4.0**		**10**	
Turbidity	NTU	--	**1.3**		**7.1**	
Water Elevation	ft MSL	--	**1531.19**		**1531.51**	
Metals						
Aluminum	ug/L	200 (p)	--		--	
Antimony	ug/L	8.0 (p)	--		--	
Arsenic	ug/L	11	< 5.0		< 5.0	
Barium	ug/L	400 (p)	--		--	
Beryllium	ug/L	4.0 (p)	--		--	
Boron	ug/L	1200 (p)	--		--	
Cadmium	ug/L	4.0 (p)	--		--	
Chromium	ug/L	40 (p)	--		--	
Cobalt	ug/L	80 (p)	--		--	
Copper	ug/L	16 (p)	< 4.0		< 4.0	
Iron	ug/L	800 (p)	< 200		< 200	
Lead	ug/L	12 (p)	< 3.0		< 3.0	
Lithium	ug/L	40 (p)	--		--	
Manganese	ug/L	75	< 50		< 50	
Mercury	ng/L	4.0 (p)	< 1.0		< 1.0	
Molybdenum	ug/L	200 (p)	--		--	
Nickel	ug/L	80 (p)	< 20		< 20	
Selenium	ug/L	20 (p)	--		--	
Silver	ug/L	0.8 (p)	--		--	
Thallium	ug/L	8.0 (p)	--		--	
Vanadium	ug/L	16 (p)	--		--	
Zinc	ug/L	40 (p)	< 10		< 10	
Major Anions						
Alkalinity, Bicarbonate	mg/L	127	**77**		**81**	
Alkalinity, Carbonate	mg/L	14	**14**		**6.1**	
Chloride	mg/L	121	**23**		<10	
Fluoride	mg/L	4.0 (p)	< 1.0		< 1.0	
Nitrogen, Ammonia	mg/L	0.12 (p)	**0.07**		**0.04**	
Nitrogen, Nitrate	mg/L	0.67	< 0.1		< 0.1	
Nitrogen, Nitrite	mg/L	0.40 (p)	< 0.1		< 0.1	
Sulfate	mg/L	76	**20**		**14**	
Sulfide	mg/L	1.3	< 0.20		< 0.20	
Major Cations						
Calcium	mg/L	46	**11**		**14**	
Magnesium	mg/L	17	**5.3**		**4.6**	
Potassium	mg/L	22	**6.1**		**3.3**	
Sodium	mg/L	91	**35**		**22**	
General						
Hardness	mg/L	189	**54**		**56**	

Eagle Mine Data - 2016
Mine Permit Groundwater Quality Monitoring Data
HW-2 (Monitoring)
Humboldt Mill

Parameter	Unit	Recom-mended Benchmark 2014	Q1 2016 2/24/16[D]		Q2 2016 5/18/16[D]	
Field						
D.O.[1]	ppm	--	**0.69**		**0.39**	
ORP	mV	--	**-178**		**-205**	
pH	SU	7.7-8.7	**8.0**		**8.1**	
Specific Conductance	µS/cm	--	**579**		**616**	
Temperature	°C	--	**5.5**		**8.9**	
Turbidity	NTU	--	**53**		**75**	
Water Elevation	ft MSL	--	**1530.26**		**1530.55**	
Metals						
Aluminum	ug/L	200 (p)	--		--	
Antimony	ug/L	8.0 (p)	--		--	
Arsenic	ug/L	20 (p)	< 5.0		< 5.0	
Barium	ug/L	400 (p)	--		--	
Beryllium	ug/L	4.0 (p)	--		--	
Boron	ug/L	1200 (p)	--		--	
Cadmium	ug/L	4.0 (p)	--		--	
Chromium	ug/L	40 (p)	--		--	
Cobalt	ug/L	80 (p)	--		--	
Copper	ug/L	16 (p)	< 4.0		< 4.0	
Iron	ug/L	3401	**1700**		**1400**	
Lead	ug/L	12 (p)	< 3.0		< 3.0	
Lithium	ug/L	40 (p)	--		--	
Manganese	ug/L	324	**150**		**190**	
Mercury	ng/L	1.3	< 1.0		< 1.0	
Molybdenum	ug/L	200 (p)	--		--	
Nickel	ug/L	80 (p)	< 20		< 20	
Selenium	ug/L	20 (p)	--		--	
Silver	ug/L	0.8 (p)	--		--	
Thallium	ug/L	8.0 (p)	--		--	
Vanadium	ug/L	16 (p)	--		--	
Zinc	ug/L	40 (p)	< 10		< 10	
Major Anions						
Alkalinity, Bicarbonate	mg/L	145	**130**		**120**	
Alkalinity, Carbonate	mg/L	8.0 (p)	< 2.0		< 2.0	
Chloride	mg/L	25	**21**		**26**	
Fluoride	mg/L	4.0 (p)	< 1.0		< 1.0	
Nitrogen, Ammonia	mg/L	0.05	<0.03		**0.03**	
Nitrogen, Nitrate	mg/L	0.40 (p)	< 0.1		< 0.1	
Nitrogen, Nitrite	mg/L	0.40 (p)	< 0.1		< 0.1	
Sulfate	mg/L	135	**140**		**160**	
Sulfide	mg/L	0.47	< 0.20		< 0.20	
Major Cations						
Calcium	mg/L	72	**61**		**61**	
Magnesium	mg/L	28	**23**		**24**	
Potassium	mg/L	7.1	**3.7**		**3.9**	
Sodium	mg/L	15	**14**		**18**	
General						
Hardness	mg/L	277	**256**		**278**	

Eagle Mine Data - 2016
Mine Permit Groundwater Quality Monitoring Data
HW-8U (Monitoring)
Humboldt Mill

Parameter	Unit	Recom-mended Benchmark 2014	Q1 2016 2/24/16[T]		Q2 2016 5/17/16[T]	
Field						
D.O.[1]	ppm	--	**0.54**		**1.9**	
ORP	mV	--	**-109**		**-115**	
pH	SU	6.4-7.4	**7.1**		**7.0**	
Specific Conductance	µS/cm	--	**325**		**335**	
Temperature	°C	--	**5.2**		**9.8**	
Turbidity	NTU	--	**0.75**		**1.7**	
Water Elevation	ft MSL	--	**1532.50**		**1533.64**	
Metals						
Aluminum	ug/L	200 (p)	--		--	
Antimony	ug/L	8.0 (p)	--		--	
Arsenic	ug/L	20 (p)	**6.7**		**7.9**	
Barium	ug/L	400 (p)	--		--	
Beryllium	ug/L	4.0 (p)	--		--	
Boron	ug/L	1200 (p)	--		--	
Cadmium	ug/L	4.0 (p)	--		--	
Chromium	ug/L	40 (p)	--		--	
Cobalt	ug/L	80 (p)	--		--	
Copper	ug/L	16 (p)	< 4.0		< 4.0	
Iron	ug/L	27125	**9600**		**10000**	
Lead	ug/L	12 (p)	< 3.0		< 3.0	
Lithium	ug/L	40 (p)	--		--	
Manganese	ug/L	5498	**4700**	J	**4800**	
Mercury	ng/L	4.0 (p)	< 1.0		< 1.0	
Molybdenum	ug/L	200 (p)	--		--	
Nickel	ug/L	80 (p)	< 20		< 20	
Selenium	ug/L	20 (p)	--		--	
Silver	ug/L	0.8 (p)	--		--	
Thallium	ug/L	8.0 (p)	--		--	
Vanadium	ug/L	16 (p)	--		--	
Zinc	ug/L	26	< 10		< 10	
Major Anions						
Alkalinity, Bicarbonate	mg/L	237	**140**		**150**	
Alkalinity, Carbonate	mg/L	8.0 (p)	< 2.0		< 2.0	
Chloride	mg/L	40 (p)	< 10		< 10	
Fluoride	mg/L	4.0 (p)	< 1.0		< 1.0	
Nitrogen, Ammonia	mg/L	0.04	<0.03		<0.03	
Nitrogen, Nitrate	mg/L	0.10	< 0.1		< 0.1	
Nitrogen, Nitrite	mg/L	0.40 (p)	< 0.1		< 0.1	
Sulfate	mg/L	2.6	**6.4**		**6.8**	
Sulfide	mg/L	0.80 (p)	< 0.20		< 0.20	
Major Cations						
Calcium	mg/L	53	**32**		**36**	
Magnesium	mg/L	22	**12**		**13**	
Potassium	mg/L	4.1	**2.7**		**3.0**	
Sodium	mg/L	4.4	**3.4**		**3.9**	
General						
Hardness	mg/L	224	**144**		**154**	

Eagle Mine Data - 2016
Mine Permit Groundwater Quality Monitoring Data
HYG-1 (Monitoring)
Humboldt Mill

Parameter	Unit	Recom-mended Benchmark 2014	Q1 2016 2/24/16[T]		Q2 2016 5/18/16[T]	
Field						
D.O.[1]	ppm	--	**0.31**		**0.43**	
ORP	mV	--	**54**		**23**	
pH	SU	6.3-7.3	**7.0**		**6.9**	
Specific Conductance	µS/cm	--	**559**		**576**	
Temperature	°C	--	**6.7**		**9.0**	
Turbidity	NTU	--	**0.37**		**2.2**	
Water Elevation	ft MSL	--	**1533.26**		**1533.68**	
Metals						
Aluminum	ug/L	200 (p)	--		--	
Antimony	ug/L	8.0 (p)	--		--	
Arsenic	ug/L	20 (p)	< 5.0		< 5.0	
Barium	ug/L	400 (p)	--		--	
Beryllium	ug/L	4.0 (p)	--		--	
Boron	ug/L	1200 (p)	--		--	
Cadmium	ug/L	4.0 (p)	--		--	
Chromium	ug/L	40 (p)	--		--	
Cobalt	ug/L	80 (p)	--		--	
Copper	ug/L	4.4	**7.6**		**4.2**	
Iron	ug/L	800 (p)	< 200		< 200	
Lead	ug/L	12 (p)	< 3.0		< 3.0	
Lithium	ug/L	40 (p)	--		--	
Manganese	ug/L	286	**210**		**580**	
Mercury	ng/L	6.2	**20**		**22**	
Molybdenum	ug/L	200 (p)	--		--	
Nickel	ug/L	80 (p)	< 20		< 20	
Selenium	ug/L	20 (p)	--		--	
Silver	ug/L	0.8 (p)	--		--	
Thallium	ug/L	8.0 (p)	--		--	
Vanadium	ug/L	16 (p)	--		--	
Zinc	ug/L	19	< 10		< 10	
Major Anions						
Alkalinity, Bicarbonate	mg/L	157	**220**		**200**	
Alkalinity, Carbonate	mg/L	8.0 (p)	< 2.0		< 2.0	
Chloride	mg/L	12	24		**20**	
Fluoride	mg/L	4.0 (p)	< 1.0		< 1.0	
Nitrogen, Ammonia	mg/L	0.38	**0.20**		**0.24**	
Nitrogen, Nitrate	mg/L	0.26	**0.13**		< 0.1	
Nitrogen, Nitrite	mg/L	0.40 (p)	< 0.1		< 0.1	
Sulfate	mg/L	98	**48**		**85**	
Sulfide	mg/L	0.80 (p)	< 0.20		< 0.20	
Major Cations						
Calcium	mg/L	52	**35**		**41**	
Magnesium	mg/L	28	**19**		**22**	
Potassium	mg/L	8.4	**7.5**		**8.9**	
Sodium	mg/L	14	**51**		**46**	
General						
Hardness	mg/L	230	**170**		**200**	

Eagle Mine Data - 2016
Mine Permit Groundwater Quality Monitoring Data
KMW-5R (COSA)
Humboldt Mill

Parameter	Unit	Recom-mended Benchmark 2014	Q1 2016 2/26/16[D]		Q2 2016 5/19/16[D]	
Field						
D.O.[1]	ppm	--	**5.7**		**6.0**	
ORP	mV	--	**-29**		**40**	
pH	SU	6.7-7.7	**7.1**		**7.4**	
Specific Conductance	µS/cm	--	**1142**		**1075**	
Temperature	°C	--	**7.5**		**9.8**	
Turbidity	NTU	--	**>1000**	*	**98**	
Water Elevation	ft MSL	--	**1556.38**		**1559.08**	
Metals						
Aluminum	ug/L	200 (p)	--		--	
Antimony	ug/L	8.0 (p)	--		--	
Arsenic	ug/L	6.0	< 5.0		< 5.0	
Barium	ug/L	400 (p)	--		--	
Beryllium	ug/L	4.0 (p)	--		--	
Boron	ug/L	1200 (p)	--		--	
Cadmium	ug/L	4.0 (p)	--		--	
Chromium	ug/L	40 (p)	--		--	
Cobalt	ug/L	80 (p)	--		--	
Copper	ug/L	15	< 4.0		< 4.0	
Iron	ug/L	33432	<200		<200	
Lead	ug/L	4.8	< 3.0		< 3.0	
Lithium	ug/L	40 (p)	--		--	
Manganese	ug/L	2815	**2200**		**2100**	
Mercury	ng/L	2.1	< 1.0		< 1.0	
Molybdenum	ug/L	200 (p)	--		--	
Nickel	ug/L	80 (p)	< 20	J	< 20	
Selenium	ug/L	20 (p)	--		--	
Silver	ug/L	0.8 (p)	--		--	
Thallium	ug/L	8.0 (p)	--		--	
Vanadium	ug/L	16 (p)	--		--	
Zinc	ug/L	19	< 10		< 10	
Major Anions						
Alkalinity, Bicarbonate	mg/L	486	**360**		**380**	
Alkalinity, Carbonate	mg/L	3.3	< 2.0		< 2.0	
Chloride	mg/L	139	**130**		**65**	
Fluoride	mg/L	4.0 (p)	< 1.0		< 1.0	
Nitrogen, Ammonia	mg/L	0.76	<0.03		**0.04**	
Nitrogen, Nitrate	mg/L	0.11	< 0.1		< 0.1	
Nitrogen, Nitrite	mg/L	0.06	< 0.1		< 0.1	
Sulfate	mg/L	123	**100**		**120**	
Sulfide	mg/L	3.9	< 0.20		< 0.20	
Major Cations						
Calcium	mg/L	169	**150**	J	**130**	
Magnesium	mg/L	67	**60**	J	**50**	
Potassium	mg/L	9.1	**7.7**		**7.7**	
Sodium	mg/L	50	**3.9**		**4.6**	
General						
Hardness	mg/L	800	**600**		**568**	

Eagle Mine Data - 2016
Mine Permit Groundwater Quality Monitoring Data
MW-701 QAL (Leachate)
Humboldt Mill

Parameter	Unit	Recommended Benchmark 2014	Q1 2016 2/25/16[T]		Q2 2016 5/18/16[T]	
Field						
D.O.[1]	ppm	--	**7.2**		**8.4**	
ORP	mV	--	**155**		**120**	
pH	SU	5.8-6.8	**5.8**		**5.8**	
Specific Conductance	µS/cm	--	**137**		**155**	
Temperature	°C	--	**3.7**		**8.2**	
Turbidity	NTU	--	**0.63**		**0.8**	
Water Elevation	ft MSL	--	**1530.51**		**1531.34**	
Metals						
Aluminum	ug/L	200 (p)	--		--	
Antimony	ug/L	8.0 (p)	--		--	
Arsenic	ug/L	20 (p)	< 5.0		< 5.0	
Barium	ug/L	400 (p)	--		--	
Beryllium	ug/L	4.0 (p)	--		--	
Boron	ug/L	1200 (p)	--		--	
Cadmium	ug/L	4.0 (p)	--		--	
Chromium	ug/L	40 (p)	--		--	
Cobalt	ug/L	80 (p)	--		--	
Copper	ug/L	16 (p)	< 4.0		< 4.0	
Iron	ug/L	459	< 200		< 200	
Lead	ug/L	12 (p)	< 3.0		< 3.0	
Lithium	ug/L	40 (p)	--		--	
Manganese	ug/L	4801	<50		< 50	
Mercury	ng/L	11	< 1.0		< 1.0	
Molybdenum	ug/L	200 (p)	--		--	
Nickel	ug/L	80 (p)	< 20		< 20	
Selenium	ug/L	20 (p)	--		--	
Silver	ug/L	0.8 (p)	--		--	
Thallium	ug/L	8.0 (p)	--		--	
Vanadium	ug/L	16 (p)	--		--	
Zinc	ug/L	40 (p)	< 10		< 10	
Major Anions						
Alkalinity, Bicarbonate	mg/L	189	**33**		**39**	
Alkalinity, Carbonate	mg/L	8.0 (p)	< 2.0		< 2.0	
Chloride	mg/L	19	< 10		< 10	
Fluoride	mg/L	4.0 (p)	< 1.0		< 1.0	
Nitrogen, Ammonia	mg/L	0.39	<0.03		<0.03	
Nitrogen, Nitrate	mg/L	3.1	**0.71**		**1.3**	
Nitrogen, Nitrite	mg/L	0.40 (p)	< 0.1		< 0.1	
Sulfate	mg/L	110	**22**		**25**	
Sulfide	mg/L	0.22	< 0.20		< 0.20	
Major Cations						
Calcium	mg/L	57	**10**		**13**	
Magnesium	mg/L	26	**4.4**		**5.7**	
Potassium	mg/L	9.2	**3.3**		**3.4**	
Sodium	mg/L	14	**6.9**		**7.6**	
General						
Hardness	mg/L	272	**44**		**54**	

Eagle Mine Data - 2016
Mine Permit Groundwater Quality Monitoring Data
MW-701 UFB (Leachate)
Humboldt Mill

Parameter	Unit	Recom-mended Benchmark 2014	Q1 2016 2/25/16[D]		Q2 2016 5/18/16[D]	
Field						
D.O.[1]	ppm	--	**0.28**		**0.20**	
ORP	mV	--	**-161**		**-187**	
pH	SU	7.2-8.2	**7.4**		**7.4**	
Specific Conductance	µS/cm	--	**378**		**362**	
Temperature	°C	--	**4.8**		**8.5**	
Turbidity	NTU	--	**72**		**106**	
Water Elevation	ft MSL	--	**1530.79**		**1531.63**	
Metals						
Aluminum	ug/L	200 (p)	--		--	
Antimony	ug/L	8.0 (p)	--		--	
Arsenic	ug/L	20 (p)	< 5.0		< 5.0	
Barium	ug/L	400 (p)	--		--	
Beryllium	ug/L	4.0 (p)	--		--	
Boron	ug/L	1200 (p)	--		--	
Cadmium	ug/L	4.0 (p)	--		--	
Chromium	ug/L	40 (p)	--		--	
Cobalt	ug/L	80 (p)	--		--	
Copper	ug/L	30	< 4.0		< 4.0	
Iron	ug/L	27405	**20000**		**15000**	
Lead	ug/L	12 (p)	< 3.0		< 3.0	
Lithium	ug/L	40 (p)	--		--	
Manganese	ug/L	6881	**2600**		**2400**	
Mercury	ng/L	4.0 (p)	< 1.0		< 1.0	
Molybdenum	ug/L	200 (p)	--		--	
Nickel	ug/L	80 (p)	< 20		< 20	
Selenium	ug/L	20 (p)	--		--	
Silver	ug/L	0.8 (p)	--		--	
Thallium	ug/L	8.0 (p)	--		--	
Vanadium	ug/L	16 (p)	--		--	
Zinc	ug/L	26	< 10		< 10	
Major Anions						
Alkalinity, Bicarbonate	mg/L	172	**140**		**140**	
Alkalinity, Carbonate	mg/L	18	< 2.0		< 2.0	
Chloride	mg/L	43	< 10		< 10	
Fluoride	mg/L	4.0 (p)	< 1.0		< 1.0	
Nitrogen, Ammonia	mg/L	1.6	< 0.03		<0.03	
Nitrogen, Nitrate	mg/L	0.40 (p)	< 0.1		< 0.1	
Nitrogen, Nitrite	mg/L	0.40 (p)	< 0.1		< 0.1	
Sulfate	mg/L	80	**28**		**22**	
Sulfide	mg/L	1.7	< 0.20		< 0.20	
Major Cations						
Calcium	mg/L	40	**36**		**35**	
Magnesium	mg/L	16	**15**		**15**	
Potassium	mg/L	13	**2.8**		**3.2**	
Sodium	mg/L	56	**4.7**		**5.0**	
General						
Hardness	mg/L	163	**154**		**158**	

Eagle Mine Data - 2016
Mine Permit Groundwater Quality Monitoring Data
MW-702 QAL (Leachate)
Humboldt Mill

Parameter	Unit	Recommended Benchmark 2014	Q1 2016 2/26/16[D]		Q2 2016 5/19/16[D]	
Field						
D.O.[1]	ppm	--	**1.6**		**1.3**	
ORP	mV	--	**61**		**105**	
pH	SU	9.8-10.8	**10.0**		**9.8**	
Specific Conductance	µS/cm	--	**463**		**512**	
Temperature	°C	--	**6.1**		**7.1**	
Turbidity	NTU	--	**5.3**		**7.2**	
Water Elevation	ft MSL	--	**1530.23**		**1529.44**	
Metals						
Aluminum	ug/L	200 (p)	--		--	
Antimony	ug/L	8.0 (p)	--		--	
Arsenic	ug/L	7.5	< 5.0		< 5.0	
Barium	ug/L	155	--		--	
Beryllium	ug/L	4.0 (p)	--		--	
Boron	ug/L	1200 (p)	--		--	
Cadmium	ug/L	4.0 (p)	--		--	
Chromium	ug/L	40 (p)	--		--	
Cobalt	ug/L	80 (p)	--		--	
Copper	ug/L	16 (p)	< 4.0		< 4.0	
Iron	ug/L	386	< 200		< 200	
Lead	ug/L	12 (p)	< 3.0		< 3.0	
Lithium	ug/L	40 (p)	--		--	
Manganese	ug/L	717	**150**		**60**	
Mercury	ng/L	4.0 (p)	< 1.0		< 1.0	
Molybdenum	ug/L	200 (p)	--		--	
Nickel	ug/L	80 (p)	< 20		< 20	
Selenium	ug/L	20 (p)	--		--	
Silver	ug/L	0.8 (p)	--		--	
Thallium	ug/L	8.0 (p)	--		--	
Vanadium	ug/L	16 (p)	--		--	
Zinc	ug/L	40 (p)	< 10		< 10	
Major Anions						
Alkalinity, Bicarbonate	mg/L	194	**74**		**70**	
Alkalinity, Carbonate	mg/L	54	**4.0**		**5.1**	
Chloride	mg/L	12	**14**		**13**	
Fluoride	mg/L	4.0 (p)	< 1.0		< 1.0	
Nitrogen, Ammonia	mg/L	0.03	**0.04**		<0.03	
Nitrogen, Nitrate	mg/L	1.8	**0.99**		**1.2**	
Nitrogen, Nitrite	mg/L	0.12	**0.17**		**0.11**	
Sulfate	mg/L	148	**89**		**100**	
Sulfide	mg/L	0.80 (p)	< 0.20		< 0.20	
Major Cations						
Calcium	mg/L	99	**45**		**46**	
Magnesium	mg/L	17	**9.9**		**7.8**	
Potassium	mg/L	36	**5.4**		**5.3**	
Sodium	mg/L	42	**36**		**55**	
General						
Hardness	mg/L	286	**152**		**152**	

Eagle Mine Data - 2016
Mine Permit Groundwater Quality Monitoring Data
MW-702 UFB (Leachate)
Humboldt Mill

Parameter	Unit	Recommended Benchmark 2014	Q1 2016 3/3/16[D]		Q2 2016 5/17/16[D]	
Field						
D.O.[1]	ppm	--	**0.40**		**2.9**	
ORP	mV	--	**112**		**-140**	
pH	SU	8.5-9.5	**5.9**		**7.9**	
Specific Conductance	µS/cm	--	**305**		**247**	
Temperature	°C	--	**6.9**		**7.1**	
Turbidity	NTU	--	**18**		**19**	
Water Elevation	ft MSL	--	**1522.62**		**1525.75**	
Metals						
Aluminum	ug/L	200 (p)	--		--	
Antimony	ug/L	8.0 (p)	--		--	
Arsenic	ug/L	20 (p)	< 5.0		< 5.0	
Barium	ug/L	400 (p)	--		--	
Beryllium	ug/L	4.0 (p)	--		--	
Boron	ug/L	1200 (p)	--		--	
Cadmium	ug/L	4.0 (p)	--		--	
Chromium	ug/L	40 (p)	--		--	
Cobalt	ug/L	80 (p)	--		--	
Copper	ug/L	16 (p)	< 4.0		< 4.0	
Iron	ug/L	2484	**850**		**630**	
Lead	ug/L	12 (p)	< 3.0		< 3.0	
Lithium	ug/L	40 (p)	--		--	
Manganese	ug/L	126	**96**		**85**	
Mercury	ng/L	4.0 (p)	< 1.0		< 1.0	
Molybdenum	ug/L	200 (p)	--		--	
Nickel	ug/L	80 (p)	< 20		< 20	
Selenium	ug/L	20 (p)	--		--	
Silver	ug/L	0.8 (p)	--		--	
Thallium	ug/L	8.0 (p)	--		--	
Vanadium	ug/L	16 (p)	--		--	
Zinc	ug/L	66	< 10		< 10	
Major Anions						
Alkalinity, Bicarbonate	mg/L	125	**92**		**89**	
Alkalinity, Carbonate	mg/L	15	< 2.0		< 2.0	
Chloride	mg/L	40 (p)	< 10		< 10	
Fluoride	mg/L	4.0 (p)	< 1.0		< 1.0	
Nitrogen, Ammonia	mg/L	0.12 (p)	**0.04**		<0.03	
Nitrogen, Nitrate	mg/L	0.40 (p)	< 0.1		< 0.1	
Nitrogen, Nitrite	mg/L	0.40 (p)	< 0.1		< 0.1	
Sulfate	mg/L	36	**32**		**34**	
Sulfide	mg/L	0.80 (p)	< 0.20		< 0.20	
Major Cations						
Calcium	mg/L	49	**28**		**30**	
Magnesium	mg/L	14	**9.0**		**9.6**	
Potassium	mg/L	22	**3.1**		**3.1**	
Sodium	mg/L	8.0	**2.9**		**2.9**	
General						
Hardness	mg/L	160	**110**		**118**	

Eagle Mine Data - 2016
Mine Permit Groundwater Quality Monitoring Data
MW-703 QAL (Compliance)
Humboldt Mill

Parameter	Unit	Recom-mended Benchmark 2014	Q1 2016 2/26/16[D]		Q2 2016 5/18/16[D]	
Field						
D.O.[1]	ppm	--	**5.1**		**4.6**	
ORP	mV	--	**148**		**81**	
pH	SU	7.2-8.2	**6.4**		**6.6**	
Specific Conductance	µS/cm	--	**155**		**372**	
Temperature	°C	--	**5.7**		**7.5**	
Turbidity	NTU	--	**3.3**		**3.7**	
Water Elevation	ft MSL	--	**1533.59**		**1534.82**	
Metals						
Aluminum	ug/L	200 (p)	--		--	
Antimony	ug/L	8.0 (p)	--		--	
Arsenic	ug/L	20 (p)	< 5.0		< 5.0	
Barium	ug/L	400 (p)	--		--	
Beryllium	ug/L	4.0 (p)	--		--	
Boron	ug/L	1200 (p)	--		--	
Cadmium	ug/L	4.0 (p)	--		--	
Chromium	ug/L	40 (p)	--		--	
Cobalt	ug/L	80 (p)	--		--	
Copper	ug/L	16 (p)	< 4.0		< 4.0	
Iron	ug/L	255	< 200		< 200	
Lead	ug/L	12 (p)	< 3.0		< 3.0	
Lithium	ug/L	40 (p)	--		--	
Manganese	ug/L	105	< 50		< 50	
Mercury	ng/L	4.0 (p)	< 1.0		< 1.0	
Molybdenum	ug/L	200 (p)	--		--	
Nickel	ug/L	80 (p)	< 20		< 20	
Selenium	ug/L	20 (p)	--		--	
Silver	ug/L	0.8 (p)	--		--	
Thallium	ug/L	8.0 (p)	--		--	
Vanadium	ug/L	16 (p)	--		--	
Zinc	ug/L	40 (p)	<10		< 10	
Major Anions						
Alkalinity, Bicarbonate	mg/L	100	**57**		**61**	
Alkalinity, Carbonate	mg/L	8.0 (p)	< 2.0		< 2.0	
Chloride	mg/L	40 (p)	< 10		< 10	
Fluoride	mg/L	131	< 1.0		< 1.0	
Nitrogen, Ammonia	mg/L	0.12 (p)	<0.03		<0.03	
Nitrogen, Nitrate	mg/L	0.22	**0.54**		**0.53**	
Nitrogen, Nitrite	mg/L	0.40 (p)	< 0.1		< 0.1	
Sulfate	mg/L	50	**21**		**21**	
Sulfide	mg/L	0.30	< 0.20		< 0.20	
Major Cations						
Calcium	mg/L	40	**17**		**17**	
Magnesium	mg/L	11	**7.4**		**6.9**	
Potassium	mg/L	3.1	**1.5**		**1.8**	
Sodium	mg/L	10	**3.0**		**2.9**	
General						
Hardness	mg/L	136	**80**		**72**	

Eagle Mine Data - 2016
Mine Permit Groundwater Quality Monitoring Data
MW-703 UFB (Compliance)
Humboldt Mill

Parameter	Unit	Recom-mended Benchmark 2014	Q1 2016 2/24/16[D]		Q2 2016 5/17/16[D]	
Field						
D.O.[1]	ppm	--	**0.24**		**0.87**	
ORP	mV	--	**-14**		**-181**	
pH	SU	8.3-9.3	**5.3**		**8.0**	
Specific Conductance	µS/cm	--	**273**		**268**	
Temperature	°C	--	**6.5**		**7.0**	
Turbidity	NTU	--	**4.6**		**4.8**	
Water Elevation	ft MSL	--	**1529.4**		**1532.3**	
Metals						
Aluminum	ug/L	200 (p)	--		--	
Antimony	ug/L	8.0 (p)	--		--	
Arsenic	ug/L	20 (p)	< 5.0		< 5.0	
Barium	ug/L	400 (p)	--		--	
Beryllium	ug/L	4.0 (p)	--		--	
Boron	ug/L	1200 (p)	--		--	
Cadmium	ug/L	4.0 (p)	--		--	
Chromium	ug/L	40 (p)	--		--	
Cobalt	ug/L	80 (p)	--		--	
Copper	ug/L	16 (p)	< 4.0		< 4.0	
Iron	ug/L	2441	**1100**		**910**	
Lead	ug/L	12 (p)	< 3.0		< 3.0	
Lithium	ug/L	40 (p)	--		--	
Manganese	ug/L	194	**170**		< 250	
Mercury	ng/L	4.0 (p)	< 1.0		< 1.0	
Molybdenum	ug/L	200 (p)	--		--	
Nickel	ug/L	80 (p)	< 20		< 20	
Selenium	ug/L	20 (p)	--		--	
Silver	ug/L	0.8 (p)	--		--	
Thallium	ug/L	8.0 (p)	--		--	
Vanadium	ug/L	16 (p)	--		--	
Zinc	ug/L	14	< 10		< 10	
Major Anions						
Alkalinity, Bicarbonate	mg/L	127	**83**		**84**	
Alkalinity, Carbonate	mg/L	28	< 2.0		< 2.0	
Chloride	mg/L	40 (p)	< 10		< 10	
Fluoride	mg/L	4.0 (p)	< 1.0		< 1.0	
Nitrogen, Ammonia	mg/L	0.47	<0.03		<0.03	
Nitrogen, Nitrate	mg/L	0.4 (p)	< 0.1		< 0.1	
Nitrogen, Nitrite	mg/L	0.4 (p)	< 0.1		< 0.1	
Sulfate	mg/L	53	**45**		**46**	
Sulfide	mg/L	0.80 (p)	< 0.20		< 0.20	
Major Cations						
Calcium	mg/L	53	**31**		**32**	
Magnesium	mg/L	17	**11**		**11**	
Potassium	mg/L	5.9	**2.5**		**2.4**	
Sodium	mg/L	35	**3.0**		**2.9**	
General						
Hardness	mg/L	193	**124**		**126**	

2016
Mine Permit Groundwater Quality Monitoring Data
MW-703 LLA (Compliance)
Humboldt Mill

Parameter	Unit	Recom-mended Benchmark 2014	Q1 2016 2/24/16[D]		Q2 2016 5/17/16[D]	
Field						
D.O.[1]	ppm	--	**0.13**		**0.97**	
ORP	mV	--	**-219**		**-219**	
pH	SU	8.2-9.2	**8.1**		**8.3**	
Specific Conductance	µS/cm	--	**267**		**265**	
Temperature	°C	--	**5.4**		**7.8**	
Turbidity	NTU	--	**4.3**		**4.3**	
Water Elevation	ft MSL	--	**1531.55**		**1532.15**	
Metals						
Aluminum	ug/L	200 (p)	--		--	
Antimony	ug/L	8.0 (p)	--		--	
Arsenic	ug/L	20 (p)	< 5.0		< 5.0	
Barium	ug/L	400 (p)	--		--	
Beryllium	ug/L	4.0 (p)	--		--	
Boron	ug/L	1200 (p)	--		--	
Cadmium	ug/L	4.0 (p)	--		--	
Chromium	ug/L	40 (p)	--		--	
Cobalt	ug/L	80 (p)	--		--	
Copper	ug/L	16 (p)	< 4.0		< 4.0	
Iron	ug/L	2966	**590**		**600**	
Lead	ug/L	12 (p)	< 3.0		< 3.0	
Lithium	ug/L	30	--		--	
Manganese	ug/L	101	**74**		**74**	
Mercury	ng/L	4.0 (p)	< 1.0		< 1.0	
Molybdenum	ug/L	200 (p)	--		--	
Nickel	ug/L	80 (p)	< 20		< 20	
Selenium	ug/L	20 (p)	--		--	
Silver	ug/L	0.8 (p)	--		--	
Thallium	ug/L	8.0 (p)	--		--	
Vanadium	ug/L	16 (p)	--		--	
Zinc	ug/L	40+	< 10		< 10	
Major Anions						
Alkalinity, Bicarbonate	mg/L	84	**87**		**86**	
Alkalinity, Carbonate	mg/L	4.0	< 2.0		< 2.0	
Chloride	mg/L	124	**14**		**14**	
Fluoride	mg/L	4.0 (p)	< 1.0		< 1.0	
Nitrogen, Ammonia	mg/L	0.08	<0.03		**0.05**	
Nitrogen, Nitrate	mg/L	0.40 (p)	< 0.1		< 0.1	
Nitrogen, Nitrite	mg/L	0.40 (p)	< 0.1		< 0.1	
Sulfate	mg/L	44	**27**		**29**	
Sulfide	mg/L	0.80 (p)	< 0.20		< 0.20	
Major Cations						
Calcium	mg/L	39	**25**		**26**	
Magnesium	mg/L	13	**11**		**11**	
Potassium	mg/L	9.7	**3.6**		**3.6**	
Sodium	mg/L	67	**7.7**		**7.6**	
General						
Hardness	mg/L	138	**106**		**110**	

2016
Mine Permit Groundwater Quality Monitoring Data
MW-703 DBA (Compliance)
Humboldt Mill

Parameter	Unit	Recom-mended Benchmark 2014	Q1 2016 2/24/16[T]		Q2 2016 5/17/16[T]	
Field						
D.O.[1]	ppm	--	**0.21**		**0.90**	
ORP	mV	--	**-236**		**-163**	
pH	SU	8.7-9.7	**9.6**		**9.4**	
Specific Conductance	µS/cm	--	**230**		**233**	
Temperature	°C	--	**4.4**		**8.6**	
Turbidity	NTU	--	**1.5**		**2.1**	
Water Elevation	ft MSL	--	**1531.32**		**1531.66**	
Metals						
Aluminum	ug/L	200 (p)	--		--	
Antimony	ug/L	8.0 (p)	--		--	
Arsenic	ug/L	20 (p)	< 5.0		< 5.0	
Barium	ug/L	400 (p)	--		--	
Beryllium	ug/L	4.0 (p)	--		--	
Boron	ug/L	1200 (p)	--		--	
Cadmium	ug/L	4.0 (p)	--		--	
Chromium	ug/L	40 (p)	--		--	
Cobalt	ug/L	80 (p)	--		--	
Copper	ug/L	16 (p)	< 4.0		< 4.0	
Iron	ug/L	2738	**260**		<200	
Lead	ug/L	12 (p)	< 3.0		< 3.0	
Lithium	ug/L	17	--		--	
Manganese	ug/L	60	< 50		< 50	
Mercury	ng/L	4.0 (p)	< 1.0		< 1.0	
Molybdenum	ug/L	200 (p)	--		--	
Nickel	ug/L	80 (p)	< 20		< 20	
Selenium	ug/L	20 (p)	--		--	
Silver	ug/L	0.8 (p)	--		--	
Thallium	ug/L	8.0 (p)	--		--	
Vanadium	ug/L	16 (p)	--		--	
Zinc	ug/L	22	< 10		< 10	
Major Anions						
Alkalinity, Bicarbonate	mg/L	74	**41**		**71**	
Alkalinity, Carbonate	mg/L	27	**34**		**12**	
Chloride	mg/L	20	**18**		**18**	
Fluoride	mg/L	4.0 (p)	< 1.0		< 1.0	
Nitrogen, Ammonia	mg/L	0.12	<0.03		<0.03	
Nitrogen, Nitrate	mg/L	0.11	< 0.1		< 0.1	
Nitrogen, Nitrite	mg/L	0.40 (p)	< 0.1		< 0.1	
Sulfate	mg/L	91	<1.0		**6.0**	
Sulfide	mg/L	0.80 (p)	**0.75**		**0.36**	
Major Cations						
Calcium	mg/L	29	**5.5**		**10**	
Magnesium	mg/L	17	**6.2**		**10**	
Potassium	mg/L	15	**23**		**17**	
Sodium	mg/L	14	**14**		**12**	
General						
Hardness	mg/L	137	**42**		**70**	

2016
Mine Permit Groundwater Quality Monitoring Data
MW-704 QAL (Compliance)
Humboldt Mill

Parameter	Unit	Recom-mended Benchmark 2014	Q1 2016 2/25/16[D]		Q2 2016 5/18/16[D]	
Field						
D.O.[1]	ppm	--	**0.47**		**0.16**	
ORP	mV	--	**170**		**17**	
pH	SU	5.5-6.5	**5.7**		**5.9**	
Specific Conductance	µS/cm	--	**250**		**446**	
Temperature	°C	--	**2.9**		**7.4**	
Turbidity	NTU	--	**3.4**		**3.1**	
Water Elevation	ft MSL	--	**1534.11**		**1534.65**	
Metals						
Aluminum	ug/L	200 (p)	--		--	
Antimony	ug/L	8.0 (p)	--		--	
Arsenic	ug/L	24	< 5.0		**13**	
Barium	ug/L	400 (p)	--		--	
Beryllium	ug/L	4.0 (p)	--		--	
Boron	ug/L	1200 (p)	--		--	
Cadmium	ug/L	4.0 (p)	--		--	
Chromium	ug/L	40 (p)	--		--	
Cobalt	ug/L	80 (p)	--		--	
Copper	ug/L	16 (p)	< 4.0		< 4.0	
Iron	ug/L	37038	<200		**15000**	
Lead	ug/L	12 (p)	< 3.0		< 3.0	
Lithium	ug/L	40 (p)	--		--	
Manganese	ug/L	7914	**900**		**5500**	
Mercury	ng/L	6.0	<1.0		**6.1**	
Molybdenum	ug/L	200 (p)	--		--	
Nickel	ug/L	80 (p)	< 20		< 20	
Selenium	ug/L	20 (p)	--		--	
Silver	ug/L	0.8 (p)	--		--	
Thallium	ug/L	8.0 (p)	--		--	
Vanadium	ug/L	16 (p)	--		--	
Zinc	ug/L	44 (p)	< 10		< 10	
Major Anions						
Alkalinity, Bicarbonate	mg/L	241	**83**		**170**	
Alkalinity, Carbonate	mg/L	8.0 (p)	< 2.0		< 2.0	
Chloride	mg/L	18	**14**		**17**	
Fluoride	mg/L	4.0 (p)	< 1.0		< 1.0	
Nitrogen, Ammonia	mg/L	0.04	<0.03		**0.06**	
Nitrogen, Nitrate	mg/L	0.17	**0.76**		**0.79**	
Nitrogen, Nitrite	mg/L	0.40 (p)	< 0.1		< 0.1	
Sulfate	mg/L	23	**22**		**24**	
Sulfide	mg/L	0.80 (p)	< 0.20		< 0.20	
Major Cations						
Calcium	mg/L	51	**27**		**38**	
Magnesium	mg/L	9.0	**9.6**		**10**	
Potassium	mg/L	3.1	**1.9**		**2.5**	
Sodium	mg/L	27	**5.1**		**19**	
General						
Hardness	mg/L	185	**110**		**154**	

2016
Mine Permit Groundwater Quality Monitoring Data
MW-704 UFB (Compliance)
Humboldt Mill

Parameter	Unit	Recom-mended Benchmark 2014	Q1 2016 2/25/16[D]		Q2 2016 5/18/16[D]	
Field						
D.O.[1]	ppm	--	**0.29**		**0.22**	
ORP	mV	--	**-80**		**-116**	
pH	SU	6.4-7.4	**6.7**		**6.6**	
Specific Conductance	µS/cm	--	**407**		**452**	
Temperature	°C	--	**4.3**		**7.7**	
Turbidity	NTU	--	**33**		**12**	
Water Elevation	ft MSL	--	**1534.49**		**1535.03**	
Metals						
Aluminum	ug/L	200 (p)	--		--	
Antimony	ug/L	8.0 (p)	--		--	
Arsenic	ug/L	20 (p)	< 5.0		< 5.0	
Barium	ug/L	400 (p)	--		--	
Beryllium	ug/L	4.0 (p)	--		--	
Boron	ug/L	1200 (p)	--		--	
Cadmium	ug/L	4.0 (p)	--		--	
Chromium	ug/L	40 (p)	--		--	
Cobalt	ug/L	80 (p)	--		--	
Copper	ug/L	5.0	< 4.0		< 4.0	
Iron	ug/L	23040	**26000**		**36000**	
Lead	ug/L	4.0	< 3.0		< 3.0	
Lithium	ug/L	40 (p)	--		--	
Manganese	ug/L	618	**810**		**700**	
Mercury	ng/L	2.0+	< 1.0		< 1.0	
Molybdenum	ug/L	200 (p)	--		--	
Nickel	ug/L	80 (p)	< 20		< 20	
Selenium	ug/L	20 (p)	--		--	
Silver	ug/L	0.8 (p)	--		--	
Thallium	ug/L	8.0 (p)	--		--	
Vanadium	ug/L	16 (p)	--		--	
Zinc	ug/L	15	< 10		< 10	
Major Anions						
Alkalinity, Bicarbonate	mg/L	181	**150**		**140**	
Alkalinity, Carbonate	mg/L	8.0 (p)	< 2.0		< 2.0	
Chloride	mg/L	18	**14**		**17**	
Fluoride	mg/L	4.0 (p)	< 1.0		< 1.0	
Nitrogen, Ammonia	mg/L	0.27	**0.03**		<0.03	
Nitrogen, Nitrate	mg/L	0.40 (p)	< 0.1		< 0.1	
Nitrogen, Nitrite	mg/L	0.14	< 0.1		< 0.1	
Sulfate	mg/L	38	**11**		**20**	
Sulfide	mg/L	0.80 (p)	< 0.20		< 0.20	
Major Cations						
Calcium	mg/L	38	**50**		**46**	
Magnesium	mg/L	7.0	**7.8**		**7.9**	
Potassium	mg/L	4.0	**2.8**		**2.6**	
Sodium	mg/L	65	**5.1**		**5.0**	
General						
Hardness	mg/L	106	**160**		**160**	

2016
Mine Permit Groundwater Quality Monitoring Data
MW-704 LLA (Compliance)
Humboldt Mill

Parameter	Unit	Recom-mended Benchmark 2014
Field		
D.O.[1]	ppm	--
ORP	mV	--
pH	SU	8.2-9.2
Specific Conductance	µS/cm	--
Temperature	°C	--
Turbidity	NTU	--
Water Elevation	ft MSL	--
Metals		
Aluminum	ug/L	200 (p)
Antimony	ug/L	8.0 (p)
Arsenic	ug/L	20 (p)
Barium	ug/L	400 (p)
Beryllium	ug/L	4.0 (p)
Boron	ug/L	1200 (p)
Cadmium	ug/L	4.0 (p)
Chromium	ug/L	40 (p)
Cobalt	ug/L	80 (p)
Copper	ug/L	16 (p)
Iron	ug/L	4974
Lead	ug/L	12 (p)
Lithium	ug/L	40 (p)
Manganese	ug/L	90
Mercury	ng/L	4.0 (p)
Molybdenum	ug/L	200 (p)
Nickel	ug/L	80 (p)
Selenium	ug/L	20 (p)
Silver	ug/L	0.8 (p)
Thallium	ug/L	8.0 (p)
Vanadium	ug/L	16 (p)
Zinc	ug/L	11
Major Anions		
Alkalinity, Bicarbonate	mg/L	132
Alkalinity, Carbonate	mg/L	10
Chloride	mg/L	40 (p)
Fluoride	mg/L	4.0 (p)
Nitrogen, Ammonia	mg/L	0.12 (p)
Nitrogen, Nitrate	mg/L	0.40 (p)
Nitrogen, Nitrite	mg/L	0.40 (p)
Sulfate	mg/L	23
Sulfide	mg/L	0.80 (p)
Major Cations		
Calcium	mg/L	33
Magnesium	mg/L	17
Potassium	mg/L	5.0
Sodium	mg/L	5.0
General		
Hardness	mg/L	149

2016
Mine Permit Groundwater Quality Monitoring Data
MW-704 DBA (Compliance)
Humboldt Mill

Parameter	Unit	Recom-mended Benchmark 2014
Field		
D.O.[1]	ppm	--
ORP	mV	--
pH	SU	8.6-9.6
Specific Conductance	µS/cm	--
Temperature	°C	--
Turbidity	NTU	--
Water Elevation	ft MSL	--
Metals		
Aluminum	ug/L	200 (p)
Antimony	ug/L	8.0 (p)
Arsenic	ug/L	20 (p)
Barium	ug/L	400 (p)
Beryllium	ug/L	4.0 (p)
Boron	ug/L	1480
Cadmium	ug/L	4.0 (p)
Chromium	ug/L	40 (p)
Cobalt	ug/L	80 (p)
Copper	ug/L	16 (p)
Iron	ug/L	9645
Lead	ug/L	12 (p)
Lithium	ug/L	40 (p)
Manganese	ug/L	58
Mercury	ng/L	4.0 (p)
Molybdenum	ug/L	200 (p)
Nickel	ug/L	80 (p)
Selenium	ug/L	20 (p)
Silver	ug/L	0.8 (p)
Thallium	ug/L	8.0 (p)
Vanadium	ug/L	16 (p)
Zinc	ug/L	11
Major Anions		
Alkalinity, Bicarbonate	mg/L	129
Alkalinity, Carbonate	mg/L	32
Chloride	mg/L	40 (p)
Fluoride	mg/L	4.0 (p)
Nitrogen, Ammonia	mg/L	0.04
Nitrogen, Nitrate	mg/L	0.40 (p)
Nitrogen, Nitrite	mg/L	0.40 (p)
Sulfate	mg/L	6.0
Sulfide	mg/L	0.80 (p)
Major Cations		
Calcium	mg/L	27
Magnesium	mg/L	14
Potassium	mg/L	4.0
Sodium	mg/L	14
General		
Hardness	mg/L	111

2016
Mine Permit Groundwater Quality Monitoring Data
MW-705 QAL (Cutoff Wall Key-In)
Humboldt Mill

Parameter	Unit	Recom-mended Benchmark 2014
Field		
D.O.[1]	ppm	--
ORP	mV	--
pH	SU	5.6-6.6
Specific Conductance	µS/cm	--
Temperature	°C	--
Turbidity	NTU	--
Water Elevation	ft MSL	--
Metals		
Aluminum	ug/L	200 (p)
Antimony	ug/L	8.0 (p)
Arsenic	ug/L	20 (p)
Barium	ug/L	400 (p)
Beryllium	ug/L	4.0 (p)
Boron	ug/L	1200 (p)
Cadmium	ug/L	4.0 (p)
Chromium	ug/L	40 (p)
Cobalt	ug/L	80 (p)
Copper	ug/L	16 (p)
Iron	ug/L	14081
Lead	ug/L	12 (p)
Lithium	ug/L	40 (p)
Manganese	ug/L	1674
Mercury	ng/L	1.0
Molybdenum	ug/L	200 (p)
Nickel	ug/L	80 (p)
Selenium	ug/L	20 (p)
Silver	ug/L	0.8 (p)
Thallium	ug/L	8.0 (p)
Vanadium	ug/L	16 (p)
Zinc	ug/L	174
Major Anions		
Alkalinity, Bicarbonate	mg/L	94
Alkalinity, Carbonate	mg/L	8.0 (p)
Chloride	mg/L	66
Fluoride	mg/L	4.0 (p)
Nitrogen, Ammonia	mg/L	0.10
Nitrogen, Nitrate	mg/L	0.40 (p)
Nitrogen, Nitrite	mg/L	0.40 (p)
Sulfate	mg/L	6.0
Sulfide	mg/L	0.80 (p)
Major Cations		
Calcium	mg/L	27
Magnesium	mg/L	13
Potassium	mg/L	3.0
Sodium	mg/L	17
General		
Hardness	mg/L	115

2016
Mine Permit Groundwater Quality Monitoring Data
MW-705 UFB (Cutoff Wall Key-In)
Humboldt Mill

Parameter	Unit	Recom-mended Benchmark 2014
Field		
D.O.[1]	ppm	--
ORP	mV	--
pH	SU	6.7-7.7
Specific Conductance	µS/cm	--
Temperature	°C	--
Turbidity	NTU	--
Water Elevation	ft MSL	--
Metals		
Aluminum	ug/L	200 (p)
Antimony	ug/L	8.0 (p)
Arsenic	ug/L	20 (p)
Barium	ug/L	400 (p)
Beryllium	ug/L	4.0 (p)
Boron	ug/L	1200 (p)
Cadmium	ug/L	4.0 (p)
Chromium	ug/L	40 (p)
Cobalt	ug/L	80 (p)
Copper	ug/L	16 (p)
Iron	ug/L	11214
Lead	ug/L	12 (p)
Lithium	ug/L	40 (p)
Manganese	ug/L	866
Mercury	ng/L	4.0 (p)
Molybdenum	ug/L	200 (p)
Nickel	ug/L	80 (p)
Selenium	ug/L	20 (p)
Silver	ug/L	0.8 (p)
Thallium	ug/L	8.0 (p)
Vanadium	ug/L	16 (p)
Zinc	ug/L	17
Major Anions		
Alkalinity, Bicarbonate	mg/L	103
Alkalinity, Carbonate	mg/L	8.0 (p)
Chloride	mg/L	40 (p)
Fluoride	mg/L	4.0 (p)
Nitrogen, Ammonia	mg/L	0.12 (p)
Nitrogen, Nitrate	mg/L	0.40 (p)
Nitrogen, Nitrite	mg/L	0.40 (p)
Sulfate	mg/L	15
Sulfide	mg/L	0.80 (p)
Major Cations		
Calcium	mg/L	26
Magnesium	mg/L	12
Potassium	mg/L	4.0
Sodium	mg/L	3.0
General		
Hardness	mg/L	111

2016
Mine Permit Groundwater Quality Monitoring Data
MW-706 QAL (MSB & Crusher)
Humboldt Mill

Parameter	Unit	Recommended Benchmark 2014
Field		
D.O.[1]	ppm	--
ORP	mV	--
pH	SU	6.2-7.2
Specific Conductance	µS/cm	--
Temperature	°C	--
Turbidity	NTU	--
Water Elevation	ft MSL	--
Metals		
Aluminum	ug/L	200 (p)
Antimony	ug/L	8.0 (p)
Arsenic	ug/L	16
Barium	ug/L	400 (p)
Beryllium	ug/L	4.0 (p)
Boron	ug/L	1200 (p)
Cadmium	ug/L	4.0 (p)
Chromium	ug/L	40 (p)
Cobalt	ug/L	80 (p)
Copper	ug/L	16 (p)
Iron	ug/L	10846
Lead	ug/L	12 (p)
Lithium	ug/L	40 (p)
Manganese	ug/L	27225
Mercury	ng/L	4.0 (p)
Molybdenum	ug/L	200 (p)
Nickel	ug/L	80 (p)
Selenium	ug/L	20 (p)
Silver	ug/L	0.8 (p)
Thallium	ug/L	8.0 (p)
Vanadium	ug/L	16 (p)
Zinc	ug/L	55
Major Anions		
Alkalinity, Bicarbonate	mg/L	153
Alkalinity, Carbonate	mg/L	8.0 (p)
Chloride	mg/L	105
Fluoride	mg/L	4.0 (p)
Nitrogen, Ammonia	mg/L	1.4
Nitrogen, Nitrate	mg/L	0.4 (p)
Nitrogen, Nitrite	mg/L	0.4 (p)
Sulfate	mg/L	479
Sulfide	mg/L	0.80 (p)
Major Cations		
Calcium	mg/L	183
Magnesium	mg/L	56
Potassium	mg/L	6.0
Sodium	mg/L	234
General		
Hardness	mg/L	609

2016
Mine Permit Groundwater Quality Monitoring Data
MW-707 QAL (Concentrator & CLO)
Humboldt Mill

Parameter	Unit	Recom-mended Benchmark 2014
Field		
D.O.[1]	ppm	--
ORP	mV	--
pH	SU	6.3-7.3
Specific Conductance	µS/cm	--
Temperature	°C	--
Turbidity	NTU	--
Water Elevation	ft MSL	--
Metals		
Aluminum	ug/L	200 (p)
Antimony	ug/L	8.0 (p)
Arsenic	ug/L	20 (p)
Barium	ug/L	400 (p)
Beryllium	ug/L	4.0 (p)
Boron	ug/L	1200 (p)
Cadmium	ug/L	4.0 (p)
Chromium	ug/L	40 (p)
Cobalt	ug/L	80 (p)
Copper	ug/L	16 (p)
Iron	ug/L	7493
Lead	ug/L	12 (p)
Lithium	ug/L	40 (p)
Manganese	ug/L	1189
Mercury	ng/L	4.0 (p)
Molybdenum	ug/L	200 (p)
Nickel	ug/L	80 (p)
Selenium	ug/L	20 (p)
Silver	ug/L	0.8 (p)
Thallium	ug/L	8.0 (p)
Vanadium	ug/L	16 (p)
Zinc	ug/L	19
Major Anions		
Alkalinity, Bicarbonate	mg/L	150
Alkalinity, Carbonate	mg/L	8.0 (p)
Chloride	mg/L	40 (p)
Fluoride	mg/L	4.0 (p)
Nitrogen, Ammonia	mg/L	0.34
Nitrogen, Nitrate	mg/L	0.40 (p)
Nitrogen, Nitrite	mg/L	0.40 (p)
Sulfate	mg/L	8.0
Sulfide	mg/L	0.80 (p)
Major Cations		
Calcium	mg/L	51
Magnesium	mg/L	15
Potassium	mg/L	3.0
Sodium	mg/L	4.0
General		
Hardness	mg/L	149

2016
Mine Permit Groundwater Quality Monitoring Data
MW-9R (Concentrator)
Humboldt Mill

Parameter	Unit	Recom-mended Benchmark 2014	Q1 2016 2/26/16[T]		Q2 2016 5/19/16[T]	
Field						
D.O.[1]	ppm	--	**1.8**		**0.21**	
ORP	mV	--	**226**		**91**	
pH	SU	5.4-6.4	**5.4**		**6.4**	
Specific Conductance	µS/cm	--	**554**		**295**	
Temperature	°C	--	**6.0**		**8.6**	
Turbidity	NTU	--	**1.3**		**1.8**	
Water Elevation	ft MSL	--	**1595.7**		**1595.74**	
Metals						
Aluminum	ug/L	200 (p)	--		--	
Antimony	ug/L	8.0 (p)	--		--	
Arsenic	ug/L	25	< 5.0		< 5.0	
Barium	ug/L	400 (p)	--		--	
Beryllium	ug/L	4.0 (p)	--		--	
Boron	ug/L	1200 (p)	--		--	
Cadmium	ug/L	4.0 (p)	--		--	
Chromium	ug/L	40 (p)	--		--	
Cobalt	ug/L	80 (p)	--		--	
Copper	ug/L	5.0	**4.8**		< 4.0	
Iron	ug/L	25558	<200		<200	
Lead	ug/L	0.04	<3.0		< 3.0	
Lithium	ug/L	40 (p)	--		--	
Manganese	ug/L	1694	**430**		**79**	
Mercury	ng/L	1.0	**1.0**		< 1.0	
Molybdenum	ug/L	200 (p)	--		--	
Nickel	ug/L	80 (p)	**51**		< 20	
Selenium	ug/L	20 (p)	--		--	
Silver	ug/L	0.8 (p)	--		--	
Thallium	ug/L	8.0 (p)	--		--	
Vanadium	ug/L	16 (p)	--		--	
Zinc	ug/L	25	**18**		**21**	
Major Anions						
Alkalinity, Bicarbonate	mg/L	137	**29**		**24**	
Alkalinity, Carbonate	mg/L	2.0	< 2.0		< 2.0	
Chloride	mg/L	711	**16**		**23**	
Fluoride	mg/L	4.0 (p)	< 1.0		< 1.0	
Nitrogen, Ammonia	mg/L	0.36	<0.03		<0.03	
Nitrogen, Nitrate	mg/L	1.0	**2.1**		**0.18**	
Nitrogen, Nitrite	mg/L	0.07	< 0.1		< 0.1	
Sulfate	mg/L	343	**210**		**77**	
Sulfide	mg/L	1.0	<0.20		< 0.20	
Major Cations						
Calcium	mg/L	123	**55**		**26**	
Magnesium	mg/L	48	**21**		**10**	
Potassium	mg/L	8.0	**2.9**		**2.1**	
Sodium	mg/L	289	**17**		**8.2**	
General						
Hardness	mg/L	510	**232**		**114**	

2016
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.
T = Sample was not filtered and all values are total concentrations.
D = Samples for metals and major cation parameters were filtered and values are dissolved concentrations.
J = estimated value, results of laboratory control parameters were outside of established control limits.
* = estimated value, turbidity reading was greater than the upper range of the meter.